HEARING LOSS, HEARING AIDS, AND THE ELDERLY

HEARINGS

BEFORE THE

SUBCOMMITTEE ON CONSUMER INTERESTS OF THE ELDERLY

OF THE

SPECIAL COMMITTEE ON AGING

UNITED STATES SENATE

NINETIETH CONGRESS

SECOND SESSION

WASHINGTON, D.C.

JULY 18 AND 19, 1968

Printed for the use of the Special Committee on Aging

U.S. GOVERNMENT PRINTING OFFICE

98-912 WASHINGTON : 1968

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price $1.50

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HEARING LOSS, HEARING AIDS, AND THE ELDERLY

THURSDAY, JULY 18, 1968

U.S. SENATE,
SUBCOMMITTEE ON CONSUMER INTERESTS OF THE ELDERLY
OF THE SPECIAL COMMITTEE ON AGING,
Washington, D.C.

The subcommittee met, pursuant to notice, in room 5302, Senate Office Building, Senator Frank Church (chairman of the subcommittee) presiding.

Present: Senators Church, Carlson, and Fong.

Also present: William E. Oriol, staff director; John Guy Miller, minority staff director; and Peggy Brady, assistant clerk.

OPENING STATEMENT BY THE CHAIRMAN

Senator CHURCH. The hearing will come to order, the hour of 10 o'clock having arrived and this being the designated place and time.

This Subcommittee on Consumer Interests—a unit of the Senate Special Committee on Aging—meets today to begin public hearings as part of its study of "Hearing Loss, Hearing Aids, and the Older American."

Testimony to be taken during the next 2 days will help us discuss a fundamental question, and that question is:

What more should be done in this Nation to help older Americans—those most vulnerable to deafness and near-deafness—to save themselves from the isolation, demoralization, and hazards that occur when hearing deterioration becomes severe?

To judge by information gathered by this subcommittee in preparation for this hearing, the answer to that question should be sought vigorously within the next 2 days.

For example:

Hearing loss significantly restricts 30 to 50 percent of the population past 65 years of age.

An intensive Public Health Service survey shows that 52.9 percent of hearing aid users past 65 never had an audiometric examination prior to hearing aid purchase.

And yet the elderly are most in need of trained counsel; they are three times more likely to have significant hearing loss than those younger than they.

But, like other Americans, older persons in search of professionally trained persons to give them the testing or services they need will discover that such services are at a premium. We will be told by a witness during these proceedings that present-day clinical facilities cannot accommodate much more than 10 percent of all the persons

buying a hearing aid each year. One survey lists 96 major cities in the United States with no established hearing and speech services.

And, finally, the matter of cost. More than 300 hearing aid models are on the market. Some are under $100. Others are $400 or more per ear. Older Americans, most of them trying to live on budgets far smaller than they enjoyed before retirement, face severe problems when confronted by the high cost of hearing rehabilitation. As we will see, medicare offers some very limited help on examinations, and medicaid holds out uncertain promise of help for the medically indigent. Other Federal programs offer more direct help for children or vocationally disabled persons in need of hearing aids, but for the elderly there is a void. Perhaps the time has come to see what can be done about filling that void.

A Consumer Problem

This subcommittee is primarily concerned with the consumer interest and public health aspects of the subject now before it.

Six years ago, Senator Estes Kefauver conducted an intensive study of hearing aid costs for the Antitrust Subcommittee of the Senate Judiciary Committee. He was concerned about trade practices and the structure of the industry. We will, of necessity, cover some of the same ground in this hearing, but we will focus primarily on the following areas:

(1) What can be done to improve delivery of services needed by the elderly and others who suffer from hearing loss? Experiments and research now being conducted by the Public Health Service indicate a need for using all available resources—and perhaps some new ones—if we are really serious about overcoming the fundamental deficiencies in our present testing and service resources.

(2) We should recognize the fact that the elderly are prime victims for the minority of unscrupulous, fast-moving salesmen who are apparently still very active. I want to make it clear that it is not the prime purpose of this subcommittee to investigate scattered complaints about sharp practices. And yet we cannot ignore evidence of widespread door-to-door activity by salesmen who obviously ignore all standards sought by responsible organizations and individuals.

From the office of the attorney general of California,[1] we have received word that such salesmen are on the prowl, and that they seek out the elderly. Apparently they carry their own "testing devices" with them and try to make on-the-spot sales, sometimes prescribing individual devices for each ear. The California State officials are attempting to take action. Perhaps similar action is needed elsewhere.

Consider this excerpt from a man who lives in a rural area near Carthage, Mo., and I quote from correspondence we received:

> They collect the down payment and have them sign a note which they sell to some finance company and when the aid is found to be of no benefit they pretend that they cannot make refund as promised in the first place but will make some change generally trading one second-hand aid they have promised to sell for someone and just keep stalling until the elderly person gets disgusted and just lets it ride. They generally collect $300 for an aid. In the first place, the price is outrageous and the help one gets is very unsatisfactory. My wife got hooked for $600. They make all kinds of promises and keep none of them once they get hands on the money which they demand in advance. Thank you, Mr. or Senator Church. I am 80 years old and need no hearing aid.

[1] See p. 362.

Are these isolated instances? I will ask the Federal Trade Commission to determine whether there is reason to believe that such activity may go beyond State lines.

(3) What will be the effect of rising noise volumes on future generations of older Americans? Eminently responsible experts are now asking whether our ears can adapt to the sounds—unknown 10 or 20 years ago—that now assault our ears every day. Fortunately, we are in a position to get some answers to this question from a witness who will testify this morning.

Problems Likely To Intensify

Once again, we must ask ourselves: If present services are dismally inadequate for the present population of people in or near retirement, what will the situation be as the number of older persons increases every year, particularly if hearing disorders increase, too?

(4) What kind of consumer education will be helpful to individuals of all ages in need of facts about hearing aids and hearing services? As already noted, hundreds of hearing aid models are available from a wide variety of sources, and the advertising for many of those products is quite often hazy on essential details. In addition, there seems to be a built-in resistance on the part of many persons to any thought of correcting hearing loss. We need new ideas about consumer education. I am sure this hearing will produce some of these ideas.

To conclude, I would like to note for the record that we have requested statements from the Federal Trade Commission,[1] the Office of Education,[2] the President's Committee on Consumer Interests,[3] the Veterans' Administration,[4] and other Federal agencies—as well as private organizations—with information or suggestions for the subcommittee. We will include the statements in the hearing record and seek out additional testimony where needed.

I want to recognize the presence of Senator Frank Carlson this morning and ask the Senator if he has anything he would like to say before we move on into the testimony.

Senator Carlson. Mr. Chairman, I appreciate very much your calling this hearing and I intend to participate in it.

Senator Church. Thank you very much, Senator.

I am pleased to offer now a statement for the record from Senator Williams.

STATEMENT OF HON. HARRISON A. WILLIAMS, CHAIRMAN, SENATE SPECIAL COMMITTEE ON AGING

Senator Williams. Mr. Chairman, I have a brief statement. First, I would like to congratulate Senator Church for his swift action in calling for a hearing on a matter of considerable importance to the millions of elderly Americans and others who suffer from hearing loss. Over the years the Subcommittee on Consumer Interests of the Elderly—and its predecessor, the Subcommittee on Frauds and Misrepresentations Affecting the Elderly—have received complaints and

[1] See p. 311.
[2] See p. 308.
[3] See p. 351.
[4] See p. 344.

some testimony about problems related to hearing aids. I have long felt that the subject required intensive attention, and I am glad that Senator Church has made it the first item for action in his new capacity as chairman of the Subcommittee on Consumer Interests of the Elderly.

To return again to the matter of complaints received by the committee, many letters suggest that some dealers and door-to-door salesmen confuse or even mislead elderly customers—many of whom are in desperate need of help.

Other letters ask: Why should a hearing aid—which appears to be a fairly simple device—cost as much as $400 or even more?

In fairness to the industry, it must be pointed out that many dealers offer honest, helpful service to customers, and that manufacturers have done wonders improving performance and reducing size of hearing aids. In addition, many hearing aids are far more complex than they look and must do far more than merely amplify sound.

And yet, despite the honest efforts of many manufacturers and dealers, consumer complaints persist. The subcommittee, by providing a forum for public discussion of major issues related to hearing loss and the older American, is performing a valuable service, and I am looking forward to the testimony and your recommendations.

Senator CHURCH. Our first witness this morning is William H. Stewart, the Surgeon General from the U.S. Public Health Service.

You are accompanied, Dr. Stewart, by several other eminent people. I wonder if you would introduce them to the committee and then proceed as you desire?

STATEMENT OF WILLIAM H. STEWART, SURGEON GENERAL, U.S. PUBLIC HEALTH SERVICE; ACCOMPANIED BY ELDON H. EAGLES, M.D., ACTING DIRECTOR, NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS; AND DR. JOSEPH L. STEWART, CONSULTANT, NATIONAL CENTER FOR CHRONIC DISEASE CONTROL

Dr. WILLIAM STEWART. Thank you, Mr. Chairman.

With me today is Dr. Eldon L. Eagles, the Acting Director of the National Institute of Neurological Diseases and Blindness; and Dr. Joseph L. Stewart, on my far right, the National Center for Chronic Disease Control of the Public Health Service.

Mr. Chairman and members of the subcommittee, it is a pleasure to have the opportunity to speak to you this morning on the problem of hearing loss, particularly as it affects the older American, and to review the problem.

After I make my statement, Dr. Eagles will speak from the hearing research point of view and the other Dr. Stewart will discuss the control of hearing loss.

I should like to speak at this point of two areas of this subcommittee's concern: First, the extent of hearing loss among older Americans and the possibility of even wider hearing loss within the next decade; and, second, the possibility of change in public policy.

To begin with, the term "hearing loss"—especially when applied to the older person—is somewhat limiting. While we generally employ

a single medical term, presbycusis, to refer to the hearing loss associated with advancing age, we are really attempting to describe the combination of effects upon hearing that a person accumulates in a lifetime—beginning, in some cases, with an inherited tendency for a particular ear disease, and going through the entire gamut of diseases which might possibly be traumatizing to hearing, plus a number of other toxic effects such as certain drugs, environmental insults, and a lifetime exposure to noise.

Since the older person is also likely to have one or more chronic diseases, these may also affect his hearing—if they include either arteriosclerotic disease or diabetes.

So, when we speak of "hearing loss" in the older citizen, we mean "hearing losses," with all the variability in both cause and treatment that the term implies.

Regardless of how we define hearing loss, the condition affects more persons than any other chronic condition, with the greater number of affected persons being older adults. The most recent epidemiological findings on the prevalence of hearing loss in this age group will be discussed by Dr. Stewart, so I will not take time to repeat them.

I would like to point out, however, that the loss of hearing in the upper age ranges appears to have increased in recent years. Information obtained in fiscal year 1958 shows a hearing-impairment rate, for all ages, of 34.6 per 1,000 persons.

By fiscal years 1960 and 1961, the rate had gone to 35.3 per 1,000 persons and the most recent information available, gathered in fiscal years 1962 and 1963, shows an even more alarming rise to 43.7 per 1,000 persons.

While a significant portion of this rise is due to modification of the interview procedure used in taking hearings-loss surveys, it is unlikely that this accounts for all of the increase seen in comparing these rates for the group between 45 and 64 years of age. In the years between the fiscal year 1958 and fiscal year 1961, the rate goes from 51.2 per 1,000 to 64.6 per 1,000 for this age group.

"Noise Pollution" Intensifies Problems

If the causes for this rise may be presumed to be still with us, and since we may anticipate ever-increasing noise pollution to accompany further advances in our industrial technology, I can foresee no other course but for this problem to expand.

Even if major breakthroughs in our research and prevention efforts in arteriosclerotic disease, diabetes, noise control, and the like, should occur, gradual damage is currently occurring in our people who will be the older Americans of the ensuing decades.

I should like to speak now to the subject of possible changes in public policy regarding hearing loss and the elderly.

The first such change I should like to comment upon is a philosophical one which has already been implemented, even though its full effects will not be felt for several years. I am referring specifically to the change in emphasis within the Public Health Service away from the categorical, disease-oriented programing of recent years to the more comprehensive definition of health needs of the present day.

This change has been accomplished by recent acts of Congress, specif-

ically the Comprehensive Health Planning and Public Health Service Amendments of 1966 and 1967, commonly referred to as the partnership-for-health amendments.

Sections 304 and 314 of these amendments are particularly pertinent to the subject of this hearing, even though they do not specifically relate either to hearing loss or to the older American. Under the provisions of section 304, authorizing research relating to health facilities and services, the Public Health Service has established the National Center for Health Services Research and Development; under section 314, decentralization of Public Health Service activities has made possible the comprehensive health planning and services on the State level called for by this act.

In both cases, the emphasis has shifted from, for example, a categorical entity such as hearing loss to incorporate broader areas of health concern, of which hearing loss may be one component. I feel that this definition of health and disease places the health conditions of our citizens into better perspective—if you will recall my comments a few moments ago of the conglomeration of conditions which may be combined under the single term "presbycusis," the need for such a change in philosophy is quite clear.

This is not to negate the need for the categorical specialist nor categorical research activities; rather, it is an attempt to better fit the pieces for better overall health care.

The need for another change in governmental policy that will be debated, probably in the relatively near future, is whether or not medicare should be amended to provide for some or all of the costs incurred in the determination of need for, and purchase of, hearing aids and related remedial procedures. While the Social Security Administration has recently revised the regulation on otologic evaluations so that diagnostic audiologic tests are now covered, the regulation still does not apply if the testing is done solely to determine the need for and/or the type of hearing aid.

In view of the large number of persons covered by medicare who have a significant loss of hearing, caution will be maintained in any future deliberations to consider expanding the coverage to include services for hearing aid selection and use, as well as the cost of the instrument. Following current procedures for obtaining a hearing aid would almost certainly be cost-prohibitive and the alternates will not be palatable to the industry. In view of the shortages of professional personnel and facilities, any change in the regulations must certainly be accompanied by, or proceeded by, new systems for delivery of these services.

Tentative Ideas for Action

We in the Public Health Service are vitally interested in finding workable solutions to the problems being discussed here this morning. Some of the ideas now in the discussion stage include:

1. The drafting and promulgation of model State laws covering the dispensing of hearing aids.
2. The establishment of an ongoing program for the testing of hearing aids and audiometers and the publication of the results of such tests.
3. Comprehensive, long-range planning for noise control.

4. Short-term training courses for commercial dispensers of hearing aids.

5. The determination of the most effective system for the organization and delivery of hearing services.

Mr. Chairman, I want to thank you for the opportunity to appear before the subcommittee this morning and to assure you that the problems discussed in these hearings are receiving careful attention within the Public Health Service.

At the conclusion of the remarks of Dr. Eagles and Dr. Stewart, we will be happy to answer any questions you may have.

(The chairman, in a letter written shortly after the hearing, addressed several questions to the witness. Questions and replies follow:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
PUBLIC HEALTH SERVICE,
Washington, D.C., September 20, 1968.

DEAR SENATOR CHURCH: The questions you raise about hearing services for older Americans in your letter of August 1, 1968, reflect our mutual deep concern. In the present state of Public Health Service reorganization it is not immediately possible to identify specific agencies and subagencies responsibilities for all comprehensive and categorical services. Even now our Task Forces are working to develop final patterns for the division of efforts for many key problem areas including hearing services for older Americans.

More specific answers to your questions will be forthcoming as soon as areas of responsibility become better defined. The priority that I will place upon improving hearing services to older Americans will depend on the facts and recommendations provided to me by the Task Force.

The enclosed answers are a composite of responses from my office and the various Programs concerned. They represent the best we can give you at this point in time.

Sincerely yours,

LEO J. GEHRIG, M.D.,
Acting Surgeon General.

Enclosure.

Question 1. Your statement—in discussing Section 314 of the Partnership for Health Amendments—says "decentralization of Public Health Service activities has made possible the comprehensive health planning and services on the State level called for by this Act."

It seems to me that you have touched upon an important point that is related directly to the future delivery of services for those with hearing loss, and I would like to have some additional discussions. I am particularly interested in how the provisions of the amendments will affect the implementation of State projects related to hearing loss.

Answer. Prior to the passage of the Partnership for Health Act, the facilities providing services for the hearing impaired, with Public Health Service support, were given initial support through project grants awarded directly to the applicant. Under this mechanism, each application was viewed on its merit with relatively little consideration as to how the project would relate to other existing activities.

The Partnership for Health Act requires that each State develop its own health plan, designed to meet local health needs. A priority rating must be made for these needs. Under this Act, proposed services for the hearing impaired must be of sufficiently high priority to the consumers of health services to qualify for Federal support for the services.

Question 2. You also noted that under Section 304 of the same amendments, the Public Health Service has established the National Center for Health Services Research and Development. Later, you said: ". . . our research effort needs to be more directed at better ways of diagnosing, better methods of treatment, and how you organize the diagnostic services and treatment services in the way the people can get them with a quality that would be acceptable."

Will you undertake studies of such subjects at the Center? If so, how far advanced are your plans on individual studies?

Answer. The Public Health Service is in the process of formulating the specific mission of the new National Center for Health Services Research and Development. Some of the necessary research directed toward better services for older Americans—which should include hearing services—will be based in the new Center, such as studies of better methods of organization and delivery of health care.

However, until new and improved instruments and techniques are developed to the point of actual service function, the National Center for Health Services Research and Development will carry out research on organization of services in the context of presently available diagnosis and treatment methodologies.

The Neurological and Sensory Disease Control Program of the National Center for Chronic Disease Control now assigned to Regional Medical Programs has in the past put forth a great deal of effort in the areas designated below:

Improved diagnosis: Current activities include development of a *"self-calibrating" audiometer*, an automated speech audiometric system, and a "master hearing aid," all of which are instruments designed to improve diagnostic procedures. Progress to date on the self-calibrating audiometer includes determining the initial functions the instrument will have. A small group of outside experts from audiology, otolaryngology, and electrical engineering will be brought together to assist in deciding the characteristics appropriate for a prototype instrument. The project has been discussed with engineers in the industry, resulting in approximately 30 requests for consideration for a development contract.

The *master hearing aid*, a device which will have both diagnostic and rehabilitative potential, has had initial development from several sources in private industry. The devices currently available, are not capable of the variability and versatility necessary in an instrument of this sort. Basically, the device will be used to determine the best combination of power, pressure, and frequency a hearing aid should have for a particular person.

A diagnostic instrument of critical importance is an *"automated pneumatic otoscope"* to measure the mobility of the ear drum (and possibly photograph it at the same time) using electronic sensing devices. The need for such devices is primarily in screening programs for children, wherein large numbers with middle ear disease or sequellae are being missed by conventional methods. Such otitis media research is of particular significance to the areas of diagnosis and treatment as well as to delivery systems of service.

Future research anticipated along these lines includes the analysis of certain *physiologic responses* to *auditory stimuli* in infants (such as inhalation-exhalation) so that assessments of hearing can be made very early in life.

Methods of treatment; distribution of services: The research which has the highest priority is on *hearing aid utilization.* At the present time, hearing aid selection is based almost exclusively on pure-tone audiometry and a comparison of aided versus unaided responses to speech and audiometry. The Public Health Service has plans to *study hearing aid usage by the elderly* to identify those variables contributing to effective hearing aid use and satisfaction. An idea of the complexity of this problem might be gained from listing some of the most probable variables to be studied: general health, with particular reference to arteriosclerosis; audiometric test scores; socio-economic status; duration and extent of hearing loss and probable etiology; extent of current social participation in the community and "need" for hearing as judged by social environment, home environment, and selected personality factors. A portion of the study will be concerned with a retrospective analysis of "successful" hearing aid users. This group will be compared with a matched group of dissatisfied hearing aid users and the results analyzed for possible predictive criteria and to indicate future research required to make such predictions better.

Another area of high priority is a study of the effect of hearing deprivation on the social and language development of children. The results of such investigations will show new directions for treatment and education of the hearing impaired child.

The studies proposed are in the advanced planning stage but their progress depends upon the ultimate disposition of categorical programs such as the Neurological and Sensory Disease Control Program.

Question 3. What research proposals are you now considering on the subject of training nonprofessional personnel to provide services to those with hearing loss?
and

Question 4. Several witnesses suggested that—when compared to actual need—the number of trained individuals needed in the field is relatively small, despite efforts by the Public Health Service and others to provide resources for training. Does this suggest a need for new research on the subject of training non-professional personnel to provide services to those with hearing loss?

Answer: At the present time there are no research proposals being evaluated to accomplish this.

Two types of non-professional training should be considered. They are "aid" or "audiometrist" to perform a particular audiometric function as an extension of the audiologist or otologist, and the training of the commercial dispensers of hearing aids, to improve his technical understanding. There is, however, a need to evaluate the training requirements, the methods, and institutions to be utilized, in preparing non-professional personnel to perform specific roles, in new environments such as in multiphasic screening, neighborhood health centers, state wide screening, and inner-city programs.

Question 5. You will recall that we discussed the differences between your proposed model State laws and those proposed by the Federal Trade Commission. I have the impression that you are primarily concerned with model laws that will maintain high standards of medical service. Existing State laws, it appears, are concerned primarily with the licensing of non-medical dealers. Is this a fair description of the basic difference? I would like to have additional interpretation from you on this point.

Answer. Yes, the description of the basic difference between the two efforts has been interpreted correctly in your letter. That is, existing State laws are concerned primarily with the licensing of non-medical dealers.

The major fault with current State laws is that they do little to protect the consumer. There are no provisions, for example, for recovery of costs of an aid sold improperly, nor any visible restraints against any and all sales practices with the exceptions of false advertising and practices directed primarily at the dealer's competitors. No standards for proficiency in hearing aid testing and selection are established.

Hearing aids are devices subject to all of the adulteration and misbranding provisions of the Federal Food, Drug, and Cosmetic Act. Thus truthful labeling, adequate directions for use, and compliance with professed standards are required. If the products purport to meet the standards of the International Standards Organization, which are currently the accepted standards of the industry, a failure to conform would make the devices adulterated under Federal law.

Question 6. You also asked for the establishment of an ongoing program for the testing of hearing aids and audiometers and the publications of the results of such tests. What agency would conduct such testing activity?

What would be the basis for determining satisfactory performance? Do you intend to establish such a program in the near future?

Answer. At present the Veterans Administration and Bureau of Standards have an arrangement whereby the Bureau conducts tests for the Veterans Administration on a selected number of hearing aids on an annual basis. No such program for audiometer assessment is in operation at this time.

The tests for hearing aids would evaluate quality of construction and component parts as well as the performance of the instrument compared with the specifications published by the manufacturer for his instruments.

The evaluation of audiometers would be in accordance with the standards established by the International Standards Organization and the International Electrical Engineering Organization. These are the currently accepted standards of the industry and the consumer as well. No program for such evaluations is currently underway, nor are there plans for such in the very near future.

Question 7. Another proposal called for "short-term training courses for commercial dispensers of hearing aids." Would this involve Public Health Service certification for existing training opportunities, or would you establish training programs of your own? Would completion of training entitle a participant to certification of some kind?

Answer. Since Public Health Service does not certify training centers, the intent behind this idea was that existing training centers would be encouraged to apply for short-term training grants for this activity. This would enable the fully-trained professional to provide not only the training necessary in audiometry for the dispenser to do a more adequate job, it would also incorporate such aspects as the need for calibrated equipment, how to calibrate, audiometric

indications of a medical problem, etc. At the present time, most of such training is obtained through correspondence courses; this is a skill, which requires considerable supervised experience with both instrument and patient available.

There is no reason why a "certificate" could not be awarded indicating the dealer had successfully completed the short course. I would not want this to become confused with "certification" in the clinical sense (such as that awarded by the American Speech and Hearing Association, for example) nor should it be capable of being used to indicate non-existent professional competence.

Question 8. Does the establishment of a Consumer Protection Administration within the Department of Health, Education, and Welfare offer new opportunities for additional consumer protection activities related to hearing loss? You suggested, for example, that research should be authorized to raise the specifications that are needed for the instrumentation of testing. Would this be a responsibility of the new Consumer Protection Administration?

Answer. An instrument for testing hearing loss would be considered a device under the Federal Food, Drug, and Cosmetic Act. As such, they are subject to seizure and other regulatory sanctions if unsafe or misbranded. Research contracts have been authorized and funded by FDA to establish specifications in order to determine what constitutes a violative medical device and thereby facilitate enforcement in situations in which litigation is either pending or anticipated. Standards of this type, however, cannot be promulgated with the force and effect of law but must be enforced case by case establishing that the product is either unsafe or misbranded.

However, legislation is pending which would provide authority to the Department to set standards (with the force and effect of law) for medical devices. If enacted, the Secretary would have clear authority to sponsor research to establish binding standards.

Question 9. Can the new research center conduct a study on current hearing aid sales practices? It seems to me that there has been little or no systematic evaluation of such practices, and at first glance it appears to me that such a body could well fall within the responsibilities of the research center.

Answer. Through a new National Center for Health Services Research and Development, the Public Health Service might support research which would be related to sales practices of dispensers of hearing aids. A study specifically directed toward sales practices would more appropriately be undertaken by the Food and Drug Administration, however, since sales promotion, including oral representations, are subject to regulation by this agency. Investigations of this type could also appropriately be handled in an agency such as the Federal Trade Commission.

Dr. WILLIAM STEWART. If it is all right with you, Mr. Chairman, we will proceed directly to Dr. Eagles and Dr. Stewart.

Senator CHURCH. Very well. We will do that and we will reserve our questions until all three of you have completed.

STATEMENT OF ELDON L. EAGLES, M.D.

Dr. EAGLES. Mr. Chairman and members of the subcommittee, it is a privilege this morning to speak to you about the National Institute of Neurological Diseases and Blindness, which has been deeply concerned with hearing disorders since its establishment in 1950. The magnitude of the problem—involving some 15 million people in varying degrees—gives it top priority in the Institute's overall effort.

Briefly, the NINDB program in hearing disorders includes approximately 178 research grants, and there are 61 grants to institutions for advanced research training in otology, otolaryngology, medical audiology, auditory physiology, and other disciplines relating to this field.

Also in fiscal year 1968, there were five postdoctoral and 17 special fellowships—awards made directly to individuals—for work in human communication fields. These were awards made to individuals training to become teacher-investigators.

We are funding eight multidisciplinary research centers in St. Louis,

Princeton, Ann Arbor, Gainesville, Fla., Chicago, Baltimore, San Francisco, and Houston where broad studies of whole complexes of human communication problems are going on.

To provide physicians, researchers, and teachers with better scientific reference resources in the field, we are funding, through a contract, an Information Center for Hearing, Speech, and Disorders of Human Communication at the Johns Hopkins University and are also publishing reviews and other documents of professional interest, the most recent of these being our monograph No. 7, entitled "Human Communication: The Public Health Aspects of Hearing, Language, and Speech Disorders."

Guiding the whole effort is a subcommittee of our National Advisory Neurological Diseases and Blindness Council, made up of nationally known leaders in the field.

In viewing the substance of this program, one is immediately impressed with the complexity of the auditory system, and the great variety of underlying disorders that may contribute to hearing disability. This variety is, understandably, one of the principal reasons why so many people have problems in selecting hearing aids, and why so many give up in despair who could have been helped if they had been able to make a better selection.

In spite of the highly commendable efforts of the various public and private organizations concerned, as well as the voluntary regulatory efforts within the industry, too many people are still being fitted with hearing aids who cannot be helped by this means at all; too many are being sold the wrong type of hearing aid; and, most tragically of all, too many with remediable ear disease are going undiagnosed while they try one hearing aid after another, until they pass the point where the disease is remediable.

Medical Attention Lacking

In a recent analysis of statistics from the National Health Survey, it was indicated that 34 percent of persons with binaural hearing loss have never been tested by a medical doctor, and that only 18 percent had had their hearing tested within the 2 years prior to the interview. This lack of medical attention is a major reason for dissatisfaction with hearing aids and for their abandonment.

It is therefore impossible to emphasize too strongly the importance of having a thorough otologic examination before any remedial steps are taken. Just as we no longer buy spectacles on a basis of trying on a few pairs until we feel that we notice some improvement, neither do we regard deafness as a simple mechanical situation, correctable by nothing more than a simple mechanical procedure.

Another problem needing far more attention than it is getting is that of improper calibration of audiometers—standard devices used to measure hearing ability and detect ear damage or disease. A study recently sponsored by the Public Health Service and the University of North Carolina contains the rather startling information that out of 100 audiometers obtained from health departments, public schools, physicians and hospitals, military and industrial installations, Veterans' Administration units, and hearing aid dealers, not one met the study's calibration specifications, and the majority were considered "grossly out of calibration."

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In the hearings led by Senator Kefauver 6½ years ago, estimates were given that half of the 15 million people with impaired hearing could be helped by properly prescribed hearing aids, but that no more than a fifth were actually using them.

We hope very much that these hearings will bring out evidence of an improvement in that figure. In any case, they should certainly serve to point up the urgent and continuing needs in this area of health care.

Thank you.

Senator CHURCH. Thank you very much.

(The chairman, in a letter written shortly after the hearing, addressed the following questions to the witness:)

Question 1. Your statement said at one point: ". . . too many people are still being fitted with hearing aids who cannot be helped by this means at all; too many are being sold the wrong type of hearing aid; and, most tragically of all, too many with remedial ear disease are going undiagnosed while they try one hearing aid after another until they pass the point where the disease is remedial."

This summing-up is—as you might well imagine—of great interest. I would very much like to have some discussion from you on the sources of information for your conclusion, since we may wish to discuss your findings in some detail at future hearings or in our report.

Question 2. You have already provided one publication from the Information Center for Hearing, Speech, and Disorders of Human Communication. Are you planning now any other studies that may be of help to the Subcommittee?

(The following reply was received:)

Your first question deals with my summation of the present situation in regard to the use of hearing aids. First, may I say, I am not an otolaryngologist and have no direct experience in this field. I have, however, been a member of the Committee on Conservation of Hearing of the American Academy of Opthalmology and Otolaryngology since 1958. From 1957 to 1964, I was Executive Director of the Committee's Subcommittee on Hearing in Children and, in this capacity, conducted studies of hearing in children while a member of the faculty of the Graduate School of Public Health at the University of Pittsburgh. During this period, I came to know through close association a large number of otolaryngologists and their many problems. The problems arising from lack of proper medical attention in the fitting of hearing aids were a constant matter of concern to the Committee on Conservation of Hearing. I feel that my summary statement would be heartily seconded by the majority of otolaryngologists.

It may be of interest to provide some information on the prevalence of communicative disorders and, in this instance, may I refer you to the National Institute of Neurological Diseases and Blindness Monograph No. 7 entitled, "Human Communication: The Public Health Aspects of Hearing, Language, and Speech Disorders."[1] Beginning on page 4 in Chapter 2 on the prevalence of communicative disorders and under the subtitle "National Health Surveys," the following information appears:

"The National Center for Health Statistics, a unit of the U.S. Public Health Service which is conducting the National Health Survey, has published a report on the characteristics of persons with impaired hearing in the United States from July 1962 to June 1963. The information in this report was obtained through the nationwide household interview survey (22). Selected findings from this report are as follows:

" 'Approximately 8 million persons were estimated from the interview to have some hearing loss in one or both ears. Following an attempt to find additional information through a supplementary questionnaire, 31 percent reported a hearing impairment in only one ear, 51 percent reported hearing impairment in both ears, 8 percent reported hearing good in both ears and there was no response from 10 percent.

" 'Of those persons reporting hearing impairment in both ears, an attempt was

[1] In subcommittee file.

made to judge their ability to hear without the use of a hearing aid with the following findings:

"'(a) Cannot hear and understand spoken words—4.7 person per 1,000 population.

"'(b) Can hear and understand a few spoken words—4.0 persons per 1,000 population.

"'(c) Can hear and understand most spoken words—13.3 persons per 1,000 population.

"'The association of hearing loss and age is readily apparent from the data in this report. The rates for all persons with binaural hearing loss increase from 3.5 persons per 1,000 population under 17 years of age to 132.0 per 1,000 persons 65 years of age and over. Approximately 80 percent of the persons with binaural hearing loss were 45 years of age or older and 55 percent were 65 years of age or older.

"'The prevalence of binaural hearing loss was considerably greater among males than females; in each of the age groups the rate for males was higher than the rate for females. However, the differences were much greater for the two older age groups than for the two younger groups.

"'The difference in rates between the sexes is primarily due to the rate difference among those with the least hearing loss, that group defined as "can hear and understand most spoken words." The rates for males and females do not differ older age groups than for the two younger age groups.

"'The prevalence of binaural hearing impairment decreased as the amount of family income and the educational attainment of the individual increased. This finding is consistent with other data from the health survey which show that chronic conditions causing limitation of activity are more prevalent among persons with lower incomes.

"'Comparative data on impaired binaural hearing among white and nonwhite persons reveal a considerably higher rate for white persons (23.3 per thousand) compared with that for nonwhite persons (15.1 per thousand). In general, these racial differences held through for all age groups and degrees of hearing loss.

"'The prevalence of binaural hearing impairment is lowest in urban areas. In respect to major geographic regions, in each of the age groups, the rates are lowest for the northeast region of the country and highest in the South and Southwest.

"'About 22 percent of the population with binaural hearing loss were currently using hearing aids, about 6 percent were former users and 70 percent had never used a hearing aid. As might be expected, the use of hearing aids was closely related to hearing ability. About 43 percent of those with no speech comprehension were current users of hearing aids and only about 45 percent of these persons had never used an aid. Among those who could hear and understand most words, only about 12 percent were using aids and about 82 percent had never used an aid. The proportion of current users of hearing aids is directly related to income; the higher the income, the higher the percentage of persons who are presently using an aid.

"'Of the 4,085,000 persons with binaural hearing loss, about 222,000, or 5.4 percent, were reported to have a severe visual impairment. These percentages indicate that about one-fourth of the persons 65 years and older who have a hearing impairment also have some degree of visual impairment.'"

This publication of the National Center of Public Health Statistics further reports on the use of hearing aids as follows:

"About 31 percent of the hearing aid users chose their aids on the recommendation of a medical doctor or clinic, 53 percent chose aids without the recommendation of a medical practitioner, and about 16 percent were not classified.

"Although there was little difference by age in the proportion of persons who were currently using aids, the proportion who had never used an aid decreased with age. These proportions were about 76, 72, and 64 percent for ages under 45, 45–64, and 65 years and over, respectively. Among persons 65 years and over, 7 percent of those with binaural hearing impairment had formerly used a hearing aid, as compared with 4 percent among those under 45 years and 5 percent of those 45–64 years. This comparatively high rate of aged persons who have discontinued the use of an aid may be related to the original basis for its selection. Only 27 percent of the persons 65 years and older who had ever used an aid chose it on the basis of advice from a doctor or clinic as compared with 38 percent of those under 65 years who had used an aid."

In answer to your second question, this Institute now has in preparation the report of a comprehensive study of the state of the art in respect to re-

search and gaps in our knowledge in respect to communicative disorders. This study has been conducted by an outstanding group of scientists who are serving as an ad hoc committee of our National Advisory Council. The report will be finished and presented to the National Advisory Neurological Diseases and Blindness Council at its next meeting to be held the latter part of November 1968. It is hoped that the report will provide the basis and direction for research in this whole field for the next several years. It may be that your Committee might wish to examine this report when it is available, and, if so, we will be pleased to make it available to you.

Senator CHURCH. Dr. Stewart, if we may hear from you at this time.

STATEMENT OF DR. JOSEPH L. STEWART

Dr. JOSEPH STEWART. Thank you.

Since public discussions and decisions hinge on how well a hearing aid works or, specifically, how well the hearing aid works for the older American who needs his hearing enhanced, I would like to take the next few minutes to try to show audiovisually why the problems which are being considered at this time are so complex.

Rather than read the testimony which I have presented for the record, I will then attempt to update and summarize it briefly.

(The full statement by Dr. Joseph Stewart follows:)

PREPARED STATEMENT SUBMITTED BY JOSEPH L. STEWART, PH. D., CONSULTANT, SPEECH PATHOLOGY AND AUDIOLOGY, NATIONAL CENTER FOR CHRONIC DISEASE CONTROL, PUBLIC HEALTH SERVICE

I. INTRODUCTION

The basic premise underlying hearing conservation activities in the National Center for Chronic Disease Control is that loss of hearing is primarily a health problem and, consequently, that the medical and allied medical specialists most concerned with the ear and hearing, the otolaryngologist or otologist (medical) and audiologist (allied medical), ideally should be consulted early in the diagnosis of the impairment and the treatment of the patient. For reasons dealt with more extensively later, this ideal procedure is not followed in the majority of instances wherein a given person feels he may have a loss of hearing and, as a result, purchases a hearing aid.

The recent emergence of audiology as a discipline devoted to the science of hearing and its measurement has been accompanied by the further evolution of otology out of eye, ear, nose, and throat medicine to the specialty devoted to medical and surgical diagnosis and treatment for hearing loss. In the meantime, the hearing aid industry, which from its beginnings has not been closely related to the field of medicine, has similarly undergone rapid growth as a commercial enterprise. A period of great growth occurred immediately following World War II when wartime developments in electronics became available at the same time a large number of newly-deafened war veterans created a great demand for hearing aids. The rapid gain in technological development, however, was not matched by an equally rapid gain in the training and competence of the persons selling the product. To this day the disbursement of hearing aids is primarily a commercial venture despite attempt to vest in the salesman an aura of professionalism by such designations as terming him a "hearing aid audiologist" and his place of business a "hearing aid center". Relatively recently the Federal Trade Commission (1965) revised its trade practice rules which, in part, limits such quasi-professional designations as "Hearing Clinic" and prohibits the use of any symbol or statement denoting medical affiliation or connotation.

The otologist and audiologist, by and large, feel and objective appraisal, of the sort described below, is far more desirable than the common practice of being counseled in hearing aid use by the person who stands to gain from the sale. The prospective purchaser is open to any and all sales influences, including those implied when the sales person assumes a title designed to give the impression of professionalism, further bolstered by the wearing of a white coat. The shortage of competent professional personnel has undoubtedly contributed greatly to this

problem. Present day clinical facilities cannot accommodate much more than 10 per cent of all persons buying a hearing aid each year. While interdependence among the three persons most concerned with hearing aid use—the otologist, the audiologist, and the hearing aid dealer—is no longer questioned, the extent to which there is agreement as to each one's role in the decision regarding use of an aid, or the specific aid to be purchased, is another matter. (The hearing aid industry, on the whole, has rather vigorously opposed the services offered by noncommercial audiologic clinics.) Under the most desirable conditions, a hearing aid evaluation conducted by an audiologist either follows, or is given in conjunction with, the medical examination. The initial phase of the examination consists of testing the patient's hearing for pure tones throughout the total audible range; assessing the patient's threshold for speech reception, the point where he can correctly identify one-half of a series of two syllable words; and measurement of his speech discrimination, using monosyllables presented at a comfortable level above threshold to determine the intelligibility of specific sounds in speech. The interpretation of the test scores obtained, as they interrelate as well as how they compare with established norms, determines whether or not the hearing aid evaluation itself is then conducted. Ordinarily the decision as to whether or not to proceed is based upon whether there is a hearing loss of sufficient extent to warrant hearing aid use and whether there is a good likelihood that a hearing aid can be used successfully.

The subsequent hearing aid evaluation by an audiologist is often a comparison of many different instruments, of known characteristics, which may be beneficial to the particular patient, with the recommendation based upon which instrument gives the best speech reception threshold and the greatest improvement in speech discrimination. The audiologist may then recommend the purchase of the specific aid or aids found most effective or indicate the particular characteristics found to be most helpful with the patient selecting his own dealer for final fitting and purchase. At no point are the otologist or audiologist involved in the actual purchase of the aid.

It is generally agreed among the professional persons involved that the total hearing aid evaluation procedure should be capable of answering the following questions: 1. Does this person have a hearing problem and, if so, can it be corrected or improved through medical treatment? 2. If medical treatment is not indicated, does he need a hearing aid? 3. If so, can he profitably use a hearing aid? 4. If he can, what characteristics should it have? Should it be worn on the body or on the head? Which ear should be fitted, or should both? What sound frequency characteristics should it have? What loudness gain is necessary for this patient? What maximum loudness is desirable? 5. If he cannot use an aid, what alternatives can be recommended to help him communicate better and where might he obtain this help?

It is the contention of our Neurological and Sensory Disease Control Program that questions such as these can best be answered by persons whose training and experience are such that they are qualified to do so. It is further our contention that those persons making such decisions should have no financial interest in the matter of hearing aid purchase. These opinions are held in the full knowledge that any decision to make such procedures a legal requirement prior to hearing aid purchase could not be implemented at the present time due to the lack of available professional personnel to provide these services.

A greater recognition of the magnitude of the problem, and the directions taken by our Program to partially alleviate it, can best be viewed when related to the number of potential users of these services.

The most recent publication dealing with the extent of hearing loss in the United States (A. Gentile, J. D. Schein, and K. Haase, "Characteristics of persons with impaired hearing," National Center for Health Statistics, Series 10, Number 35, April 1967) is based upon data obtained during the 1961–62 National Health Survey and a follow-up study of a sample of respondents in the survey who indicated having a hearing loss. On the basis of this information, it is estimated that 8,000,000 adult Americans have a significant hearing loss, defined as greater than 30 decibels in the frequencies of 500, 1000, 2000 cycles per second. Thirty-one per cent of the people so identified have the hearing loss in one ear only and, as such, are not generally considered potential hearing aid users and were not considered in the overall report. All figures referred to from this publication are based upon an estimated 4,000,000 adults with bilateral hearing loss as defined above. Above one-tenth of these purchase a hearing aid in any one year.

On the basis of these figures, the overall prevalence of significant hearing loss

among adult Americans is 2.7 per cent. When broken down into age ranges, the prevalence is found to be .6 per cent in persons between 17 and 45 years, 3 per cent in the range between 45 and 64, and 13.2 per cent in the range from 65 years and up. Put another way, 80 per cent of all adults with bilateral hearing loss are 45 years of age or older; 55 per cent are 65 years of age or older.

At first glance, these figures would appear to be contradictory to previously reported estimates of 8 to 15 million Americans with hearing loss and the Consumers Union estimate that loss of hearing with age significantly restricts 30–50 per cent of the population over the age of sixty-five. The apparent discrepancies may be accounted for by the rigorous criteria used in the Health Survey publication.

II. THE PROBLEM

In oversimplified form, the problem of hearing aid use by the elderly must take into account the following considerations:

(1) The need to determine the type, extent, and duration of the hearing loss.

(2) The need for assessment of the relative effectiveness of the hearing aid for such hearing losses.

(3) The need to evaluate the cost, maintenance, and expected lifetime of the aid as related to individual income.

(4) The need to assure the availability of appropriate professional personnel for assessment, treatment, hearing aid selection, and follow-up services for optimum use of the aid.

Type, extent, and duration of the hearing loss.—Elderly people rarely show a "simple" loss of hearing. The majority of their losses involve some damage to the auditory nerve as well as deficiencies in the mechanism of the ear which relays sound to the nerve. In many instances, the problem is further compounded by varying degrees of deterioration in the brain, leading to an additional handicap in comprehension of speech. In the factors involving nerve degeneration, beyond the middle ear, the damage is permanent and amplification of sound, even of the selected frequencies most involved, will not restore function. In contrast to the majority of children with impaired hearing, whose problem is primarily in the mechanical conduction of sound through the middle ear, the elderly person is much less likely to obtain satisfaction from a hearing aid even though he is more likely to feel and express a need for the help such an instrument may provide.

Assessment of hearing aid need and effectiveness.—Unfortunately, based upon the National Center for Health Statistics study, the elderly person is in the group least likely to have had an otologic-audiologic examination before purchasing an aid.

Sixty-six per cent of hearing aid users in all age groups reported in the study had prior medical evaluation compared to only 34 per cent of those in the group over 65 years of age. In addition, 52.9 per cent of the latter group reported never having had an audiometric examination prior to hearing aid purchase.

In all age ranges, the person with the more severe loss of hearing was more likely to have had a medical examination prior to hearing aid purchase and expressed a greater degree of satisfaction in its use—not solely because of the advantage of medical consultation, but also because he is far more dependent upon what little hearing he does have. The person with the less severe loss has generally incurred it later in life and is generally less satisfied because he expects a closer approximation of what he believes his hearing was previously. In the total sample reported, 20.6 per cent report the onset of the hearing loss as being prior to the age of 17: in the over 65 group, only 6.2 per cent indicated the onset prior to the age of 17.

As would therefore be expected, persons with less severe losses of hearing comprise the bulk of persons who either decline to purchase an aid or discontinue its use. Approximatley 22 per cent of the respondents in the National Center for Health Statistics report were currently using hearing aids even though they would all be considered "potential" users on the basis of extent of hearing loss. Six per cent were former users and 70 per cent had never been hearing aid users. (No responses were obtained from the remaining 2 per cent.)

Hearing aid costs and individual income.—In common with other chronic disease conditions, the prevalence of bilateral hearing loss is greater in lower-income groups. In the lowest income group (less than $2,000 family income per year) reported in the National Center for Health Statistics study there

is a large proportion of persons over 65 years of age. There is also a larger proportion of former hearing aid users in this income group indicating a larger number who are dissatisfied with the aid after it has been purchased.

Approximately 55 per cent of the study population have family incomes of less than $4,000, reflecting, in large part, the high proportion of elderly people in the group. Insofar as expense associated with a hearing aid is concerned, it must be borne in mind that the initial investment is but a portion of the total expense.

A recent report on hearing aids by the Consumers Union estimated between 300 and 400 models of hearing aids were currently available. ("Hearing Aids," reprint of an article originally published in the January 1966 issue of Consumer Reports, Mt. Vernon, New York.)[1] The report itself gives the results obtained from 40 single ear models with comparatively equal "flat" frequency responses. Thirty-seven of the 40 models ranged in price from $129.50 to $389.50. Of these, four ranged between $100 and $200, ten between $200 and $300 and twenty-three over $300. Two of the three models below $100 were rated as "best buys" on the basis of quality control and overal performances. The third was judged to be "not acceptable".

The most comprehensive figures available on cost and pricing practices in the industry are still those contained in the Kefauver Committee report ("Prices of Hearing Aids"—Hearings before the Subcommittee on Antitrust and Monopoly. 87th Congress,. 1962) which are based on figures obtained in 1961. The Committee reviewed the suggested retail prices of the least expensive and most expensive monaural (single ear) hearing aid from each of 11 major manufacturers. The suggested retail price on the least expensive aid was $50 from one manufacturer and ranged upward to $281.75 as the least expensive aid from another company. The most expensive monaural aid ranged in price from $285 to $369.50. The cost of binaural (both ears) fitting is approximately twice that of the monaural. Generally speaking, the more desirable a hearing aid is, from a cosmetic standpoint, the more expensive it is to purchase. The four in-the-ear types tested by Consumers Union, for example, ranged from $325 to $349.50.

The initial cost of the hearing aid does not represent the entire expenditure to be expected. In addition to routine maintenance and repair, there is rapid depreciation on the instrument; we have no figures to contradict the generally accepted average life figure for a hearing aid of three years. Given a normal life expectancy, a person fitted as a child could expect to purchase from 20 to 25 new hearing aids in the course of his lifetime along with the necessary cords, repairs, insurance, etc. Batteries, of course, are a continual expense as well. Consumers Union reported estimates of battery life, in hours, of from 14 to 120 hours with an average range of 10-hour operating costs of from 1.5¢ to 75¢.

Availability of professional personnel.—The major problem in achieving the preferred system of hearing aid selection on the basis of competent professional advice, is the shortage of adequately trained persons to provide the service. Of the 15,000 members of the American Speech and Hearing Association, less than 2,000 hold, or have registered their academic qualifications for, the Certificate of Clinical Competence in Audiology. If the estimate that 5 per cent of our overall population are in need of speech and hearing services is an accurate one, a ratio of one speech pathologist and one audiologist to each 50,000 people means we need 40,000 trained persons working in the field at the present time. The more conservative estimate of 3 per cent of the population in need of these services will necessitate 27,000 in active work by 1970.

The need for otolaryngologists is similarly acute. At the present time, the American Academy of Ophthalmology and Otolaryngology lists 4,900 board-certified otolaryngologists. An additional 10,000 are needed at the present time and an ideal ratio of physician to population of 1: 20,000 appears to be completely unattainable in the foreseeable future.

Approximately ten years ago, the first large-scale Government program aimed at relieving the acute shortage of speech pathologists and audiologists was initiated through the training activities within the Vocational Rehabilitation Administration. This has been followed by similar activities in other agencies such as the Office of Education, The National Institutes of Health, and our own Program within the National Center for Chronic Disease Control. Each of these training activities has been mission-oriented and, in the case of our Program, that mission has been the training of speech pathologists with a vocational objective of working in a clinical setting—as opposed to a research-academic or public school environment. In addition to grants awarded to training institutions for

[1] See app. 1, p. 235.

training purposes (in which the project director selects which students are appropriate for which sources of support) the Program also supports individual traineeships, the students being selected by the Program. Since the review and award of such applications is under the direct control of this Program, it would be expected that a higher proportion of these students would be those most likely to enter a position of the type described and of particular pertinence to the present Hearings—that of a clinician involved in direct services to persons within a medicaly oriented facility. A recent assessment of 208 students supported by the Program under individual traineeships revealed that approximately one-third of them, known to have completed their training and actively working in the field, were employed in the type of setting for which they were trained. The remainder help positions in university programs or clinics, public schools, administrative offices, etc.

While no one would argue that trained personnel entering administrative, school, or research and academic settings are not making a contribution to patient care of the elderly, the relatively small percentage of graduates serving such needs make it all the more apparent that training activities alone are not the final answer to the problem. This is true even without calling attention to the fact that the majority of students receiving the training would not be working primarily with the adult hearing impaired since the training activities cover both speech and hearing disorders throughout the entire age range. In addition to making more personnel available, it is clear that better use of available personnel, the training of non-professional aides, new systems for delivery of services, and development of new technology and instruments are equally essential if we are to achieve anything near the goals we have set.

III. NEW ACTIVITIES WITHIN THE NATIONAL CENTER FOR CHRONIC DISEASE CONTROL

Within the National Center for Chronic Disease Control, the Neurological and Sensory Disease Control Program is actively engaged in activities related to the problem before this Committee. In addition to continuing training activities described above, the primary functions of this Program are those of planning, developing, field testing, and evaluating preventive and control measures for neurological and sensory disease.

With particular reference to impairment of hearing, the Program attempts to prevent hearing loss where possible and to reduce the effect of handicapping conditions which result from hearing losses which are not preventable.

While the more severely handicapping hearing losses among older adults are the result of damage to the auditory nerve, a great many are further complicated by additional impairment in the sound conduction structures of the ear. It has been estimated that 50 per cent of adult hearing problems have a conductive component resulting from disease in childhood, primarily as a result of chronic infections of the middle ear (otitis media). If the problems associated with hearing aid usage by the elderly are to be reduced, proposed solutions must include activities directed toward prevention and control of hearing loss in children. For this reason, Program activities have focused upon two major causes of hearing loss, representing both ends of the age spectrum; otitis media and presbycusis (loss of hearing with aging).

A. Hearing loss in children

Otitis media is the single largest cause of hearing impairment in children. A recent study indicated 15 per cent of a large number of school children examined showed evidences of current or previous middle ear disease of varying severity. (E. Eagles, *et al.*, "Hearing sensitivity and related factors in children." *The Laryngoscope*, 1963). While antibiotics were once felt to be the final solution to the problem, this obviously has not been the case. In some groups of American children the incidence is known to be as high as 60 per cent of the children before the age of three (Alaskan Eskimo), 50 per cent of the children by the age of five (Hawaii, American Samoa), with other high-risk groups, primarily American Indian, ranging between 30 per cent and 40 per cent in many widely separated groups.

1. *Prevention.*—As indicated previously, Program emphasis on prevention is two-fold; 1) prevention of disease and 2) prevention of the serious handicapping effects in children in whom the disease was not preventable.

Program field investigations are currently underway to identify high-risk and low-risk sub-groups of children for later intensive study of such variables as race, climate, geography, socio-economic status, seasonal variation in occur-

rence, etc. In the belief that knowledge about prevention may be more obtainable in areas where the prevalence is high and in which prior research and medical records over a period of years provides a fertile base for such investigations, efforts to date have been focused on Navajo and Native Alaskan (Eskimo, Indian, and Aleut) children with similar investigations being explored for the near future in Hawaii, American Samoa, urban slum areas, migrant labor camps, etc.

2. *Control Through Technical Development.*—Investigations directed at control of the handicapping effects of such conditions are dependent upon detecting disease before it can cause major damage. Since most of the serious episodes of otitis media occur very early in life and can affect language development and learning potential, we must revise downward our concepts of "early detection" from the preschool level to infancy and devise the means by which the earliest possible detection may be achieved. Most hearing screening programs begin in kindergarten or first grade; by this time the child with a hearing loss from otitis media may have had the loss for three or four years, during the most critical period for the learning of language, which may result in academic and social retardation far beyond that which we have previously suspected might have been possible. In addition, we know that the earlier a child is fitted with a hearing aid the better his acceptance of the aid will be and the more benefit will be derived from it.

The difficulty in implementing early detection and treatment is often made even more difficult by virtue of the fact that a large number of high-risk children live in slum areas or in sparsely populated areas where medical and allied medical facilities are not always conveniently located. Even when close at hand, the medical facility usually does not have the capability of assuring that the child with otitis media will be detected early nor does it have the staff to evaluate hearing for hearing aid use once the condition has been detected and treated. This shortage of fully trained personnel further emphasizes the need for research into other systems for delivery of such services. Present procedures, which often involve transporting the child considerable distances for treatment and evaluation, are quite costly and present evidence would indicate that once the hearing aid has been obtained it is soon discarded if there are insufficient provisions for follow-up care and instruction in its use and maintenance. Field investigations currently awaiting approval will study the efficacy of using nonprofessionally trained personnel to deliver needed services. A related investigation is already underway to assess reasons for hearing aid rejection by children, develop the necessary techniques to lessen such rejection, and evaluate procedures by which the effects of early hearing deprivation might be more rapidly and more completely alleviated.

A companion research project to those outlined above has been written for submission under the provisions of Public Law 480. This study will evaluate the merits of a home training program for deaf infants in Israel. The results of this study will be of considerable importance in the management of such children within our own country.

The determination of hearing acuity in a child too young to give an overt response becomes an evermore serious problem as we move in the direction of ever earlier detection. The program has recently awarded a contract to the University of Colorado Medical Center to validate electroencephalographic audiometry as a clinically-useful tool. By processing brain waves through a special purpose computer, the infant's hearing level can be quickly and accurately determined. Such validation is obviously a necessity if the goal of the earliest possible detection of a hearing loss is to be achieved.

A companion study, evaluating screening procedures with newborns, is currently underway in Israel, again utilizing Public Law 480 funds. This investigation, which does not involve electroencephalography, will determine the efficacy of identifying congenitally deaf children as soon as possible after birth.

B. Hearing loss in adults

1. *Prevention.*—In urban areas of the world, presbycusis—the loss of hearing with age—is commonplace to the point of being an expected phenomenon. The contributory effect of noise as a cause for such hearing loss is becoming increasingly well-documented. A National Conference on Noise as a Public Health Hazard was recently held under the co-sponsorship of the National Center for Chronic Disease Control and the National Center for Urban and Industrial Health for the purpose of synthesizing existing knowledge on the subject and making recommendations for future action to prevent loss of hearing.

In addition to the direct effects of noise on hearing, recent research findings indicate an interrelationship among such factors as the absence of noise in the environment, low-fat diet, low incidence of coronary heart disease, and exceptional hearing acuity in persons of advanced age. Other research, from a noise-free environment in rural India, reports similarly acuite hearing well into old age along with a remarkably low incidence of coronary heart disease among a group whose diet is predominantly saturated fat. A research project to be conducted among these people, under Public Law 480, is being developed at the present time for support as funds become available.

In the meantime, relatively isolated groups are available for study under domestic research activities which have considerable merit for such investigation. The Eskimo, for example, is known to have a diet very low in saturated fat and has similarly low incidence of coronary heart disease. The lack of noise in his usual environment would further lead to speculation regarding his hearing acuity in old age. Similar investigations are seen to be desirable among the Navajo and the Polynesians for application of the resultant knowledge to hearing conservation activities among all our people.

2. *Control Through Technical Development.*—A recent investigation supported by our Program found that of an entire sample of audiometers in current use in North Carolina were in unsatisfactory calibration in various clinics, hospitals, public schools, and professional offices. Findings such as this, which have obvious relevance to the problem of hearing aid use by the elderly, call for immediate action since they cast suspicion on every hearing conservation program in the country. The findings of this study are being widely circulated in order to call attention to the need for continual checking of calibration of audiometers and the need for a machine which would be essentially "self-calibrating." In addition to extending the North Carolina study an additional 18 months to determine how long an instrument, once correctly calibrated, will remain in calibration, the Program is determining the feasibility of designing an instrument which would, in effect, call attention to any state of discalibration whch might develop and would, in addition, have the capability for on-the-spot calibration by the operator, thereby doing away with the expensive and time-consuming alternatives available now.

Two other instruments are also in the planning stages and will be of exceptional importance to the problem before us. The first is a semi-automated speech audiometer which will improve tremendously the speed and precision with which the hard of hearing can obtain sound advice on the selection of a hearing aid. The present-day hearing aid selection requires a great deal of the time of a highly trained clinical audiologist to obtain basic information upon which to make his eventual judgment on potential hearing aid use. The machine would be located in a multiphasic screening center and operated by a technician who would instruct the patient in the required tasks; the audiometer itself would determine the levels of presentation of the speech test materials, evaluate the responses, and indicate one of three conclusions: 1) the patient's hearing acuity is sufficient so that a hearing aid is not indicated; 2) the patient's hearing acuity is not within normal limits and he should be referred for comprehensive otologic and audiologic examination; or 3) the patient's hearing acuity is not within normal limits but analysis of the responses does not indicate that sufficient improvement can be obtained from a hearing aid to merit its purchase. Through the procedure outlined, substantially more persons could be screened for hearing aid use than is possible at the present time and the time of the otologist and audiologist would be conserved for those most in need of their services. Ideally, of course, only those persons found needing an aid and capable of being helped by it should purchase one.

The characteristics of a hearing aid suitable for a given individual would be determined by the third instrument under consideration—a "master hearing aid." Many hearing aid dealers are rightfully concerned with the massive inventories of their instruments which they must maintain at a number of noncommercial hearing centers. Similarly, the clinical audiologist is never sure, without resorting to very time consuming procedures, that the hearing aid he is trying on his patient will, within limits, resemble an equivalent model from the dealer's stock even though they are presumed to have the "same" operating characteristics. The master hearing aid would allow for immediate and continuing control over the critical characteristics for any given hearing aid—overall acoustic output and spectrum, frequency range, peak output, etc.—resulting in a fitting more closely resembling a "prescription" for the aid to be purchased.

At the present time, the determination of whether or not a patient will or will not be a good candidate for hearing aid use is made on the basis of test scores, clinical judgment, and the patient's own impressions regarding "comfort" and "clarity." In order for the instruments described above to be made most useful, more information of a prognostic nature must be obtained regarding improvement of aided over unaided hearing, audiometric pattern, analysis of speech errors, etc. In addition, assessment of programs for follow-up services in hearing aid orientation, maintenance, and overall assistance in usage must be made if the best possible total program of service for the elderly hearing impaired person is to result. Joint planning efforts between the Administration on Aging and our Program to obtain such information have been underway for several months and the first research protocol for these activities has been outlined. Implementation of the findings from the proposed study are anticipated in a variety of community settings provided services to the elderly hearing impaired as soon as they are available.

SUMMARY

In general, the following statements are seen to apply in the case of the elderly person with a loss of hearing:

1. He comprises a greater percentage of the total number of hearing impaired than any other age group.
2. His hearing loss, though acquired later, is of the type that is less remediable by medical treatment or hearing aid use and is more difficult for him to adjust to.
3. He has a progressively greater difficulty in communicating with his family and friends at the same time that he has a greater need for such communication.
4. Even though he is likely to receive more value from the evaluations of an otologist and an audiologist, regarding his potential for hearing aid use, he is less likely to seek out such help and more likely to purchase an aid unadvised.
5. He is more likely to be a hearing aid purchaser even though he is in the income group least likely to afford it. He will discover, probably to his sorrow, that he will be unable to purchase a used hearing aid from the dealer.
6. He is more likely to be a hearing aid purchaser who will, by the nature of his disorder, be least satisfied with it, use it less, and more likely to discontinue its use entirely.

In recognition of these problems, the National Center for Chronic Disease Control has related a great deal of its efforts in neurological and sensory disease activities around the hearing impaired. Program activities of direct pertinence to the problem include:

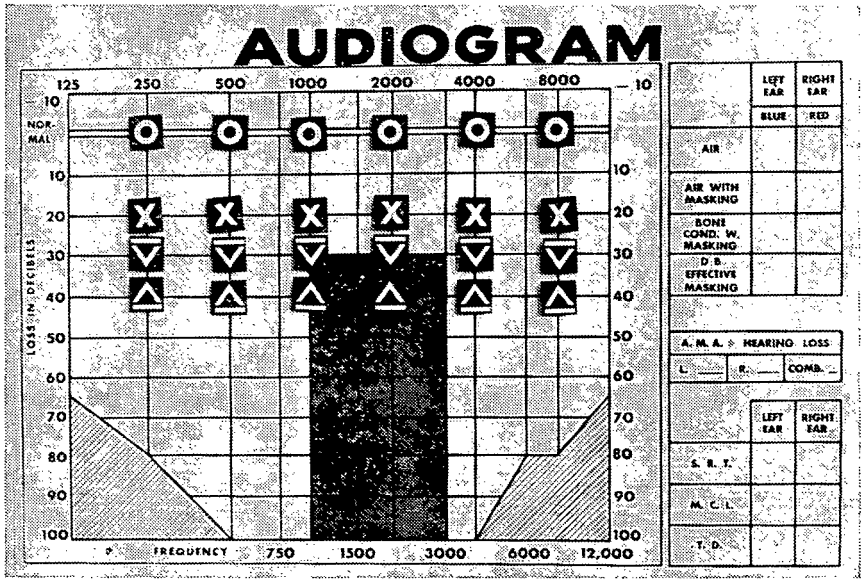
1. Professional training of clinical audiologists who are service-oriented to be available to this, and other, age groups needing such services.
2. Applied research activities into the nature and cause of such early hearing debilitating conditions as otitis media in children in order to prevent handicapping conditions which may last a lifetime.
3. Clinical research into relationships among hearing as a function of age and variables which may contribute to its decline.
4. Investigations into the effects of noise on hearing, following the recommendations resulting from the National Conference on Noise as a Public Health Hazard.
5. Field investigations of new and improved methods for delivery of services to the hearing impaired.
6. Evaluation of existing instruments used to determine hearing acuity.
7. Development and evaluation of new instruments to assess hearing more accurately with less margin for instrument and operator error.
8. Development and evaluation of new instruments and systems for use in multiphasic health screening centers for persons over the age of 50 which will determine those who may be candidates for medical treatment, hearing aid use, or both—at a saving of scarce professional time while at the same time serving more people in need of such services.

Dr. JOSEPH STEWART. I should emphasize at the beginning that the problems associated with hearing-aid use is particular are somewhat controversial and that some of my remarks should not then be construed to be either Department of Health, Education, and Welfare or Public Health Service policy.

If you will bear with me for just a moment, I would like to indicate some of the problems associated with hearing loss by illustrating them

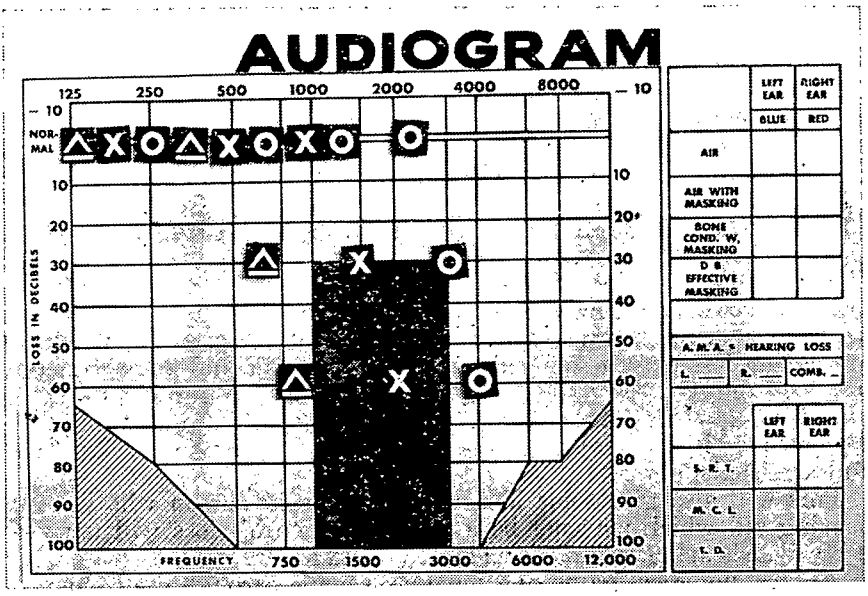
on the standard audiogram form, which is more or less a map of two of the major dimensions of hearing going from this direction here [indicating], the pitch dimension, from low pitch to high, and from this dimension here to here [indicating], from soft intensity to loud.

Theoretically, most young adults have hearing in this range here [indicating]. I have a tape here which is a simulation of varying degrees of hearing loss; the first set of examples being hearing loss in the loudness function only; the second set of examples being loss in the pitch dimension only; and then I will try to elaborate for a moment as to what this means insofar as hearing loss and hearing aid usage are concerned.



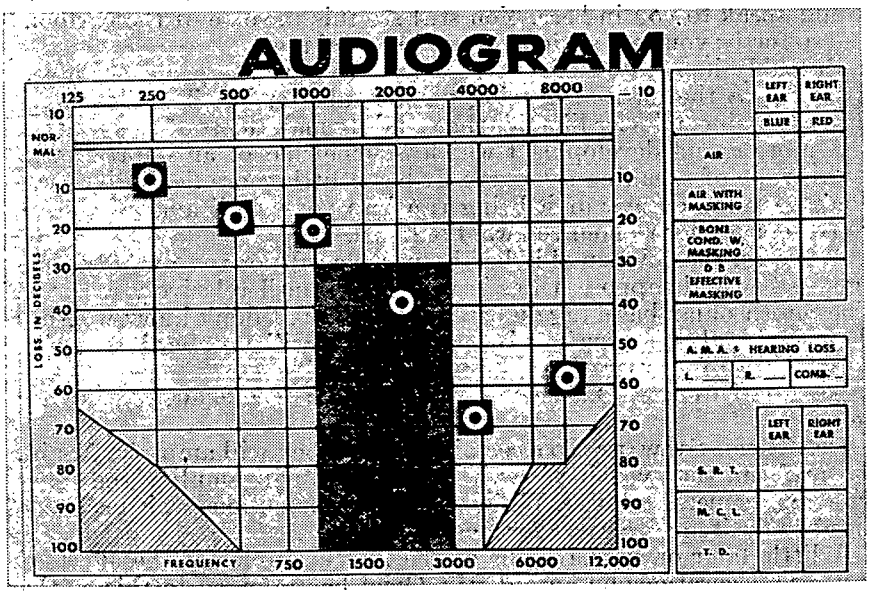
No. 1. Composite audiogram comparing normal hearing with varying losses of loudness function only.

O–O–O	normal hearing
X–X–X	20 dB hearing loss
V–V–V	30 dB hearing loss
Δ–Δ–Δ	40 dB hearing loss



No 2. Composite audiogram depicting varying losses of pitch function only.

O–O–O hearing loss above 2000 cycles
X–X–X hearing loss above 1000 cycles
Λ–Λ–Λ hearing loss above 500 cycles



No. 3. Audiogram of hearing loss of a type often seen in older person, indicating some loss of both pitch and loudness functions.

(At this point a tape was played.)

RECORDED VOICE. No one can listen with another's ears but these examples are a relatively accurate representation of the way an individual with impaired hearing hears.

This tape was prepared by the Research Center, Subcommittee on Noise in Industry.

Dr. JOSEPH STEWART. You will notice from that brief section of the tape that, even though the speech got progressively softer and more difficult to hear, it did not lose anything in its intelligibility; the only thing that was affected there was the loudness.

Now, the next section will be a little different.

(At this point the tape was played.)

Dr. JOSEPH STEWART. Unfortunately, this later tape shows the type of hearing loss most associated with elderly people and, even to make it more complex, very often they will have a combination of both impairment of the loudness function and the pitch function. With aging there is often also some cortical deterioration which further adds to the distortion.

This will also give some idea why the elderly person who buys a hearing aid which may not be ideally suited to his loss will not use it if all the hearing aid does is make the sound louder.

The technological gains that have been made through the industry, itself, in recent years have been extraordinary, as these instruments will show.

Through the courtesy of the Smithsonian, we have some older hearing devices, the first being an old-style hearing trumpet with the bamboo earpiece which was held up to the ear and then the person would speak to you in here. You still see this in some of the cartoons and so forth; you very seldom see one in actual use.

Probably its greatest effect was merely to have the person who was speaking to the hard-of-hearing person talk louder. There is something in seeing a device like this that tends to make most of us speak up.

A more recent development which is somewhat of an improvement is this type of speaking tube here. It has a little more flexibility; you don't have the danger of it being run into your skull and, of course, you can orient it to whom you want to listen.

Actually, the tube on this has been replaced not too awfully long ago, so I would suppose it has been used up until relatively recently. The Smithsonian has a tag on here saying $7.50. I don't know whether they would take that for it or if that is what it will cost, but it will give you the idea of comparative cost if this is what it cost.

Senator CHURCH. Did these earlier devices, Dr. Stewart, actually help?

Dr. JOSEPH STEWART. To a certain extent. They will amplify. Again, the problem that you have with this is they will amplify the tones which are generally lower. While this made speech louder, it probably didn't make it much clearer for most of them.

A little later on we have one of the first examples of the effect of cosmetic decorations on an aid. Mr. Oriol has referred to this as the "cocktail party model"; tortoise shell with a little grated grille here. It still gives some amplification.

I want to see which one of these was coming up next.

This is an earlier type of electrical instrument, and this again is, I think, a better illustration of why miniaturization is a good thing, as it were.

This device with a separate microphone here, additional powerpack here, and then the conduction unit here requires quite a bit of wiring on the body. As you can see, this would not be very comfortable but if your hearing was much impaired it would be useful.

Senator CHURCH. This was one of the earlier electrical models?

Dr. JOSEPH STEWART. Yes.

Senator CHURCH. Do you have the date on that?

Dr. JOSEPH STEWART. No. I presume this would be the early 1920's but this one does not happen to be dated and I simply don't know.

I think another point of comparison of interest might be to compare the battery size. This is what it took to power this aid; this, as compared to this to power this new aid.

In 1927, we had this instrument which again does very little to conceal the fact that the wearer is hard of hearing. It has an on-off switch which is almost as big as the one you have in your home. It requires the separate battery pack as these indicate with the microphone amplifier here.

It was not until after the Second World War, however, that we saw the real gains in miniaturization in both aids and batteries. This instrument, which came out about 1946 or 1948, was a self-contained unit; it was one of the earlier ones without a separate battery pack.

It is still a body-worn instrument with the external receiver and so forth. It took two batteries here.

INNOVATIONS IN THE FIFTIES

In about the middle 1950's, we had the first of the on-the-head aids by means of the eyeglass, this being the model instrument to show the components and the use to which they are put in the temple bar of the eyeglass and a new model which I will show you for comparison. Here is a new eyeglass model which shows you the comparative size changes even in the past 10 or 12 years. These new instruments were loaned to me by the Audiotone Co., for this demonstration.

In addition to the greater comfort and convenience of having an aid that is worn on the head, there is also, of course, the cosmetic feature which helps to sell these behind-the-ear instruments. Again, this fits right behind the ear; it has a tube leading from this end here which goes into the ear. It is worn on the head. It does give the wearer a better sense of the orientation of the sound around him than the aid which is placed in the middle of the body as in this body model.

This takes the battery. This is essentially a more powerful model of the same type of aid. Then the most powerful which has to go to the external receiver which again is a disadvantage as far as many people are concerned because of the obviousness of it, but to give you the power so that you can get the aid off your chest and on to the head it is probably well worth it to most users.

Senator CHURCH. Doctor, will this miniature aid, today's model, do as much in amplification of sound as the glasses will?

Dr. JOSEPH STEWART. Yes; an aid such as this one, particularly, can, if properly matched with receiver and so forth, give you just as much

and more power—they have increased it a good deal. I think the gentlemen from the industry can give you precise figures as to how much but we have even been using aids like this on deaf children with good results.

Senator CARLSON. Doctor, has not the real development been in power more than in modification of equipment design?

Dr. JOSEPH STEWART. I would have to say it is a gain in both dimensions. The miniaturization to be able to handle the power and certainly to get the power in these silver oxide batteries is remarkable, I think. This battery, by the way, to give you an idea of cost—because the cost of the aid, itself, of course, is not the total expense—this battery is purchased over the counter for 45 cents and it has a life of about 2 days, assuming you wear it 15 to 16 hours per day.

So, this is not an insubstantial amount of money as far as the maintenance of the instrument is concerned.

Gains such as this are not limited to the hearing aids, themselves. Happily, since solid state electronics and so forth, we have the same sort of improvements coming up in the audiometers.

As recently as last week, I saw reference to a device which looks like it will do almost what the master hearing aid reported in the testimony is to do and is already commercially available, limited numbers; this was designed by the HEAR Foundation in Los Angeles, which is one of the facilities for training deaf and hard-of-hearing children.

Senator CARLSON. Doctor, you mentioned this battery might last 2 days with continuous use. How long would it last with the use normally made by wearers of hearing aids?

Dr. JOSEPH STEWART. Again, if you have dependence on your hearing aid, you will probably be using it most of the day in which you are at least either conversing with other people, listening to the radio or television and so forth. I based my estimate on a 15-hour day. Cut it down to get 4 days, depending on use. This, again, is an average figure.

If the hearing aid wearer prefers more power than the average it was based on, it will last a shorter time; if less, substantially longer.

Senator FONG. Doctor, will you describe these instrumentations as just amplification machines?

Dr. JOSEPH STEWART. No; I think that is a term that you hear a great deal: "After all, the hearing aid is just an amplifier." This is not entirely correct. It basically is an amplifier, yes, but it does have selected amplification characteristics that as we go along will, I hope, help to correct the person's area of greatest loss.

A straight flat amplifier would raise the lower tones, as I played on the tape a while ago; it does nothing to raise the higher tones. Custom-fit to the individual ear, bringing in the high while suppressing the low, it is a selective amplifier.

Senator FONG. You say most of these machines have the dual purpose?

Dr. JOSEPH STEWART. Most of these small ones have already been set to amplify the higher frequencies. This could not be changed unless it was sent back to the factory, rather than the flat, straight amplification type.

Senator CHURCH. Doctor, are you saying then that before a person purchases a hearing aid he should have a competent examination made

of his hearing defects and then receive a prescription which would indicate to him or to his supplier what kind of aid his particular case calls for?

Dr. JOSEPH STEWART. Yes.

Senator CHURCHILL. Is it possible to secure from the market specially adjusted aids that are directed toward these individual problems?

Dr. JOSEPH STEWART. Yes.

Again, from the standpoint of the Public Health Service, and I speak as a Public Health Service employee, hearing loss is primarily a medical problem so that the medical condition should be ruled out before anything else is done.

We then prefer that the patient be referred to an audiologist. He is then evaluated to see not only if he needs a hearing aid, and this is the first condition, but, secondly, can he successfully use one and, if so, what characteristics should this aid have, which ear should it go to, should it be on both ears, what should be its power outputs, what frequencies should be selectively amplified and so forth.

To answer the second part of your question, these instruments here have all been individually checked out for their characteristics; they are within a range of frequency adjustment available by this manufacturer. They have five standard frequency patterns, as it were, to fit, let's say, a majority of losses but these can be individually molded or individually tailored to be a little bit more specific.

The term "prescription" is a little misleading in that it requires a little more precision than we have in hearing aids right now, but at any rate the physician or audiologist would write out a recommendation or a specification for the hearing instrument.

Dr. WILLIAM STEWART. I might say that prescription may go beyond just the hearing aid; it may be for surgery or combination of them, so it emphasizes the diagnostic critical stage.

Senator CHURCH. To what extent is there available on the market aids that are adaptable to individual cases?

Dr. JOSEPH STEWART. It is my impression that there are some companies which put out the majority of their aids on this individually based system and there are others who put out numbers of aids which follow a particular configuration which may resemble these two figures [indicating Pitch 4 and 5 of the graph on page 28].

This will give you an idea graphically of the different types of standard output with the higher frequency being here on the chart, with intensity going in the opposite direction, so you can say there is quite a bit of variation even in the standard settings.

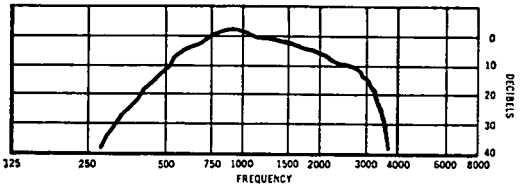
Senator FONG. Doctor, everyone has two ears like everyone has two eyes: One eye may be a little better and one ear may probably not be as good as the other. Do you prescribe hearing aids for two ears binaurally as you prescribe graphically for two eyes?

Dr. JOSEPH STEWART. Yes. I would say the trend is in this direction of fitting because, particularly with the elderly, many of them have a different extent of loss in each ear. The difficulty with the binaural testing is that audiologists like myself frankly do not have sufficiently sophisticated tests that will differentiate this factor for us now. Very often we will say, "I can only prove on the basis of the test that an aid will only help you in one ear."

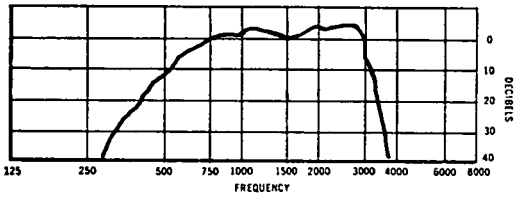
SELECTING PROPER PITCH . . . thru AURICON pitch control

These graphs illustrate the curve of frequency response produced by each of the 5 Pitches built into the AURICON. Regardless of sound pressure employed, each Pitch (1 through 5) will maintain its individual pattern throughout the amplification range of the AURICON instrument.

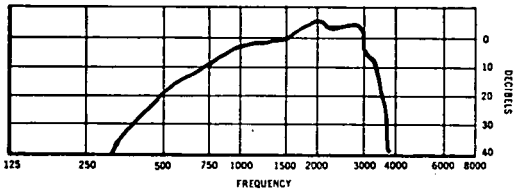
PITCH 1



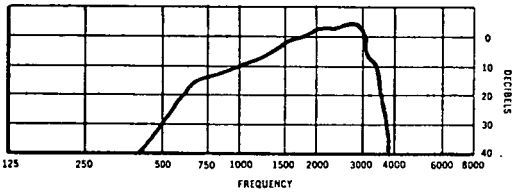
PITCH 2



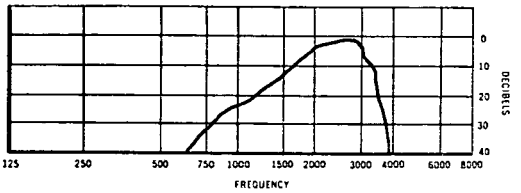
PITCH 3



PITCH 4



PITCH 5



Yet, the person may be totally satisfied with binaural fitting and will not have anything else. So, there is bound to be something here we are missing in our testing; there is a great deal of subjective quality that this gives the person using the aid which has to be accounted for.

Senator FONG. So, your research has not yet come to the point where you can really prescribe?

Dr. JOSEPH STEWART. Not to my satisfaction; no. I will go a little further. I will say that when I was in the clinic we almost routinely recommended binaural aids for children, even though we were not definitely able to determine that fitting both ears was really helpful to them. Over the long haul, I think the device was substantiated by their improved speech development.

Senator CHURCH. Doctor, don't most people who use hearing aids confine the aid to one ear?

Dr. JOSEPH STEWART. I would say in the past the majority have been fitted to one ear. I don't know whether this is the better ear being fitted, whether it is a matter of economics, or, until recently, the lack of availability of a binaural instrument. For whatever reason, with the binaural you merely have the audio on both sides. It doubles your cost, essentially, but to get the best hearing this is often necessary.

I think that by going through these instruments here you can see the sorts of gains that have been made from the technological standpoint and I hope that this is also an indication of one reason why the cost of the aid is possibly as high as it is.

To go from this sort of thing to this takes money and it is bound to be passed on to the consumer. So, a lot of the argument about hearing-aid cost, I think, has to be viewed in this respect.

(The chairman, in a letter written shortly after the hearing, addressed several questions to the witness. Questions and replies and additional information follow:)

Question 1. In your statement, you said: "The hearing aid industry, on the whole, has rather vigorously opposed the services offered by noncommercial audiology clinics." How has this opposition been expressed? What has been the result?

Answer. The opposition on the part of industry and the dealers is largely the result of at least three factors: 1) there is an economic threat to the dealer inherent in this procedure since the noncommercial clinic is more likely to be pessimistic regarding the chances for successful hearing aid use by some of the patients seen there; the dispenser has long complaind that audiometric test results are not entirely reliable predictors for hearing aid use while the audiologist maintains that without his services an even larger number of persons for whom a hearing aid is inappropriate would still be sold to them. 2) there is also a threat to the dealer's personal identity under this system; many dealers complain that they do not like being relegated to the role of someone who merely "fills a prescription," particularly since no audiologist can know the dispenser's line of instruments as well as he, himself, does. (The only time that this assumption has been tested, to my knowledge, was in the assessment of the first year of operation of the Oregon hearing aid dispensers law. The finding was that the dealers and salesmen were not nearly as familiar with their own products as had been commonly supposed.) 3) the third major objective, and the one that has the most validity, in my opinion, is that the dealer and/or his company have to invest a considerable amount in providing hearing aids on consignment to the various clinics which request them for evaluation purposes. The amount thus tied up in such inventories has been estimated, probably with reasonable accuracy, at one billion dollars for the country as a whole. Dealers often complain that they have more tied up in such an inventory than they receive back in sales resulting from referrals from the clinic using the consignment aids.

Opposition to this procedure has been expressed in a number of ways. The most common and consistent opposition is seen in the continuing number of articles on the subject published in the various trade journals and in the speeches on the topic at hearing aid industry conventions. The net result of such restatements of the problem does not seem to have resulted in much more than a continual aggravation of the condition.

A second form of opposition, which has not been employed nationally to my knowledge, is that of trying to subvert the hearing center's services through a third person, very often an otologist. This has ranged from such statements that the hearing center services are a form of "socialized medicine" to the distortion of audiologic research results which are interpreted to mean that "audiologists admit that this is a worthless service." The intent of this sort of opposition would appear to be that of breaking down the referral of patients from the otologist to the audiologist in favor of direct referral from otologist to hearing aid dealer.

Withdrawal of Consignment Aids

A third form of opposition is to take a presumed case against the noncommercial clinic to the public and, at the same time, withdraw consignment aids from the clinic so that comparative evaluations of instruments cannot be made. This form of opposition has included newspaper advertisements stating that hearing center procedures are a "violation of the free enterprise system" and are useless, presumably being maintained solely to bilk the hard of hearing. When this form of opposition was directed at my own clinical program, several years ago, it was accompanied by an attempt on the part of the local hearing aid dealers organization to require all their members to remove their aids from all the noncommercial clinics. When this effort failed, due in large part to the refusal of several manufacturers to allow their aids to be removed, an attempt was made to create a "news story" that the independent clinics were receiving "kickbacks" from local otologists. This attempt failed when the newspapers involved insisted upon knowing the identity of the persons serving as sources for the story. The net result of these efforts, supported in some instances by manufacturers, was the capitulation of the hearing aid dealers organization and the re-establishment of the procedure for those dealers who again wished to participate.

The overall result of this opposition has been one of little change in the procedure but of great change in awareness on the part of many audiologists for the reasons for dealer opposition. A number of clinics have changed their procedures substantially, such as by not using consignment aids in the evaluation procedure, but the number of new clinical facilities being established has probably more than offset the gain to the dealer in this regard. No real solution to the problem has been achieved at this time and, while calling for its development for a number of years, the industry's failure to develop a "master hearing aid" to replace consignment hearing aids may indicate that the problem of inventory is not so severe as has been claimed.

Question 2. You call for "development of new technology and instruments." I would like to have additional discussion of this point. Do you, for example, foresee technological breakthrough in hearing aid manufacture and performance? Is your "self-calibrating" audiometer nearly operational? Is your "master hearing aid" in use?

Answer. The call for new technology and instruments in the statement is much broader than a reading of it in context would indicate. The need exists for both research and clinical instrumentation; there is a great deal of research from such areas as neurophysiology, for example, which has not yet had clinical application, partly because of this lack. One such set of findings, which pertain to the effects of deprivation on the auditory system and the effects of competing sensory stimuli, is of particular significance here. Needed are instruments which can measure the strength of the auditory and visual signal within the nervous system when the child is being simultaneously stimulated through both senses. Provocative research findings now indicate that our procedure of stressing lip reading for the hearing impaired child may, due to sensory competition, further inhibit his use of the residual hearing which remains; in effect, we may be adding a second hearing loss to the first. (Even though such uses would be applied only for children, they particularly apply to those with a severe, congenital loss of hearing—those children whose lifetime of communicative and educational deficit can only be estimated in rather astronomical figures and who, when they become elderly, will present whole new sets of problems to society. Are special facilities

needed, for example, for those elderly deaf whose only method of communication may be finger spelling?)

We also need to develop new theoretical approaches to the diagnosis of hearing disorders and the instrumentation which will have to accompany these changes. Being a young field, audiology has borrowed most of its test techniques and materials from other fields. More and more, our research is indicating a thorough reassessment of present test procedures may be in order. It may be more realistic, for example, to use bursts of noise (rather than pure tone) to test the basic acoustic functions and different types of signals, which may not even resemble present-day speech tests, to assess higher order functions. Present-day test procedures for hearing aid selection are similarly undergoing close scrutiny at the present time.

The most provocative conjectures about new technology are in the rehabilitation area. Rather than to continue with the present type of hearing aid, for example, might we not consider an instrument which is designed to replace the deficient segment of the organ rather than try compensating for its deficiency? While such a notion is far from reality, such ideas are no longer uncommon and some very tentative research along these lines has been reported.

Another approach, which bypasses the ear, is also receiving attention. It may be that a "hearing aid" which phonetically prints out the message it receives will be more effective than amplification. The device would also have to monitor the owner's voice so that he could maintain the feedback necessary to his own intelligibility. Since communicative disability is not the only major problem in hearing loss, it may be that, in such cases, the more traditional amplifying device might be used in conjunction—to feed in background noise, the loss of which is felt to be responsible for many of the personality disturbances seen accompanying hearing loss.

Unfortunately, there has been practically no effort made to date to incorporate available technology into any phase of aural rehabilitation other than the hearing aid and, to a limited extent, in the use of motion pictures and television to assist in learning lip reading. To my knowledge, there has not yet been any application of such devices as the "teaching machine" or similar concepts to this neglected problem area.

No Major Breakthrough Foreseen

In short, I do not expect any great technological breakthroughs in hearing aid manufacture and performance in the foreseeable future; the most recent truly new development, an aid which will transpose the signal to a different acoustic spectrum where the patient's hearing is better, may prove to be of great significance, however.

While not asked for in the question, I feel it desirable to point out that the most satisfying breakthroughs would be in prevention. Many hearing losses are preventable but even here new instrumentation is needed; most of the instruments described previously would be considered primarily for "secondary prevention," that is, the prevention of disability. An instrument for "primary prevention" which is being studied by a number of people is the "noise desimeter," a wearable device which will alert the worker when he is nearing the safe limits of his cars' tolerance for noise.

In response to the second part of the question, our timetable for the self-calibrating audiometer calls for the initial engineering on the prototype instrument to begin early this fall. We expect that the prototype will be ready for testing within a year, and that the "final" instrument will be ready for field testing in the following year.

The term "master hearing aid" is a confusing one and should be clarified; the term generally refers to a diagnostic instrument, capable of reproducing a variable combination of pressure, power, and frequency characteristics. The term is also used to refer to a hearing aid which can similarly be adjusted to the same extent. In at least one case, the term refers to an instrument currently being manufactured for both purposes, although as a hearing aid it would not be considered "wearable" due to its size. For the most part, the available instruments are produced by hearing aid manufacturers to determine the optimal characteristics needed by a customer to be built into an aid of their own manufacture.

The master hearing aid we have in mind is an extension beyond the instruments currently available in that it will have the capability for almost infinite variability in the various dimensions of interest. The development of the final instrument will be delayed, however, until research basic to certain fundamental decisions has been conducted. Until we know how precise the machine *must* be,

for example, we cannot set its specifications. It is theoretically possible now to have the precision built in which would allow for the near-infinite number of combinations of pressure, power, and frequency; we know that this precision is not necessary. We do not know the limits at the other end, however, such as how broadly we may wish to measure frequency, for example, in relation to intensity. At our present rate of progress, this information is at least two years away. Development of the instrument is, relatively speaking, of much more short term duration.

ARLINGTON, VA., *July 29, 1968.*

DEAR MR. ORIOL: This is in response to your invitation to submit additional information pertaining to the July 18 and 19 Hearings on "Hearing Loss, Hearing Aids, and the Older American."

Question 1: Since the Council of State Governments has already developed a "model law" for dispensers of hearing aids, and since there are also the Federal Trade Commission "Trade Practice Rules" and the industry's own "Code of Ethics," why is there any need for a "model bill" from the Public Health Service, as mentioned in the Surgeon General's statement?

Answer: If we view hearing loss as a health problem, as I do, the present "model law" has several shirtcomings. To begin with, neither the model nor the bills currently enacted into law are oriented toward consumer protection; all are directed primarily toward questionable or misleading advertising, fraudulent or misleading claims, etc. In only two of the six States which have passed a hearing aid licensing law (Oregon, Michigan, Florida, Indiana, Tennessee, and South Dakota), are there any restrictions whatsoever that would be concerned with the customer's health; in Florida, the dealer is required to refer his client for otologic-audiologic evaluation if there is any evidence, from his audiometric test results, to indicate a medically correctable condition and, in Michigan, such a professional examination is a prerequisite to all sales to a customer under sixteen years of age.

Leaving aside the question as to whether or not such licensing laws bestow a professional image on a commercial activity, the model law and those enacted all require that the dispenser pass a rather sophisticated test of audiometric procedures. The model requires that an Advisory Council on Hearing Aids be appointed which shall consist of five members, one an otolaryngologist, one an audiologist, and "three who are persons experienced in the fitting of hearing aids"—i.e., hearing aid dispensers. While the otologist and audiologist would have completely adequate credentials to devise, administer, and evaluate the examination called for by the law, there is no assurance that the hearing aid dispensers on the Board would have such qualifications. This point would not be critical if the model bill were enacted as written but in at least one State, Tennessee, and Board consists entirely of hearing aid dealers. At the risk of being somewhat melodramatic, it is my opinion that this modification could enable this law to become a "license to steal," with the public having no legal recourse to fall back on.

While the model law calls for extensive audiometric knowledge and skill, it makes no requirement that these tests be used in the selection and sale of a hearing aid, nor does it set any criteria for determining whether or not an aid is necessary, can be used successfully, nor on what basis a particular aid might be selected other than the salesman's own persuasiveness. There are no criteria specified as to the test environment, equipment used, or maintenance of calibration. Finally, the law does endow professional status and recognizes it as such in Section 12, Grounds for Suspension or Revocation of Certificates: "(3) For unethical conduct, or for gross ignorance or inefficiency in his profession."

DEFICIENCIES IN FTC RULES

The greatest deficiencies in the Federal Trade Commission rules, in my opinion, are quite similar. To begin with, the rules are principally geared toward advertising and questionable sales practices. I would submit two current examples of how even these restrictions may be circumvented. The first (see app. 1, p. 192) is an advertising letter which was mailed to me by a 76-year-old man who questioned some of the statements in it, notably those which he underlined in the original inquiry. To begin with, the statement attributed to the Public Health Service is false; the use of the term "prescription" appears to be contradictory to Rule 6c of the FTC regulations while the statement pertaining

to ear "sensitivity" was interpreted, by the recipient of the letter, as being misleading.

Correspondence with the dealer in question has had the following results: a) a retraction and an apology on the statement attributed to the Public Health Service; b) a disclaimer that the term in question is inappropriate: "I have informed Mr. Hunt of the Federal Trade Commission that I intended to use the word 'prescription' within the procription [sic] of the FTC rules as long as my competitors are granted the prerogative" and, in later correspondence, "It was not my intent to imply that we as hearing aid dealers 'prescribe' hearing aids but rather to remind our users that they should have periodic checks on their hearing by whatever referral source got them to us originally . . ."; c) in reply to my suggestion that the statement pertaining to ear sensitivity might be used to equate "sensitivity" with "susceptibility to damage," the dealer denied that this was his intent—"It is a flat-footed statement of fact. The sensitivity of the ear is indeed incredible and accounts for many of our problems in hearing aid fitting." I would not argue that this is, in truth, a "flat-footed statement of fact," but would argue that, in that sense, the placement of the statement in the advertisement is irrelevant to its context. (Total correspondence available upon request.)

The second example (see app. 1, exhibit C) was an advertisement included in a Sunday edition of a local newspaper. While Rule 9 of the FTC regulations specify "miracle" as one term not to be used in advertising, this manufacturer has apparently avoided violation by incorporating the word in the trade name of his product. The reverse side concerns me more, however. While the hearing aid dealer depicted is not identified as professionally competent in either medicine or audiology, he nonetheless does not hesitate to speak of "symptoms" nor does he have any reticence in predicting that the hearing loss "probably won't get much worse for a long time" and, further, that "there's no known medical or surgical cure for a nerve loss such as this." This would appear, to me, to be in direct violation of the FTC Rule 1(d), dealing with misrepresentation ". . . with respect to the scientific or technical knowledge, training, experience, or other qualifications of an industry member, or of any of his employees, relating to the selection, fitting, adjustment, maintenance, or repair of industry products . . ."

Regarding the industry's Code of Ethics, a quotation from the *National Hearing Aid Journal* for November, 1967, is of interest. Reporting on the annual convention of the National Hearing Aid Society, the statement was made that ". . . (the) Ethics Committee had a most successful year. No violations had been reported—consequently, no official corrective action had to be taken." (p. 16) I can only observe that the Ethics Committee has had a more successful year in this regard than either the FTC or I have had. A call to Mr. Brookfield at the FTC the day before these Hearings revealed that he had three cases pending at that time. While my agency is not one designed or operated to handle such complaints, the overwhelming number of complaints I receive in a year—either by mail or "unofficially" while traveling on government business—is directed toward questionable hearing aid sales practices.

My own recommendations as to what I feel an "ideal" hearing aid licensing law would include must be viewed with the realization that I have no competence in the legal field and that the recommendations are only "ideal" in the sense that they must recognize that a "truly ideal" law would assume a sufficient supply of adequately trained professionals to conduct many of the tests and evaluations assigned to the hearing aid dispenser in the following.

With these realities in mind, and based upon the existing model law, I would recommend the following:

Recommendations for Improvement

1. Otology and audiology should not be in the minority on the Board; further, these member should have total responsibility for the professional details covered in the examination, such as audiometry, medical referral, standards, tests used, testing environment, etc.

2. In view of the shortage of audiologists and otologists, the hearing aid dispenser examination should follow the guidelines proposed in the model law of the Council of States Governments with the following requirement; in addition to knowing how to administer the tests, the dispenser should be required to administer these tests in every hearing aid selection he makes. In addition, he should appraise his client of the results of these tests and indicate on what basis he feels

this client is a candidate for hearing aid use, based upon the standards set by the board.

3. The hearing aid despenser should be required in every case to appraise his client of the possibility of medical/surgical treatment for each client found having an air-bone gap of 10 dB or more at any one frequency in either ear. In the event the client chooses to not follow this suggestion, a form attesting to this fact, signed by the client, should become part of this client's permanent record.

4. Accurate copies of all test results obtained from a given client should be retained in the files for examination at the discretion of the appropriate person assigned this duty by the State Board of Health along with a record of all instruments tried and scores obtained.

5. In all cases in which binaural fitting is made, there should be clear evidence that both ears have an appropriate loss of hearing capable of being assisted by amplification and that the results upon which this determination was made, either speech reception threshold, speech discrimination, or both be available and clearly indicate the superiority of binaural over monaural fitting; or that a disclaimer signed by the client indicating the choice was voluntary and made on the basis of subjective or aesthetic grounds be made part of the permanent record.

6. A requirement of the law should be that all selections made in a dispenser's office should include hearing aid models from the total range of models available and that the prices be made known to the client and that this also be attested to as part of the permanent record.

7. There should be a requirement that all audiometers used by the hearing aid dispenser be kept in a state of accurate calibration, that frequent checks of calibration be made and recorded, and that such calibration be varified (no less often than every six months) by a suitable person assigned by the Board of Health.

8. All hearing aid tests should be administered in a suitably sound-treated room.

9. The present restrictions regarding misrepresentation should be broadened to include:

(*a*) a prescription against the wearing of a white coat similar to any of those worn by practicing physicians;

(*b*) the restriction that no medical or audiological advice be given clients, either by word of mouth or by advertising;

(*c*) the use of an otoscope or similar medical device to be used inserted in the ear canal should be prohibited until after the client has agreed to purchase an aid and then used only as is necessary to make an impression for an ear mold.

10. There should be a provision for money-back guarantee after a suitable period of time for anyone finding his hearing aid has not performed satisfactorily or in accordance with the claims of the dispenser.

11. There should be a provision by which the customer could recover the costs of the instrument in those cases in which its purchase was made through fraud and/or misrepresentation.

Sincerely yours,

JOSEPH L. STEWART, Ph. D.,
Consultant, Speech Pathology and Audiology, Neurological and Sensory Disease Control Program, National Center for Chronic Disease Control.

Senator CARLSON. Doctor, at the present time the progress and the development you have demonstrated has been done, has it not, by industry, itself?

Dr. JOSEPH STEWART. Yes.

Senator CARLSON. Has the Government done any of it?

Dr. JOSEPH STEWART. No.

Senator CARLSON. Have the States done any?

Dr. JOSEPH STEWART. Are you talking about the basic industry?

Senator CARLSON. Yes.

Dr. JOSEPH STEWART. No. I am not aware of any governmental support in this area. They, of course, have taken from governmental studies, such as those of Defense Department and so forth, and have used instruments that were developed for other purposes.

Dr. WILLIAM STEWART. The whole movement in the miniaturization of electronics is in part solely a spinoff from the space effort financed by the Federal Government.

Senator CHURCH. I wonder if, in the light of the answer that was just given a moment ago to Senator Carlson's question, whether you would care to comment on the advisability of the U.S. Public Health Service playing a more direct role in research in conjunction with this. Is there need for that?

Dr. WILLIAM STEWART. Research in instrumentation; is this your reference, Mr. Chairman?

Senator CHURCH. Yes.

Dr. WILLIAM STEWART. I think that if we can do the research which raises the specifications that are needed for instruments of testing for hearing that industry has the know-how on how to meet those specifications. I think our research effort needs to be more directed at better ways of diagnosing, better methods of treatment, and how you organize these diagnostic services and treatment services in the way the people can get them with a quality that would be acceptable.

Senator CHURCH. In your testimony, Doctor, you mentioned the Public Health Service model laws.

I wonder whether those would be similar to the model laws proposed by the Federal Trade Commission. Can you recall in your testimony referring to that?

PHS "MODEL LAWS" DISCUSSED

Dr. WILLIAM STEWART. Yes. We had reference to—there are, I think, six States at the present time that have a kind of law in this area, none of which seems to be satisfactory to us probably because they are too limited in their direction, they are not broad enough in their approach. There have been some attempts to develop model laws in various nongovernmental organizations.

We think that it would be useful if they would develop a model law that could be adopted by the States which would cover more than, oh, a narrow area which may be aimed only at licensing certain people or trade practices or advertising practices or other things.

The Federal Trade Commission's model law, of course, is aimed at a segment of this total effort. Our model law is more interested in what is the quality of the process that occurs and all the elements that go into this quality so that people have some basic guarantee that they are getting what is necessary to handle their particular chronic condition.

We think that this needs some serious examination and is one of the areas which we are studying at the present time.

Senator CHURCH. Now, there are laws in every State relating to the practice of medicine and the practice of dentistry. If you want a set of false teeth, you can't get them—without violating the law in any State that I know of—from a salesman who comes to the door. You can't get them directly from a dental lab—although in Idaho and in Alaska I was once in a very interesting lawsuit on that question when I was practicing law.

But hearing aids have not been treated in this category because many

of them are sold not through doctors but by salesmen on the doorsteps; is that correct?

Dr. WILLIAM STEWART. That is correct.

Senator CHURCH. Do you think that is right?

Dr. WILLIAM STEWART. No; because particularly the ones that you are referring to which are sold in a sense on a trial and error, "Does it help you?" et cetera, in a persuasive voice. There is no diagnostic approach to it. The diagnosis is very important, first to find out what kind of treatment is the best one, surgery or a combination of hearing aid and surgery, or what kind of hearing aid or none.

There are many people who will not be able to use a hearing aid satisfactorily and they are persuaded by the trial-and-error method to adopt the hearing aid and then find after a couple of weeks or in a week that it is just not helpful; it is abandoned.

I think that what we need is a form of development where people can go to a place and have assurances that they are getting the kind of quality diagnosis that will give them the right direction in meeting their problem.

Senator CHURCH. These model laws that you refer to, do any of them impose a requirement that hearing aids must be obtained through doctors' services?

Dr. JOSEPH STEWART. The only one that I know of that has a qualification similar to this is one State law where anyone below the age of 16 years must have an otologic examination, and one other in which—I believe this is Florida—the dealer is obliged to refer his customer to an otologist if he finds evidence on the basis of his tests that there may be a medically correctable condition.

Neither of these are in the model law proposed by the Council of State Governments; these are merely local variations on it.

Dr. WILLIAM STEWART. Some of them are certification of the people who will do the tests. We have found in working with other laboratory areas that even though you may have very well qualified people running the laboratory with a larger number of tests they must do in their daily work, unless you have performance testing periodically you still don't have assurances of control on the quality of the test.

The example study we did at North Carolina where all the audiometers were off in their calibration, there was considerable drift. Some of this might be corrected by improvement of the instruments. There is research going on on this. Others could be done by periodically providing a performance on some known or some unknown, trying to find out what kind of performance are you actually getting in your testing.

These are the areas that model laws might consider.

Senator CHURCH. Would it be practicable for requirements to be laid down if services were not available? From your testimony it appears we have a shortage of such services.

Dr. WILLIAM STEWART. That is right, correct, Mr. Chairman. I think in your opening statement you mentioned the two major areas. One is we don't have the places of the quality and we don't have the numbers of the kinds of skills that we would need.

Senator CHURCH. May I ask this question? The country is full of eye, ear, nose, and throat specialists.

Dr. WILLIAM STEWART. Well, I would not say full.

Senator CHURCH. There are a lot of them around.

Dr. WILLIAM STEWART. There are quite a few of them.

Senator CHURCH. An eye, ear, nose, and throat specialist. Would I, as a layman, know him from the shingle he hangs out with an M.D. after it? Could I assume that such a man is competently trained to give me a competent examination of my hearing, make recommendations to me as to what course I should take?

Dr. WILLIAM STEWART. The audiologist is of more recent vintage. I think your assurance would be a little better than the older otologist. Some of them have not worked in this area; they are surgery oriented and are not in this area.

Senator CHURCH. What about an ordinary M.D.?

Dr. WILLIAM STEWART. I think that you would find that most of them would be hard put to make the kind of diagnosis you are talking about.

Senator CHURCH. What is the answer then? If the doctors of the country and even the specialists are not equipped to give examinations of this kind, then what is the answer?

Dr. WILLIAM STEWART. Well, I think developing centers which can be the place where people can have this technical diagnostic work done. There are very few physicians in the country who would run the chemical tests that they ask the laboratory to run for them, but they have confidence in the lab and there have been assurances made about the quality of the laboratory work and he knows how to interpret the results.

Senator CHURCH. How many of these laboratories are available in the country today? How many have been established?

Dr. WILLIAM STEWART. I would have to ask Dr. Stewart that. How many?

"Laboratory" is not the right word because there may be an audiometer in a school or maybe one in a doctor's office; they are all over the place. I don't have any idea.

Dr. JOSEPH STEWART. If you are referring to this type of laboratory, if you will, that has the otologic component as well as audiologic, there are very, very few, and these are primarily in the medical schools.

AUDIOLOGISTS IN SHORT SUPPLY

As for the right now, we only have about 2,000 audiologists in the country who are certified to do these tests so that they are spread very, very thinly. An alternative until the day, if it ever comes, when we do have enough audiologists and otologists is to upgrade the dispensers of aids, salemen, if you will, to the point where more of the people that he sees who do need medical attention, are in more severe need for medical attention, are referred to the specialists because right now with the manpower availability and the equipment availability, with the staggering numbers of people that can be expected to need to be served here, we are going to have to work with some compromise arrangement, which probably will be midway between where we are now and where we would like to be.

Senator CHURCH. Well, it seems to me that if you are going to rely

upon salesmen to do this it is going to be a pretty thin reed because their motivation is to sell devices.

Dr. JOSEPH STEWART. That is certainly true.

Senator CHURCH. And you know they might be discouraging their own sales opportunity by suggesting that their device may not be what the customer needs and he ought to have a competent examination. That is not the way the ordinary salesman behaves, in my experience.

Dr. JOSEPH STEWART. But if there were legislation to back this up or if this were State law and such a pattern of referral had to be, this would help.

Also, some of the dealers I know very often refer their customers to the physician for evaluation and have found this is one of the best sales promotion devices they could ever have come across because that person made sure every other person in the entire vicinity knew that Mr. So-and-So was not trying to sell me anything before seeing if something else could be done first.

Dr. WILLIAM STEWART. I think the upgrading of those who now provide hearing aids, Mr. Chairman, is a short-term attempt to do something about the problem, recognizing that that is not the answer to the problem, but it will do something.

The process of getting hearing aids is not going to change tomorrow; it is going to go on for a while. We do have considerable effort in trying to train more audiologists, more technicians in this area through the Social and Rehabilitation Service. You will be hearing from them.

The quantity of audiologists, as Dr. Stewart was describing, 2,000, will take so long we are never going to catch up here if we are depending on them to be the only diagnostic source in the country.

Senator CHURCH. Let me ask you this.

I don't want to monopolize all these questions, Senator Carlson.

Would it be of possible benefit to establish some kind of certification for those companies, for example, that adhere to a high ethical standard that sell through established dealers who are equipped to conduct competent tests, and who, in other words, are meeting requirements that you, Doctor, would think are minimal and necessary from a medical standpoint? Would it be feasible to have some kind of a certification granted that this company does in fact meet these standards? It could be coupled with an educational effort to acquaint people with what is entailed here.

When I was just a kid, I remember in my household my parents, uncles, and aunts thought that buying eyeglasses was just a matter of magnification and they were all strongly opposed to wasting money on getting a prescription. They went down to the stores—I remember that Woolworths and Kresge's and so on had glasses that were available. You just picked up one you could see through. I guess a lot of people still do that.

I just assume that that is not the right way because I have been told so often and people ought to know that it isn't, but I go to an optometrist or doctor in the field and get my glasses and I think most people have learned this is the way to proceed.

But I don't think that is true in hearing aids. I don't think that that is commonly understood in hearing aids and I don't think people are educated to the need.

Would you agree with that?

Dr. WILLIAM STEWART. I think this is true; yes. I think the public's awareness of glasses and of what it all means is much greater than it is for hearing aids.

I think that your idea of certification could be through a variety of devices ranging all the way from certification to some kind of restrictions on interstate commerce, for example. They don't meet certain standards. Whatever device is used, if it is workable, I think would have the effect of encompassing those that are trying to meet standards and the fringe groups that were outside of this would not be able to meet the standards, so to that extent it would have an effect.

It does not solve any of the problems as far as the diagnosis in the area we are talking about but it does raise that part.

Senator CHURCH. It seems to me we have taken this approach in many other fields. We don't undertake to tell people that they must put their money in certain banks or savings and loan associations. We don't coerce them into doing this or that if they are unwise enough to put money into a shaky bank and lose it as a consequence; it is their loss.

But, on the other hand, the public is pretty well educated today to the fact that there are certain banks and savings and loan associations that have insured deposits and they have to meet certain standards in order to get that insurance. There is a very important protection for people who choose to put their money in those banks.

Now, it seems to me that the same approach might be very helpful to a lot of older people if they knew that there were certain companies that adhered to certain standards that were found acceptable and were certified as a result. If you were to go to one of those certified companies you would be sure of getting proper tests and more likely to get the right kind of hearing aid.

Dr. WILLIAM STEWART. I think that is quite true, Mr. Chairman. There are many devices used both externally and internally in the body for which there is no system now which says that this device has met certain standards and criteria to protect the consumer. I think it is in this area that the hearing aid would be useful.

Senator CHURCH. Senator Carlson.

Senator CARLSON. Dr. Stewart—both Dr. Stewarts and Dr. Eagles—I think your testimony has been very helpful here this morning. I think the study of the needs and the development of the hearing aid activities in the last 20 or 30 years has really been phenomenal when one gets into it. Then the question is, where do we go from here?

I was interested in Dr. Eagles' statement with reference to approximately 178 research grants and 61 grants to institutions for advanced research training.

How much is being made of this research? Is it being used practically, Doctor? You can study something but what do we do with the study results?

Dr. EAGLES. This is a constant problem that we at NIH have before us and that is to translate research results into utilization for the benefit of all the people.

I think that some people feel that we at NIH don't pay enough attention to this aspect. Believe me, Senator, this is always upper-

most in our mind. Moreover, in recent years there has been a great deal more direction to our research as we have grown and programs of various institutes have become fully developed.

I don't know whether it answers your question.

Senator CARLSON. The reason I bring it up is I think these research grants and these programs for study certainly have great value.

The question is: How do we get the results out where it will help the people? Does this research go to factories that presently are supplying the hearing aids? Does it go to the medical centers? Where does it go? That is my point.

Dr. WILLIAM STEWART. Senator Carlson, the process is the research worker publishes his results in an appropriate journal. Anyone who is also working in this field will know which journals and where to look for them.

We also have an information center at Johns Hopkins which tries to pull together this information to search for literature that might be missed and make it available in a semipackaged form.

There are also a variety of reports put together by the Institute where they pull together a field of effort that is going on and publish it as a monograph of some type or other.

So, I believe the information flows to the appropriate place. Most of this research is aimed at understanding the basic process of communication, hearing, speech—this type of thing—and the relationship between that and other things.

It is fundamental to future advances in therapy. In addition the research on new surgical advances would also be supported by this. I think most of the instrumentation would be developed by industry, itself, rather than by NIH.

Senator CARLSON. I feel it is very important and I think that they can add much to the improvement of this situation by having these studies made.

I was a little shocked or surprised that we could have a study such as the one you mentioned in North Carolina which showed that audiometers being used by a number of agencies, even including hospitals, the military and the Veterans' Administration were grossly out of calibration.

Now, it does not seem right such conditions should exist. What is its justification?

Dr. WILLIAM STEWART. I don't think there is any justification for it at all. I don't think it should be out of calibration and if they are they should not be used. I don't know what the instances are here but I would bet that they are using the instrument and never bothering to see if it had moved off calibration, and we know the instrument drifts from the calibration side.

Now, there is some effort to try to find a self-calibrating instrument which takes care of this without one having to remember to do it. You know this is true in blood tests, too. They can drift from the positive on the levels without standardization periodically.

Senator CHURCH. It is true of pianos, too.

Dr. WILLIAM STEWART. It is also true of pianos, right.

Senator CARLSON. I can see where, looking to the future, we can move to what I assume Dr. Stewart over there will say the ultimate, where we had our audiologists—we have only 2,000 and we

have to wait a long time. I think Dr. Stewart mentioned upgrading. I think there is a field we probably could and should get into.

You mentioned six States. I don't know if that is licensing or if they have other programs. Does licensing help any?

Dr. WILLIAM STEWART. It helps to a minor degree, Senator Carlson, as far as it has gone so far. This is one of the areas you will look for in a State law. Does it provide a basic form of quality through some form of licensing or certification? That is not all of it.

One might want to look into the calibration requirements as a part of a license law, too. I am speaking off the top of my head.

Senator CHURCH. Do any States have that requirement?

Dr. WILLIAM STEWART. I don't think so; no.

GENERAL PURPOSE TECHNICIAN NEEDED

I would like to say that with these 2,000 audiologists we are trying to find a way of extending their hands, in a sense, by developing a general purpose technician that can work with them so that they can handle many more people. It is a common device in other areas of medicine and there are grants supporting some of this training.

Once you do this, though, it requires some form of organization to pull it together. You must have a center where people can go.

Senator CARLSON. My only thought was that this hearing aid program that we presently have is helping a great number of people. Maybe it is not the way the audiologist would have it but it has helped a lot of individual people and some of them are friends of mine.

Senator Church mentioned that eye, ear, nose and throat doctors were in great numbers. Well, that is not quite true in all areas. In my own State, in the western half of the State which is greatly rural, I think some of those people would have to drive from 150 to 200 miles to get to a real eye, ear, nose, and throat specialist.

So, it is my hope that whatever we do, we keep in mind that there are people in these rural areas, who must have some consideration in any legislation we pass regardless of these great urban centers where there is probably no difficulty to getting people to audiologists.

Dr. WILLIAM STEWART. You are quite right, Senator Carlson. The EENT specialty, as we used to know it, has split into the ophthalmologists and variations on this theme and I think there are about 9,000.

Dr. JOSEPH STEWART. 5,000.

Dr. WILLIAM STEWART. That is the extent of the problem. This is very small.

Senator CARLSON. I think the statements you doctors have made are very helpful and I thank you.

Senator CHURCH. Thank you, Senator Carlson.

I am amazed that there is not a single State with any requirement of testing the accuracy of audiometers that are used in determining the hearing defects.

I had an uncle who went around Idaho working for the State and he checked the scales everywhere just to be sure they were accurate, that the public was not getting gypped. But there is not a single State that has any requirement about accuracy of audiology that makes any check on it.

Dr. WILLIAM STEWART. That is correct, Mr. Chairman.

Senator CHURCH. We really have not progressed very far in this field, have we?

Dr. WILLIAM STEWART. No. I think the field is one where some people are being helped, Senator Carlson, but where it is unorganized, undeveloped to the extent that there are many other people who could be helped properly. We could get going in certain directions.

Senator CHURCH. Tell me, are there people being hurt because of the lack of proper examinations, being sold hearing aids that are actually damaging to them?

Dr. WILLIAM STEWART. It is not the hearing aid per se. They are depending on the hearing aid where they should have had surgery. It is a tragic situation. There are others who have an economic loss and false hope because they bought the hearing aid and it is not going to do any good for them. I don't know the extent of this but we know it does happen.

PREVENTIVE PROGRAMS FOR YOUTH

Dr. EAGLES. I am under some constraint here because we are dealing only with older Americans, but older Americans were once young and I would enter a plea that one of the most important ages in which we have got to develop preventive services in this area is in the young preschool child. One of the best ways to tackle some hearing problems that manifest themselves only in the older ages is through early identification and prompt management at younger ages.

Now, I hope you won't think that I am off the subject but to me it is rather crucial that we do not consider a more senior citizen as somebody just by himself. There is a continuum of defects or impairments that occur in hearing, language, and speech from the earliest ages to the older.

With a complete comprehensive plan of attack, we really must pay attention to early identification and early management.

Senator CHURCH. May I ask in that respect, Doctor, whether hearing defects usually appear early in life or is this something that has no pattern?

Does it usually come on in later life? Is it commonplace that a person with a tendency toward deafness would begin to show the signs in early years?

Dr. EAGLES. One of the causes of deafness in adults is otosclerosis which is one of the remedial conditions about which Dr. Stewart was speaking. It is amenable to surgery, and very often begins in teenagers.

I would say the majority of deafness, however, that occurs in the young child is probably first, that with which the child is born, congenital deafness. Then there are the cases which develop through infection. As age progresses, still different causes come into play such as exposure to noise and certain diseases. Early in life, you have to begin to watch for some of these things that do cause deafness or impairment of hearing in the older age group.

Dr. WILLIAM STEWART. I think it is a terribly important point that Dr. Eagles has made. Events that occur before they came to the age that create the condition they have as you are looking at them when you are over 65 are the events where prevention may have been most helpful.

A good example of this is when we had a German measles epidemic

in this country 5 or 6 years ago. The Children's Bureau now sees many more deaf children showing up in their crippled children's clinic because of this epidemic. We may have a vaccine in 2 or 3 more years and if it works—and we think it will—we should not have that happen any more. So, we prevented in a sense some of the deafness that might have shown up at future times.

When one is talking about attacking this problem, you cannot completely isolate it to the elderly; you have to go back to possible prevention back here.

Senator CARLSON. On that point, if I may stress it, I think one of the great problems in hearing concerns our very young children. I know personally of an instance of a youth where it seemed that when he started to school he just could not learn. There was not anything wrong with him; he could not hear. The family caught it and there was no problem. I think that is very important.

Dr. WILLIAM STEWART. That is quite right, Senator Carlson.

Senator CHURCH. Thank you, Doctors, for your testimony. It has been very helpful.

Dr. WILLIAM STEWART. Thank you, Mr. Chairman.

Senator CHURCH. The next witness is Miss Nanette Fabray, a member of the National Association of Hearing and Speech Agencies.

We are very pleased to welcome you today to the committee.

STATEMENT OF NANETTE FABRAY, NATIONAL ASSOCIATION OF HEARING AND SPEECH AGENCIES

Miss FABRAY. Thank you.

I certainly do want to thank you for inviting me here to speak. I must say that it is not much of a comfort to realize that most of the people that have appeared here ahead of me have covered almost everything that I intended to say and that they have answered most of the questions that I had hoped to be asked.

Anyway, I want to thank you for permitting me to come here and testify. I will try to keep my testimony brief, knowing you have many more knowledgeable witnesses to appear before you.

I have the honor to be a board member of the National Association of Hearing and Speech Agencies, among other worthy organizations in this field.

But I appear today as a private citizen and a consumer of hearing aids. I have the most expensive ears in town.

I wear one now—and have five others I use in various ways, for various purposes.

I have a close to 70-percent loss in my right ear. You heard the dramatic demonstration about how far down hearing goes with a 40-percent loss. My right ear is useful mostly for matching earrings. Thanks to surgery I have very good hearing in my other ear, however.

I have had three major surgeries inside my ears and have willed my temporal bones to UCLA medical research for their study.

I have been able to afford complete proper professional guidance and treatment for my disability. What about the hundreds of thousands of our older citizens who do not have these resources? What do they do when they develop a hearing problem?

Through the years since I began to talk about my personal problem

I have received anywhere from 100 to 1,000 letters a month asking for help and advice. I am not able to cope with this volume of mail and I have had to turn a lot of it over to some agencies to handle, but I do manage to get through much of it myself personally.

Most of the people that write want guidance about a hearing problem that seriously affects either the writer, or a friend or relative. If I may, I would like to quote from just a few of these letters.

DEAR MADAM: Please sent C.O.D. to the above address a hearing aid. I don't know whether they are sold in pairs or one but I only have trouble with my left ear.

This comes from South Carolina.

DEAR MISS FABRAY: I would like to know if you have the address of a hearing aid clinic. I am at the mercy of salesmen who have no technical training of the aid they are trying to sell or what type of aid should be worn by the patient. The ear, eye, nose and throat doctor here just informs his patient to purchase "whatever aid works best" but the different aids that I have purchased through salesmen perhaps should never have been worn by me.

I have read that there are clinics that will test the aid to the patient and the clinic has no interest in trying to sell a person a certain brand of aid but will recommend what he should wear. Please, any help you can give me in this matter will be appreciated.

That letter was from Montana.

Here is a letter from New Jersey:

DEAR MADAM: I am writing to you to try and explain myself concerning my hearing aid in the hope that you may be able to help me. I would like you to explain just what I should do. The hearing aid I do have is not really meant for me which I had taken the best tests for and within a week of the time I had bought it I went back to the * * * (dealer) to explain this to him and he told me I would have to get used to it.

Now this is the first time that such a thing has happened. I have had one from—

And she quotes another dealer—

And as it is now they won't do anything for me unless I buy another one and that is not possible because I do not have the money as I am sick and unable to work any more and I am living now on Social Security. Even the batteries are wrong which they gave me.

Now, if you have any information what I can do, please let me hear from you.

Here is another letter.

My wife and I are now in our 80's. Her hearing is getting bad and since I am retired I want information as to reliable clinics near Ithaca and some idea of the cash and cost for examinations and advice.

I like this last sentence:

I know that hearing aid industries are not as reliable as they might be.

Then this nice man went back and made a little insert. He said:

I know that *some* hearing aid industries are not as reliable as they might be.

My last letter. This is addressed to "Dear Sir."

I would like some information on ear loss and hearing and et cetera. First, can something be done for nerve loss? Why is the cost for repair for aids so high and also the cost of aids? I just got a repair bill for $33.48 for an aid I have had a little less than two years. Now I am told I will need to wear two aids and the cost for a new one is $325.

Being an Air Force family, I would like to know what ways I can care for my family when I am alone despite my loss of hearing. This information will be greatly appreciated.

Now, I find these letters very sad. This type of correspondence and my personal conversations with people throughout the country brings into focus some very important points for consideration by this commitee:

1. There is a great lack of understanding about the nature of hearing and speech disabilities by those who develop them or already have them. Other people, including parents who are responsible for such patients, also have little understanding of these problems. The public must be provided with a better understanding, not only of the causes, but the nature of hearing loss.

People must be told what kinds of hearing loss can be successfully dealt with, and what types are caused by elements for which no successful medical or surgical remedy currently is available. They must be told how to get proper professional assistance for a hearing and/or speech problem. They must understand better what financial assistance is available to help them pay for professional fees and the cost of hearing aids. The location of proper professional individuals or agencies providing hearing and speech services must be better known.

2. The role of a physician in providing services to the hearing impaired must be clarified and improved.

Too often, the general type of physician has very little understanding or practical experience with the problems of hearing beyond those that can be treated medically.

Once he has eliminated the suspicion or existence of infection, the family physician too often refers his patient directly to a hearing aid dealer rather than an ear specialist, or audiologist, for evaluation of the real extent of the problem. Sometimes this is due to the severe shortage of professional specialists in hearing. They simply are not readily available in some communities.

In other cases, it is sometimes due to the unfamiliarity of the family physician with specific hearing and speech services available to their clients. This field has broadened considerably in recent years. Regardless of the reasons, an improved method for family-type physician approaches to hearing and speech problems must be established.

3. There is alarming need for better understanding by the public of the term "audiologist." I find that when I use this term in my letters and in my speeches, people really don't know what that word means.

The professional role of the audiologist in assisting people with hearing problems is vital to them. The special knowledge and skills he has relating to the hearing process must be utilized more effectively. The severe shortages which exist in the ranks of professional audiology must be improved. To my understanding, the best current projections indicate that approximately 10,000 professional speech pathologists and audiologists will not be available until 1975 to serve a population that could use them now.

This small number must be spread between positions in university training, research programs, as well as in private practice, and work in service agencies. Obviously, this group cannot handle the enormous patient loads. It seems only logical that we immediately encourage the development of technicians and other personnel for this field.

The use of such technicians has proved most satisfactory to other areas of special medicine. An adequately trained and supervised tech-

nician can provide speech therapy to an aged stroke victim in a nursing home, or lipreading training to senior citizens with hearing loss.

4. The role of the hearing aid dealer must be more clearly defined. There are less than 1,000 professional audiologists in this country who are actually caring for patients, but there are an estimated 3,000 or 4,000 hearing aid dealers. I am not sure of my statistics. I am not a statistician. If you will excuse the term, I am a "lay person."

But it is obvious that the majority of people with hearing problems today are being seen and "treated" by the dealers. Some dealers have earned great respect from audiologists and medical specialists over the years, and many have formed reputable and ethical standards in their approach to these problems.

But many others are considered questionable and follow selling practices that are extremely harmful—not only to their customers, but to the hearing aid manufacturers, themselves. I know of more than one manufacturer whose reputation in certain areas has been greatly harmed by selling practices that do not reflect the very real ethics of the manufacturers themselves.

Technical Training for Dealers?

In facing the realities of today—particularly the severe shortage of trained professional personnel—why can't we provide technical training for hearing aid dealers? Why, in fact, can't we require dealers to police themselves—or get policed? With technical training, couldn't we then use them as an important factor in the area of support personnel?

We must build into this type of system such factors as strong penalties for questionable advertising claims and practices; consideration of price controls, if necessary, to modify the margin of a 300- to 400-percent markup on manufacturer's prices for hearing aids; development of a service station system of maintenance and repairs of hearing aids.

It seems to me that any business involved in the provision of services or equipment to people with handicaps must operate by rules, standards, and ethics which guarantee reasonable performance.

5. The entire area of financing hearing and speech services must be carefully studied. Positive steps must be taken toward improving the patient's ability to pay for services and equipment. Part of this is the manufacturer's responsibility, it seems to me—too much of the industry is devoted to making Rolls Royce hearing aids when what is often needed is a serviceable Jeep.

Such a hearing aid could be enormously valuable in another field that I am involved in—for the use of hearing handicapped children in schools. But the aged, in particular, must not be placed in the position of becoming medically indigent because of the costs involved—or simply going without help as an alternative.

The third-party system of payment must be more widely accepted in this area. For instance, health and accident insurance companies must be encouraged to include payments for hearing and speech services in their policies.

Medicare and State medicaid should also include better recognition of the need for hearing and speech services. Hearing loss can be as

damaging emotionally and socially as the loss of a limb, or of sight—and it happens to be far more common than any other disability in the aged.

6. I should also like to suggest some objective soul-searching on the part of hearing aid manufacturers. Their ability to design and manufacture high quality hearing aids I do not question, but I believe they are equally capable of answering their huge problem of less expensive marketing.

High Markups Reported

I have been told in confidence that a reputable manufacturer can expect a reasonable profitmaking and delivering a hearing aid to the retail outlet for $80. If so, is it really necessary for a hearing-handicapped individual, with a thin pocketbook, to purchase such an instrument from the salesman for $300, or more?

It would be my hope that the manufacturer and dealer would, through their own actions and among themselves, provide answers to such problems. If not, perhaps they should have outside help.

I would appreciate it very much if you would ask me some questions because I think I have, as I said earlier, some things that I might be able to contribute.

Senator Church. First of all, thank you very much for a very fine statement. I am sure that all of us perhaps will have some questions to ask.

I am disturbed about what you have had to say concerning costs and markups. Earlier I think it was Dr. Stewart who said that the research that had gone into miniaturization accounted for the high prices today. I can see that this would entail a considerable investment, but miniaturization is going on, it seems to me, in all fields now.

Once the processes have been developed and become public property, as it were, once the designs have been worked out and mass production undertaken in years past, I should think that we could then begin to adjust the costs downward.

I am wondering why these markups are so great. Apparently competition does not regulate the price or bring it down as those of us who were trained in economics 30 years ago believe in a free economy.

Miss Fabray. This comes about because of the great—I would have to use the term "ignorance"—among the people who need hearing aids.

Throughout mankind's history, being deaf, losing one's hearing, was something to fear and to be ashamed of. In the olden times, a deaf person was considered marked by the devil.

Many hearing people don't understand the emotional problem the hearing-handicapped person has, that hearing loss is associated with getting older, with becoming senile. It is a difficult thing to accept the fact that one is losing one's faculties, that one is getting older.

Unfortunately, too, the deaf have very often been the object of ridicule. I experience this in my own profession. The first thing that a young neophyte actor will do when he is asked to portray an older person, he will put his hand behind his ear and say, "Hey, what did you say?"

All these things are a terrible burden to the person who has to face

up to the fact that he has a hearing handicap. Once the person recognizes the fact that they must do something about their hearing, they will go to somebody else who has bought a hearing aid and say, "What is your experience; what have you done?" And "How did it work out?"

Usually it it not too successful because the first person waited so long to get a hearing aid that by this time their adjustment to a hearing aid is not very good. Neither is their advice. So the newcomer goes into the field of purchasing a hearing aid with one strike against the audiologist, one strike against the hearing manufacturer, and several strikes against the whole subject.

They will go into some local dealer. If they are lucky, they will go to a good specialist first. But usually they will go into the closest and most convenient place to say, "I want to buy a hearing aid," without knowing any of the steps that need to be taken.

The hearing aid dealer, often not knowing what really can be done to help this person, will put a hearing aid on and send him out into the world—not well cared for, and not completely satisfied. So, there is a continuation of the cycle of misunderstanding and misfitting and "misknowledge" is a word that I will coin, so that really there is no competition. People do not know how to shop for a hearing aid; they don't understand.

Senator CHURCH. How do you think that this could be best rectified? What ideas would you have to offer for breaking into this vicious cycle?

Miss FABRAY. I think this is a responsibility that the hearing aid manufacturers must take, and I would like to offer a suggestion to them.

Their expensive and extensive advertising campaign that they do to sell their hearing aids is still based mainly on the fear process:

We can sell you a hearing aid that won't be seen. Our hearing aid can be hidden in your hair, in your ear, in your earring—we can do everything except grow hair on our hearing aid.

It perpetuates the stigma that is attached to wearing a hearing aid.

I think the greatest service that the hearing aid industry could do would be to do a complete about-face in the hearing aid selling campaign. Let people become aware that it is not something to be ashamed of. to be hearing handicapped.

I am sure most of us here can remember that there was a time when we would prefer to fall down an open manhole rather than be seen with glasses. A successful publicity campaign through the years by the eyeglass manufacturing industry has made glasses not only acceptable but chic. I think very much the same thing can be done with hearing aids.

STIGMA MUST BE OVERCOME

I think it should be done not only from the cosmetic point of view of the hearing aid but I think it should be done in the over-all knowledge of what hearing handicaps are. They should help take away the stigma, not perpetuate it by vanity and fear advertising.

The main reason I stood up to be counted as a person with a hearing handicap is because when I became aware that I had a hearing problem, I didn't know of one single person other than Eleanor Roosevelt.

who was a few years older than I was, who admitted to wearing a hearing aid.

I felt that it would be a contribution on my part to let people know as she did, that there was someone other than those eligible for social security who would admit to wearing a hearing aid and who was relatively young, relatively successful, and still fairly attractive in the public's eye and that I was not ashamed of being hard of hearing or ashamed of wearing a hearing aid.

Senator CHURCH. Senator Carlson, do you have a question?

Senator CARLSON. Well, first, Miss Fabray, I want you to know I appreciate your appearance here because I am one individual that has enjoyed seeing you on television.

I never thought as I viewed your performances that you ever would be testifying here, but I am delighted you are.

Miss FABRAY. Thank you.

Senator CARLSON. I shall not go to any great length.

You have mentioned, I think, one of the problems that is confronting the individuals who purchase these hearing aids.

The industry, itself, has some problems in this, I am sure you will agree, because as we gathered this morning from Dr. Stewart and others, the industry, itself, has been the one group that has really developed these instruments.

I just wondered from your own experiences what leads you to believe that these hearing aid prices are unreasonably high except the fact that they are so many dollars in cost?

Miss FABRAY. My information came to me from the head of one of the largest and most reputable manufacturers in the country. The information was given to me in confidence that it is possible today to manufacture a very, very fine hearing aid in the area of $80 and that this is today marketable in the amount that I told you.

These are facts that came to me—I don't like to say from the horse's mouth, but that is the old cliche.

Senator CARLSON. Isn't it reasonable to assume then under those circumstances and if that develops to be the case that the industry, itself, soon will find itself in a position where they will again reduce some of these prices?

Miss FABRAY. Yes. I agree with what Senator Church said that much of what they have done is the expenses they have had going into research, but we have now reached the point of miniaturization and there is no longer any reason why the great market that is available to the manufacturers should not be tapped. They have not really and truly begun to tap their market and they are not going to do so as long as they charge $200 and $300 and $400 per hearing aid.

Senator CARLSON. You have added much to the hearing and we appreciate it.

Miss FABRAY. Thank you.

Mr. MILLER. Might I address a question to the lady?

Senator CHURCH. This is Mr. Miller. He is the minority staff director here.

Mr. MILLER. I think I am taking advantage of my appreciation of Miss Fabray's appearances on television, if you will forgive me for getting in the act.

Miss FABRAY. I think all men in Congress and in the Senate are hams at heart; I think that is what brings them here in the first place.

Mr. MILLER. And their staff, too.

Miss FABRAY. And by some of the legislation I have read, I think they should have stayed in show business or gone into it.

Forgive me, sir. I am not being personal in this particular.

Mr. MILLER. You comment about the price being a deterrent to people getting hearing aids. Also you have earlier commented about an unwillingness of people to go and get the service, and I am sure that there is an element of selling cost involved that also relates to price.

I am not suggesting that either you or I would know the answer, but don't you feel that this is a kind of a chicken-and-egg proposition, to some extent?

Miss FABRAY. Yes; it really is. I think again that part of the soul-searching the manufacturers and the dealers must do is that they must work out among themselves a simply worded manual whereby the hearing aid consumer will learn how to wear a hearing aid.

RESULTS ARE NOT INSTANT

Most people don't know when they go in to buy a hearing aid that they will not get instant results. It is not like putting on a pair of glasses and having your vision improved. It takes time to learn how to wear a hearing aid and it takes time to get used to wearing a hearing aid. It took me 6 months of hard practice to be able to hear well.

One of the main mistakes that the hearing aid consumers make is that they save up their hearing aid. They put it in the drawer and take it out now and then and they use it for when they "think they need it." The places they usually think they need it are the last places they will get used to wearing it—in the theater, in restaurants, in public places, at home in social groups.

One must learn how to begin to wear a hearing aid in the quiet and privacy of one's home or in a controlled-sound situation. I have yet to meet one hearing aid dealer who has known in fact how to teach a new purchaser to wear a hearing aid. I have not met one who knew that this is the way it should be done. I had to discover this myself.

Mr. ORIOL. In your capacity as one who receives mail from thousands of people who write to you because they cannot get information anywhere else, I wonder whether we might give you a copy of this publication put out by the Department of Health, Education, and Welfare and after you have had time to review it give your reactions on how much practical help it gives.

(The booklet referred to follows:)

choosing a hearing aid

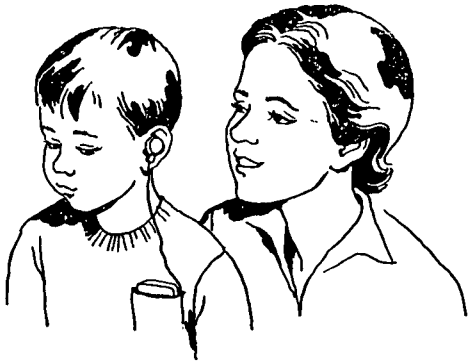
Foreword

Everyone with a hearing loss, young or old, child or adult, faces a difficult problem when choosing a hearing aid. Yet such an aid may be necessary if he is to play, to learn, and to work with others.

At the present time, no single kind of hearing aid can best serve everybody. If you have a hearing problem, you may need help to get the right one. This leaflet gives you some suggestions.

MARY E. SWITZER
Commissioner of Vocational Rehabilitation

KATHERINE B. OETTINGER
Chief, Children's Bureau



THINKING ABOUT GETTING A HEARING AID?

You may not be able to use a hearing aid perfectly the first time you wear it. You have to learn to hear with it. This takes patience in getting used to new sounds. Most hearing and speech centers, and some hearing aid dealers, have special training programs to help you.

Children as well as adults often need hearing aids. If you think your child needs one, the sooner you get an expert's opinion, the better. The hearing aid may help a very young child to talk, later it may help him to get along better in school. If he has a severe hearing loss, he will probably need special training in addition to the hearing aid.

BEFORE YOU BUY A HEARING AID

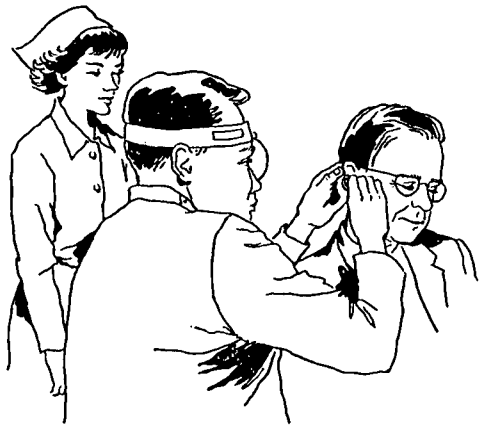
See a physician, preferably an ear specialist, known as an otologist, or otolaryngologist.

He will look for causes of the problem and solutions to it. The causes may be as simple as wax in the ear, or as common as a cold or an allergy. Other diseases and conditions may be more serious threats to health and hearing.

The medical ear specialist tests hearing and may refer you directly to a hearing aid dealer. Sometimes the ear specialist may refer you to a hearing and speech center for additional audiological (hearing) testing. The tests made by an audiologist describe the hearing problem and tell how serious it is.

The ear specialist may recommend medical or surgical treatment or a hearing aid. Early treatment may prevent further hearing loss—this is especially true for children.

After the hearing tests, the ear specialist or the audiologist will be able to decide whether a hearing aid is needed. If it is, he will then suggest



which kind, since the decision depends upon the type of hearing loss, its severity and other factors. The specialist or hearing and speech center may suggest a specific name-brand of hearing aid, or may make general recommendations about the kind of aid you should buy.

SELECTING A HEARING AID

Compare for clarity and quality of sound.

Listen to familiar voices with each of the aids.

Compare how well you understand speech with each of the aids.

Listen in noisy places as well as in quiet.

Try the aids outdoors as well as indoors.

Compare for comfort and convenience.

Shape and color of the aid have no effect on the quality of the sound you hear.

Controls should be easy to operate.

Batteries, parts and minor repairs should be available locally.

Compare costs.

Any aid is costly if it is not used.

There are differences among prices of hearing aids.

A low priced aid may be just as satisfactory as a high priced aid, depending upon your needs.

Does the price include the ear mold (insert), the cord and the receiver and the battery?

Ask about the costs of batteries for each aid.

Compare extra services included in the price.

Is there a money back guarantee?

Do you understand the guarantee?

Does the dealer give you a convenient repair and replacement service?

Will the dealer help you to learn to use your aid?

HOW CAN A HEARING AND SPEECH CENTER HELP?

The audiologist in a hearing and speech center can make a thorough, non-medical study of your

hearing problem. The centers do not have a commercial interest in hearing aids, but they do have the staff and instruments to help you decide whether an aid will be of benefit. The non-medical tests describe how well you hear at different levels of loudness, under different noise conditions and for different speech sounds. Hearing and speech centers will compare how well you hear when using different makes and models of hearing aids.

The centers can help you make better use of whatever hearing you have. This is done by lessons in auditory training and lip-reading. Such training is especially important for some kinds of hearing problems. There will be special classes for children.

Speech and hearing centers are located in universities, schools, hospitals and rehabilitation centers. Others are separate centers supported by the community.

WHAT IS A HEARING AID?

The hearing aid is a miniature amplifier—it makes sounds louder. A very small battery, the microphone and transistors are all in one case.

The tiny loudspeaker is called the receiver or earphone. Sometimes the loudspeaker is attached to the case by a wire, but in most cases it is placed inside the case. When this receiver is inside the case, the sound is carried to the ear by a small plastic tube.

The receiver is connected to a small insert or

earmold which fits into the ear canal. A properly fitted ear mold is important for comfort.

Basic kinds of aids

Air conduction hearing aids direct the sound into the opening of the ear canal.

Bone conduction hearing aids apply the sound to the bone behind the ear.

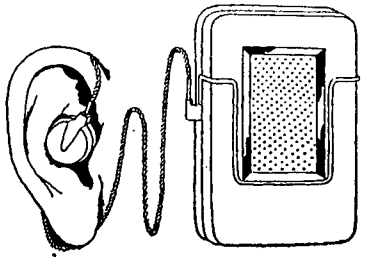
Monaural hearing aids are used for one ear only.

Binaural hearing aids consist of two complete aids, one for each ear.

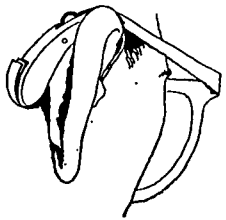
A Y-cord which has two receivers, one for each ear, can be attached to a single hearing aid.

Basic models

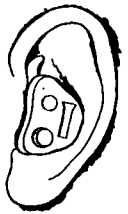
Hearing aids can be worn on-the-body or at ear level. On-the-body models can be carried in a pocket, pinned to clothing or worn in a special carrier.



In eyeglass models, the hearing aid is built into the frame.



Ear level models include behind-the-ear models, eyeglass models, and in-the-ear models.



In-the-ear models are so small that all of the parts fit into a case, most of which can be inserted into the ear.

MORE INFORMATION IS AVAILABLE FROM THE FOLLOWING SOURCES

Your doctor.

The Speech and Hearing Service in your State department of health, or in your State crippled children's agency.

The State Vocational Rehabilitation Service.

Hearing and Speech Centers (you can get a list of the centers near you from the above State agencies).

The Veterans Administration, Washington, D.C.

Organizations and Professional Associations:

American Academy of Ophthalmology and Otolaryngology
15 Second Street, S.W.
Rochester, Minnesota 55901

American Hearing Society
919 18th Street, N.W.
Washington, D.C. 20006

American Speech and Hearing Association
1001 Connecticut Avenue, N.W.
Washington, D.C. 20006

Alexander Graham Bell Association for the Deaf
1537 35th Street, N.W.
Washington, D.C. 20007

Hearing Aid Industry Conference
437 Merchandise Mart
Chicago, Illinois 60654

National Association of the Deaf
2025 I Street, N.W., Suite 311
Washington, D.C. 20006

Miss FABRAY. Fine.

Mr. ORIOL. Do you think that there is a Federal role here in terms of consumer education perhaps in conjunction with industry, perhaps independently? What do you think the role of the Federal consumer information effort should be?

Miss FABRAY. Well, let me explain it this way, if I may. When I knew that I was going to appear here, I asked for some literature that would help me fill in many of the gaps in my overall knowledge of the subject.

I can only tell you that there is so much literature available to the public that I have yet to wade through about a third of what was sent to me. What you have here, this teeny, tiny, lovely little booklet, I wish that it were all as simple as this.

Everything possible should be done to make such information more readable to the average person. My belief is that there should be a central clearinghouse for information that would go out, some kind of Federal clearinghouse for basic information, that would go out to people who write about their hearing problems and about their hearing handicaps and about schooling.

This is a very big order, but many of the letters that I get have an enclosure in it that says, "Here is a book that was sent to me when I wrote away and asked for help," and it will sometimes be a volume that is half an inch thick listing all the agencies and places that they can go, and I can't wade through it myself.

They ask, "Will you check some place for me to go?"

This is very difficult and it certainly is not the purpose that the booklet was written up for in the first place.

I don't know the answer to that, but something most certainly must be done.

Senator CHURCH. Miss Fabray, you certainly have been an excellent witness. We appreciate your coming here.

Your mentioning the need for learning how to use a hearing aid and how few people do acquire them are given training in this respect comes close to home with me because we have had that experience in the family just recently. It is just precisely this:

A $300 hearing aid is not being used correctly and, in fact, it is not being used at all simply because this kind of understanding and training has not accompanied the piece of equipment.

Miss FABRAY. Yes.

Senator CHURCH. And that, is seems to me, is certainly one of the real shortcomings in this whole area.

Miss FABRAY. Very much so.

Also, I think that something must be done to make people know that they should begin to wear a hearing aid as soon as possible after they notice that they are beginning to have a hearing problem. I was guilty of this neglect myself.

A new hearing aid is so radical an adjustment for a person who has waited a long time that it is an overwhelming experience for the hearing-handicapped person to go through.

I can better explain it by saying, and this is an example I quite often use when I try to convince someone they must wear a hearing aid early to keep their hearing ability up—let's say a person with a sight problem, weak eyes, who is affected by light might say, "Well,

I am going to sit where it is comfortable to me in a semidarkened room and I will only use my eyes when I need them; I will not use my eyes outside. I will not go out and expose myself to light."

Well, you might sit in a dark room for a couple of months and say, "Now I will go out." Believe me, when you go outside finally, you would be so totally overwhelmed by the light that your eyes would be useless.

Very much the same thing happens to a person who has waited until their hearing level is down to the point that they have become used to a world of semisilence. When they put the hearing aid on and turn it up the volume they can expect from a good hearing aid, they are overwhelmed by the new sound and they toss the hearing aid into the drawer. They say, "I cannot use it; it is too much for me."

Senator CHURCH. Thank you very much—very fine testimony.

Miss FABRAY. You are very welcome.

(The chairman, in a letter written shortly after the hearing, addressed several questions to the witness. The questions, replies, and additional information follow:)

Question 1. What indications do you have from the mail you receive that door-to-door salesmen of hearing aids are at work in a fairly large number? Do you believe that most of them do on-the-spot testing?

Answer. My mail does not indicate any clearly stated activity of this nature. What does seem to happen in certain areas are household calls in response to mail requests or telephone calls of inquiry by the prospective client. I would still hesitate to characterize this practice as common, however.

What is a very common practice, however, judging by my mail, is the basic lack of information to the consumer that he or she may not be helped by a hearing aid. With this practice almost invariably, goes a non-return selling technique. The consumer is often too desperate to accept the possibility of non-help, and some of them seem to buy three or four, or even more hearing aids, in the hope that a different model will give better results. By inference, the salesmen involved are pandering to fear—in the same way that cancer quacks procure victims. The instruments involved are extremely efficient and highly developed mechanisms, and the real differences between them are not that great in quality. Too often, however, the salesmen are peddling miracles. Whether that process is door-to-door, by house call, or by simply withholding the basic fact that not all people can be benefited by hearing aids, it seems to me that the Federal Government should set standards in this area that permit no evasion. This practice of the 'hard sell' and miracle working, is a great disservice to the legitimate dealer, the manufacturer, the consumer, the subject of hearing aids in toto, and in my opinion when it victimizes people by chicanery, is criminal to the same extent as selling cancer cures by electrolysis.

Also, in terms of your question about "testing", it seems to me that standards should be set in this area as well. I know of several states in which the only real requirement to prescribe and fit hearing aids is a high school diploma. Compare this to the training and skill required of an optometrist. If anything, the ear is an even more delicate mechanism than the eye, and a hearing loss can actually be intensified by slapdash approaches. Also, most tragically, a high school diploma in no way prepares such personnel to distinguish between basic types of hearing loss such as nerve damage and otosclerosis. One type needs a hearing aid. The other is magnificently operable, as in my own case.

Question 2. You call for training of "technicians and other personnel" to relieve work pressures on professionally trained specialists. Who, in your opinion, should provide that training? How can participants be enlisted?

Answer. The field of audiology as a medical specialty is comparatively new. It is only in the past 10 to 15 years, due almost entirely to miniaturization and the mercury battery, that hearing aids themselves have become sophisticated and adjustable devices of an almost infinite range. Audiology, to oversimplify the matter, used to have the knowledge without the instruments. Now, of course, a skilled audiologist can prescribe a hearing correction in exactly the same degree of excellence as an optometrist.

Unfortunately however, the supply of audiologists, even the public knowledge of their existence, is staggeringly behind the need. The situation is complicated, as you know, by a power rivalry between the audiologists and the dealers. That must inevitably be resolved, by time if nothing else, into the same form of relationship between the two as that between the optometrist and the optician.

Meanwhile, however, a great many hard of hearing people cannot wait. They need help now.

The only possible bridge between these two rivalries at the present, it seems to me, and in terms of the acute shortage in the field of audiology, is the special training of technical personnel for the interim. They should be trained exactly as x-ray lab technicians are trained, or medical assistants, nurses, therapists, pharmacists, etc. They should be licensed only on the basis of such training, and divorced completely from the selling process, exactly as their technical counterparts in other medical fields. The dealers will not like this, because of the higher costs involved. The audiologists will not like it if it threatens the growth of their field.

For these reasons, I strongly believe that the manufacturers should be required to provide such training facilities, under self-imposed standards regulated and reviewed by the Federal Government. From conversations I have had with manufacturers on very high executive levels, I would not be greatly surprised to find them extremely receptive to a no-choice directive in this direction. Most of them are trapped in their own merchandising methods.

Such trained personnel would be an immediate relief to the situation, and would have the effect I believe, of widening the sales market substantially. Naturally, they should not be permitted to substitute in any way, for audiology. Difficult cases should be referred, both by the dealer and the technician.

As to recruitment in this field of technology, I believe that can be accomplished on the same basis as the enlistment of laboratory personnel in the medical profession; i.e. the higher the training, the higher the pay. It might be argued, and probably would be argued by the dealers that this would raise the costs of their operations. I doubt it seriously in terms of the increased confidence of the public, and the widening market that could be anticipated. It is no great secret that the dealers, and many manufacturers along with them, have a word-of-mouth public image that borders dangerously on a racket. The fact that only a small fraction of the dealers involved are responsible for this image is the real tragedy of the situation.

Question 3. You were asked at the hearing whether you could evaluate federally sponsored information publications related to hearing loss. If at all possible we would like to have additional discussion from you on this point.

Answer. I can evaluate them only in terms of simplicity. Most of the publications I read, tend to be prepared on a medical basis. Most of the people I hear from directly would not have the slightest idea of what some of these publications are trying to say. My father, as an example, is 83 years old, never graduated from high school, and finds it difficult to remember anything except baseball scores of the past 20 years. His Medicare Bulletin is completely incomprehensible to him. (I'm not sure I understand it either.) You can well imagine how much he would get out of an esoteric manual on the "audiometric decibel loss in an uncontrolled sound environment," or the "apparent distortion tolerance" a consumer can expect from a hearing aid. It is roughly like expecting a man who needs a pill to study chemistry.

The most notable thing about my correspondence in this field, is that if the people writing to me were smart enough to understand such things, they wouldn't be writing to me. I even had a letter from one 80-year-old woman, who had been told in considerable detail by a dealer exactly what to expect from a hearing aid. Her complaint was that she couldn't hear what he was saying. I don't know who is more to be pitied, the old lady or the dealer.

The point is that the general public tends to need protection more than advice. If a person who can get help from a hearing aid is properly fitted, with the proper instrument, properly maintained, and properly prescribed, they will be helped. If not, they should have the right to bring it back. This provision alone would stop more huckstering, hard selling, and promises of miracles, than anything else that could be done. Along with the factual information this would

evoke from the dealer—the out and out facing of the fact that in many cases only a small improvement can be expected—the onus would be on the dealer to show his client how to actually use the instrument, and how to get the most possible help from it.

Any federally sponsored publications should outline to the consumer the bald facts of the matter, and offer some recourse, in simple terms, to a regulation of mis-use.

Finally, if I may, I would like to answer a question which was not asked of me, and which I refrained from injecting into the records of your admirable subcommittee study.

At one time or another, during the past 10 years, I have been asked by every major manufacturer of hearing aids, and one extremely bad Japanese import, to endorse their products, to "join" their marketing efforts, even to take financing for a nationwide chain of hearing centers. I daresay I could make a profit on my hearing handicap, and I know that by example if in no other way, I am constantly used by the industry to sell hearing aids. My picture appears on bulletin boards in every major hearing center in the country, and that's fine with me as long as I endorse only the subject, not a particular make.

"MADISON AVENUE MARKETING"

But I find this Madison Avenue approach to marketing hearing aids offensive, if only by implication. Hearing aids are not merchandise. They are, to a great many millions of people, an absolute medical and social necessity—with the unfortunate status right now, of a considerable luxury. This should not be so. Hearing aids should be made fully available, as cheaply as possible, and to the most people. Those who want cosmetic versions, hidden in eyeglass rims (and less efficient because of it), should have the right to pay three and four hundred dollars for their vanity, and welcome to it. But those who need this kind of mechanical help and do not have that kind of money, should have a model available to them on a more realistic cost structure.

From my contacts with manufacturers, I know as a simple fact that they themselves have become enmeshed in their own merchandizing methods, and would welcome a way out, if only to get into a mass market they know exists and which at the moment they cannot reach.

Significantly, the year to year sale of hearing aids does not increase appreciably, although in terms of longevity and the population explosion among the aged as elsewhere, the need certainly increases. Also, our civilization is extremely hard on the hearing capabilities of our general population. We can expect an even greater need, year after year. Yet there is no comparable expansion in the market for hearing aids. Part of it is ignorance or fear or vanity, part of it is word-of-mouth dissatisfaction, part of it is resistance to hard-sell quackery, but most of it is economics. It is easier to remain deaf than go into debt on Social Security.

At the moment both the Federal Government and State governments lag behind the rapid development of the hearing aid, in regulation and in direction. In one area specifically, the Federal Government is actually hindering an improvement of the situation—the Veterans' Administration knows more about hearing aids, having spent literally millions of dollars of the taxpayers money to acquire the information, than any other possible source in the country. That information should be a bedrock of your subcommittee's discussion of standards, ethical procedures, and the economics of hearing problems of the elderly. The VA does not pay three and four hundred dollars apiece for hearing aids, and the devices that have been developed to their requirements are of precisely the character and cost that are needed in this situation.

I hesitate to broach this subject before your committee, because the solution is beyond my capabilities, and because wiser heads than mine are needed in this area. I know the subject quite well in human terms, however, and the time is due for relief. Our Senior Citizens are also veterans.

Senator CHURCH. Our next witness is W. Dixon Ward, professor of audiology, University of Minnesota.

STATEMENT OF W. DIXON WARD, PH. D., PROFESSOR OF AUDIOLOGY, UNIVERSITY OF MINNESOTA[1]

Mr. WARD. I am in the research department and not strictly an audiologist, but an experimental psychologist.

Senator CHURCH. We are happy to welcome you.

(The prepared statement by Mr. Ward follows:)

PREPARED STATEMENT OF W. DIXON WARD, UNIVERSITY OF MINNESOTA, DEPARTMENT OF OTOLARYNGOLOGY

The topic which I had been assigned to discuss is "Rising Noise Levels and the Elderly." The implication of the topic's particular phrasing is that noise levels are rising steadily, and that there will therefore be more individuals who, in old age, will have high-frequency hearing losses caused by noise, and who therefore will be in need of some type of help as the further loss of hearing associated with aging per se—so-called "presbycusis"—gradually develops. However, a survey of the available literature convinces me that there is at the moment no good evidence that the problem of elderly hard-of-hearing patients is necessarily going to be any worse in 30 years than it is right now.

It is true that, on a national scale, noise increases (although the widely-quoted value of an increase of one decibel per year is a bit of nonsense that never had much basis in fact, but continues to be perpetuated because it is such an easy number to remember. Tractors and trucks, for example, as well as aircraft, have become more noisy, as emphasized at our recent NIH-sponsored Symposium on Noise as a Public Health Hazard. The increase in noise, however, does not mean that there must also be a concomitant increase in the amount of noise exposure of the average man.

There are several good reasons for believing that noise-induced hearing loss might in the future actually decline. For instance, increased automation reduces the number of men employed in certain noisy industries. Also, hearing conservation programs are being inaugurated by an ever-increasing number of industries, programs that often result in much wider use of ear protection by persons exposed to the more intense noises. Finally, if the anti-gun fanatics have their way, there will be fewer and fewer hearing losses caused by gunfire. So the question of whether or not there will be a higher proportion of elderly citizens with hearing problems several years from now than there are now is, in my opinion, still moot. The absolute number of such persons might well increase, because the total population continues to increase; however, I would personally not be surprised if the percentage actually drops.

Another group of questions to which I have devoted some time in keeping track of deals with the relations among noise-induced hearing loss, presbycusis, and hearing aids. Both noise-induced hearing loss and presbycusis typically lead to an audiogram that indicates marked high-frequency loss of sensitivity, but with near-normal ability to hear low frequencies, so that in severe cases the persons hear only a low rumble when someone speaks, with most of the consonants not heard at all. And the trouble is not completely taken care of by a hearing aid that amplifies the high frequencies but not the low frequencies, either—indeed, despite the arguments of some hearing-aid salesmen, there is very scant evidence that such selective amplification helps at all. Thus even if the amount of hearing loss in the elderly were on the increase (which, as I said before, is still a moot point), much more research must be conducted before one can accept the contention that many of these elderly can be helped appreciably by giving them a hearing aid. Those who are helped, I suspect, are those having not only a sensorineural hearing loss caused by noise or by aging, but also a slight amount of conductive loss (a condition in which sound is prevented from reaching the sensoring cells at all).

In conclusion, then, I have no evidence, after searching the available data at hand, that hearing loss among the elderly is on the increase. And I emphatically insist that scientific evidence that when a hearing deficit is caused either by noise exposure or by the aging process, the patient's ability to understand speech is enhanced by a hearing aid, is evidence that has not yet been gathered. Much more research is necessary before we ought to embark on a mass "fit-in-aid-to-the-elderly" program.

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[1] Additional information from Dr. Ward appears on p. 195.

Mr. WARD. I was asked to appear because of the fact that I am editing the proceedings of a symposium that we had about a month ago on noise as a public health hazard, to speak on the topic "Rising Noise Levels and the Elderly."

Now the implication of the topic's particular phrasing is that noise levels are rising steadily and that there will be more individuals who in old age will have high-frequency hearing losses caused by noise and who therefore will be in need of some type of help as the further loss of hearing associated with aging per se, which we call presbycusis, gradually develops.

At our symposium, however, there were not any figures presented to show that noise exposures are increasing. I have done my best to find other literature that is relevant but I am afraid that you really can't draw a firm conclusion.

Now let me go into this. A survey of the present available literature convinces me that there is at the moment no good evidence that the problem of the elderly or hard of hearing patients is necessarily going to be any worse in 50 years than it is right now. Perhaps it will be a little worse in 30 years as our World War II veteran group reaches the stage where presbycusis enters.

It is true that on the national scale noise is increasing and this was stressed in our symposium. Tractors and trucks, for example, as well as aircraft have become more noisy. But this increase in noise does not necessarily mean that there must also be a concomitant increase in amount of noise exposure of the average man. The noise is increasing but the noise exposure is not necessarily.

Now as I say, I just want to present some of the opposing arguments for this. There are several good reasons for believing that noise-induced hearing loss might in the future actually decline. For instance, increased automation reduces the number of men employed in certain noisy industries. Also, hearing conservation programs are being inaugurated in an ever-increasing number of industries. These programs often result in much wider protection of persons exposed. I think you will find that one of the problems that we have always been afraid of was the jet aircraft worker but there were at least five studies conducted—and I did one of them—on the effect of exposure to this jet aircraft noise in workers. The only thing I came up with in my study was a couple of fellows who got some hearing loss because they had been out shooting with a .45 without any hearing protection. So you see, the mere fact that we have high noise levels does not mean that you are necessarily going to get damaging noise exposures.

Finally, in the line of reduction of noise exposure, if the antigun fanatics have their way there will be fewer and fewer hearing losses caused by gunfire.

INCREASES IN ABSOLUTE NUMBER

So the question of whether or not there will be a higher proportion of elderly citizens with hearing problems several years from now than there are now is in my opinion still moot. The absolute number of such persons, of course, will probably increase because the total population continues to increase. However, I would not be surprised

at all if the percentage actually drops when the effect of present hearing conservation programs begins to be felt.

Only the health surveys run by NIH can answer this: If they keep track, if they take a random sample of the population every 10 years and determine what the percentage of hearing loss in the elderly is, this is the only way you can tell what will happen. I am saying that however it comes out, you can say, "I told you so."

Senator CHURCH. What are these hearing conservation programs you are talking about?

Mr. WARD. A hearing conservation program consists of measuring the noise levels, going to damage risk criteria, determining whether these levels in the amount of exposure, the duration involved, are potentially hazardous to 50 percent of the population, and if so, inaugurating either noise reduction or hearing protection via earplugs or muffs.

Senator CHURCH. Fifty percent of the population?

Mr. WARD. Your damage risk criteria can be established on any basis you want. You cannot set it so low that you are protecting 100 percent of the people. So you can set it 95, 75, 55, 50 percent. This is an arbitrary judgment that is made when you set up damage risk criteria.

I have been involved in setting up such criteria recently, and although we deal usually with median hearing losses when we are setting them up there is usually a safety factor built in so that in the case of the damage risk criteria that I was involved with, we are actually protecting at least 90 percent of the people against compensable hearing losses—that is, handicapping hearing losses—after 20 or more years exposure. This is the goal of these criteria.

Senator CHURCH. How far has this effort reached? You speak of the rising incidence of noise in our society. We are trying to develop a general consciousness of the problems we face in the contamination of our rivers and pollution of our air and this gets a considerable amount of attention.

Laws have been passed in the Congress that establish standards which we believe will bring the States into action in this field and some progress is being made. Attention or talk or consideration is also being given to the noise aspect of this general problem.

Mr. WARD. I suppose that is true but I am more familiar with the efforts that have been done since this is my field; I feel that there is quite a bit of activity along these lines.

Senator CHURCH. This is interesting to me because if there is such an effort, it is not reaching through to me as one citizen and it is not getting anywhere near the kind of attention that has been given in the mass media to the other aspects of the problem.

Mr. WARD. Well, it is because it is in a sense a problem that is different. I mean, the mere fact that it is called pollution does not mean that it should be classed necessarily with air pollution or river pollution. First of all, it is such an easily reversible process you cut off the noise and that is the end of the effects.

Senator CHURCH. But that is just the very point I am making. It is only when these jets come in over a city to the point where you cannot sit down in your backyard to conduct a conversation—when the harassment reaches that level—that somebody wants to say, "Is this necessary? Is this progress? Is this the greatest society that ever

existed when we cannot sit out in the backyard and have an evening meal or a conversation without being driven into our homes?"

It really has to reach that point before anybody raises the question.

Now, the jets are still coming over and we are still having the same problem, that very little progress seems to be made. In Paris I remember the noise level got very bad because they liked to honk their horns. In Mexico City it was terrible at one time. They passed an ordinance in Paris saying it was against the law to honk their horn and the automobile accidents went down 40 percent. And Paris became a much more civilized place in which to live again.

Do you know of anything comparable? You say noise control programs and so forth, or noise conservation programs.

Mr. WARD. These are all in industry.

Senator CHURCH. These are all just in industry?

Mr. WARD. Yes. Of course there are citizen groups which are forming to combat the sonic boom and related noises. We heard a very entertaining talk by Mr. Ferry from Santa Barbara, Calif., at our symposium. He hates all types of noises, including Muzak. I suspect you know, you could go to the fellow who hates the robin stomping on the lawn early Sunday morning.

Senator CHURCH. Yes, you could go to that extent. But we seem to be getting very close to the opposite extreme.

Mr. WARD. Yes, that is true.

PSYCHOLOGICAL DAMAGE, TOO

Senator CHURCH. That is what we are all being subjected To now.

Mr. WARD. Yes. The dividing line that sometimes is looked for is the dividing line between damaging physiologically and damaging psychologically. Most of the noises today are psychologically irritating, and eventually someone may show that they are damaging in a real sense; nevertheless, there is an order of magnitude of difference between the types of noise exposure that will cause complaint and those that are severe enough to cause hearing loss.

The evidence on the extra auditory effects of noise was summarized by a couple of fellows, one from this country and one from Germany. The trouble is every time you take noise into the laboratory to study its effects, the effects disappear, unless they have some effect on hearing. People can work in the laboratory with high noise levels as—high as you can tolerate. Given an arithmetic computation or some other task, in all except the most boring of tasks they do just about as well as in quiet.

How do you measure, then as a scientist, the effects of noise that people say that there are in real life but then disappear when you bring them into the laboratory? It is a good problem and we have been wrestling with it for a good many years.

Senator CHURCH. Insofar as you know in your experience in this field, the only places where noise conservation programs are being seriously undertaken are in industry.

Mr. WARD. That is the only place where there is a pecuniary drive—where management can finally be convinced that it is to their financial benefit to protect the hearing of their workers.

Another group of questions which I have devoted some time in keeping track of deals with the relations among noise-induced hearing loss, presbycusis, and hearing aids.

Now both noise induced and presbycusis, typically lead, as Dr. Stewart showed, to an audiogram that indicates a marked high-frequency loss of sensitivity but with near-normal ability to hear the low frequencies so that in conversation the people hear only the low rumble that you heard from Dr. Stewart's tape with most of the consonants simply gone.

Now this trouble, I want to say here, is not completely taken care of by a hearing aid that amplifies the high frequencies but does not touch the low frequencies, in an attempt to compensate for this high-frequency loss.

To a certain extent you can do this, but in the case of a high-frequency loss it is my opinion—and it is not only my opinion—that instead of being relatively refractory these high-frequency sensors are actually shot so that when you raise the intensity of this high-frequency part of speech all you are doing is eventually stimulating the receptors that are still patent, but which ordinarily serve lower frequencies. Because of this, it was not surprising that, by and large, as shown in a laboratory report during World War II, the best amplification for almost everyone was a flat gain.

Now in recent years there has been a lot of development done on these hearing aids which amplify the high frequencies more than the lows, but no one yet has done a good laboratory-type study which could be done—duplicating the PAL Laboratory procedure—showing that in fact you do get a greatly increased gain by this process in the understanding of speech.

Now perhaps such information is available among the hearing aid dealers, because they are the ones that would benefit from such research, but it is not published. So those of us who live in ivory towers have no alternative but to say the evidence still remains to be presented that this type of modified gain for the hearing aids will do the job.

It is my impression, talking to my colleagues in the audiological field who are working with clinical procedures, that by and large the old people who benefit from a hearing aid are not those with presbycusis and/or sensorineural losses caused by noise, but rather those who have a conductive problem, a problem with the middle ear whereby the sound is impeded in its transmission to the inner ear.

Now this is precisely the type of hearing that is helped by an aid, and it is also the type that is susceptible to surgery.

Additional Research Needed

In conclusion, then, I have no evidence after searching the available data at hand that hearing loss among the elderly is on the increase. I emphatically insist that scientific evidence that when a hearing deficit is caused by noise exposure or aging, the patients' ability to understand speech is enhanced by a hearing aid, is evidence that has not yet been gathered. More research is necessary before we ought to embark on a mass "fit an aid to the elderly" program, and even with training this is true because the elderly patient presents problems that

are not presented by someone that is as young as Miss Fabray, for instance.

It is very much more difficult to teach the elderly to keep the aid on; they get discouraged much more easily of retraining. It really has not been established that they are capable. This loss of hearing associated with presbycusis is at least in part attributed to degeneration of nerves themselves, and if this is the case it may very well be that even if we find something that will help the person with a high-frequency hearing loss caused by noise exposure, this may not help the elderly person.

I also have had recent experience with the hearing aid system. I had four octagenarian relatives—two were nonagenarians—recently, and three of them had typical presbycusis loss. One had a conductive loss and the only one who benefited one whit from wearing it was the great uncle who had the conductive loss. Nevertheless, the other three were sold hearing aid after hearing aid by unscrupulous salesmen because they were at that point where they just were trying anything to get some help.

Yet despite this situation, I personally don't favor paternalistic regulation. You cannot protect people from their own stupidity, at least that is what we South Dakota isolationists think.

Senator CHURCH. Can you educate them so that they will be better aware of the nature of the problem and better able, therefore, to look after themselves?

Mr. WARD. This would be my thought. If we were going to any sort of regulation, I myself would merely like to see a forced money-back guarantee for the first week. This is the thing that I would think would clear up almost all of the ethical problems. If within the first week of wearing a person could decide to return it or keep it, then these high-pressure tactics would be reduced so drastically that I think it would help quite a bit.

Senator CHURCH. That is a very interesting suggestion, as a matter of fact.

Any questions here?

Senator CARLSON. Thank you, Dr. Ward, for your comments.

I have a 12:15 luncheon that I must attend. I regret that I have to leave.

Senator CHURCH. Thank you very much for being with us, Senator.

Thank you, Doctor, for your fine testimony.

Mr. WARD. You are welcome. And thank you.

Senator CHURCH. I see that Senator Scott is here to introduce our next witness, Mr. S. F. Lybarger.

I want to say, Senator, before we begin that I note the hour is 20 past 12. In fairness to the spokesman here for the industry, we don't want to put them on the tag end of this morning and not have plenty of opportunity for them to present their case. The hearings will go on this afternoon, of course. We might get started now and then you can come back after the lunch hour and continue with your presentation in the afternoon session.

Senator SCOTT. Thank you, Mr. Chairman.

STATEMENT OF HON. HUGH SCOTT, A U.S. SENATOR FROM THE STATE OF PENNSYLVANIA

Senator SCOTT. The gentleman who will now present the views of the Hearing Aid Industry Conference could hardly be better qualified as an expert and valuable contributor to the success of this hearing. His own life's work is right at the heart of the matter.

He has been in the acoustical and hearing field for more than 30 years. He is a graduate physicist and engineer with a career specialty in the properties of sound and its amplification and transmission to help the hearing handicapped.

Secondly, he is executive vice president of one of the most respected manufacturers of hearing aids in the world.

Third, he has been chosen by his peers and competitors as president of the Hearing Aid Industry Conference, which is their industry association.

I may add that not the least of the qualifications of this remarkable scientist, executive, and business leader is his lifelong residence in the State of Pennsylvania.

I speak of Mr. Samuel Lybarger, who is executive vice president of Radioear Corp. of Canonsburg.

Mr. Lybarger has been one of the prime movers in his industry and I am told much credit is due to him for the strong advancement of the hearing aid field. Twenty-two U.S. patents have been issued to Mr. Lybarger. His major industry contributions have been in the areas of technical measurements and standards for hearing aids and audiometers and in the important area of ethical standards.

So it is with considerable pleasure that I now introduce to you and to the committee a man whose technical, executive, and ethical contributions have done much for those in need of hearing help.

Senator CHURCH. Thank you, Senator Scott.

STATEMENT OF S. F. LYBARGER, PRESIDENT, HAIC, AND EXECUTIVE VICE PRESIDENT, RADIOEAR CORP., AND JOHN J. KOJIS, IMMEDIATE PAST PRESIDENT, HAIC, AND PRESIDENT, MAICO HEARING INSTRUMENTS

Mr. LYBARGER. Thank you very much, Senator Scott.

Mr. Chairman, it is a pleasure to be here with you today. As Senator Scott has mentioned, I am here as the president of the Hearing Aid Industry Conference. I might mention also that I am executive vice president of Radioear Corp., which has been a developer, manufacturer, and marketer of hearing aids and related products for the past 44 years.

Since I stepped into this office in the Hearing Aid Industry Conference in midstream in relation to your subcommittee study, I am accompanied today by Mr. John J. Kojis, who was president of the Hearing Aid Industry Conference last year and who originated our communications with your committee. Because of this background, as the first part of our presentation, I would like to ask Mr. Kojis for a statement.

Mr. Kojis.

STATEMENT BY MR. KOJIS

Mr. KOJIS. Thank you very much, Mr. Lybarger.

As Sam has indicated, my name is John J. Kojis. Senator Scott asked me to repeat that.

Mr. Chairman, for a long time I have realized that one of the greatest difficulties involved in presenting a fair picture of our industry and our activities has been the lack of our industry to communicate effectively with the public. I have always felt that reasonable men searching to answer a problem would, if they were armed with the same facts, come to at least similar, if not the same, conclusion. It is my hope that the presentations made here today on behalf of the Hearing Aid Industry Conference will add to that essential bank of facts that will help this committee in its work.

Since I am here to present a few comments about our organization, I would like to have it known I cannot, and do not, speak for any individual manufacturer.

Senator CHURCH. Are you, yourself, a manufacturer?

Mr. KOJIS. Yes.

The members of our organization have set their sights for a high level of achievement. From the basic scientific concepts, right through the fitting and sale, and then the long service for the effective life of the instrument, you may be sure progress has been made and will continue at every level. The entire industry is pledged to constant improvement of our product, our marketing, and our service to the user.

We find we are more attuned each day to those age groups which deserve, need, and get special attention so that they may become participating and contributing members of our society. One of these groups is the very young who need amplification, infants who are profoundly deaf but who can benefit from hearing the most elemental sounds, simply because they thus are made aware that there is such a thing as sound.

Second, of course, we are particularly attuned to the elderly, and are aware of the indigent elderly. Members of our industry provide services to these users in thousands of instances throughout the Nation every day. To this elderly group we are devoting a considerable effort and we are responding positively to our responsibilities.

It is estimated that today there are about 4 million people with a loss sufficient to require a hearing aid but who refuse to avail themselves of this help. The reasons for their reluctance to do something about their hearing problems are multiple. They range from vanity to prejudice, to lack of knowledge, to economics. We are certain that one important cause of their remaining only on the fringe of society is just plain lethargy.

FIVE-YEAR DELAY BEFORE HELP IS SOUGHT

It has been established that the typical user of a hearing aid suffers a significant loss for about 5 years before taking steps to get a hearing aid. Some people suffer with a substantial hearing loss for three or four decades despite the fact that they are only marginally in touch with society because of it.

We have observed an unmistakable truth in our field—that most people who are becoming deaf will not initiate a program to get help—to get amplification for their residual hearing. The initiative in the great majority of cases must come from our industry—the people whose products can bring many of these hard-of-hearing people back into a normal world of sound, productive work, and social participation. I think you can all appreciate this point, especially with reference to the elderly.

As manufacturers and dealers we have a special appreciation of the relationship of the elderly citizen to our industry. Not only does he form a substantial part of our market, but he also places on us special demands.

But the help we can provide for them—in restoring the element of brightness and worthwhileness to their surroundings and to their lives—is often very difficult to render. I would suppose that many of you can recount personal experiences with some of the elderly among your family or friends that would illustrate the difficulty of getting them to obtain hearing aid help.

Another factor that compounds our problems in helping the elderly is the matter of service. Again, please understand our concern for our elders, but also do understand there is an enormous problem in educating this group in the use of their hearing aids and assisting them during their acclimatization to them.

Skilled Personnel Needed

Because of these factors, it is necessary for the dealer to have increasingly intelligent and skilled technical sales personnel to perform this rather complex practice of selling, fitting, and servicing hearing aids. These people must be dedicated and well-trained in the technical aspects of determining for each prospective buyer the manner in which the hard-of-hearing person's residual hearing may best be aided by amplification.

Now, if I may, I would like to take just a few moments to amplify a little of what Dr. Stewart said, I think it would be of help to this committee. I realize the time is short so I will hold my comments down to a minimum.

Dr. Stewart gave the illustration of the aids that we did have here, and just recently I think some of you may have seen in the national magazines an ear trumpet that we had out here, one very similar to the one used by Queen Victoria, I think. There was another tremendous ad run by a battery company showing a battery of 30 years ago used with a hearing aid that was about the size of one used in a Mack Truck and also a tremendously large headset. I think it is important for you to know that the progress that has been made toward miniaturization has been directed to try to avert some of the problems that Miss Fabray brought up and those were the ones of vanity, primarily. Many of us think it is more important for a hearing aid user to be wearing a hearing aid that is 80 percent effective than to have one that is 100 percent effective and setting in a dresser drawer. There are times when the tests indicate the type of hearing aid which may be an extremely large one, and we find that the person who buys this is not particularly interested in wearing it.

Dr. Stewart also mentioned that there were aids that did have adjustments. I might say that there are aids now on the market that can be adjusted by the dealer for the various frequency responses. There is no necessity to go back to the factory for these.

Second, there are a tremendous number of changes that can be made in the response curves by addition of elements outside the hearing aid itself, such as the earmold being vented, bored out or fitted with filters. Filters range all the way from lamb's wool to sintered stainless steel filters. Batteries were mentioned. Senator Carlson asked how long they lasted. There are hearing aids on the market that have batteries that last for 500 hours.

Dr. Stewart brought out the audiogram.

Senator CHURCH. May I ask, Mr. Kojis, when you say, 500 hours—are you referring to miniature aids?

Mr. KOJIS. Yes. I might say that it may be well for the committee to take a look at what has happened in England where hearing aid distribution has been socialized. As I look at the aids we have on this table, I cannot help but be proud of what the hearing aid industry has done. Without Government support or help we are far in advance of the technological progress that has been made in England. I might say that in England, too, even though hearing aids are available on a fully free gratis basis, there are still a tremendous number of hearing aids being sold by dealers who take the time to find the person that has the problem.

Dr. Stewart indicated, and I think you gentlemen did get a good picture of what an audiogram was, but lest you be misinformed, an audiogram in itself is not the perfect answer to fitting the hearing aid. You cannot read the audiogram, select a hearing aid and walk away merrily from the satisfied customers. If this were so, then I think what we should do is have each company hire a certified, qualified audiologist, analyze the audiograms that are sent to us, we could then send the hearing aids out and things would go merrily along. We are still, I feel, in an area where art rather than science is dictating a great many of our answers. I know that Mr. Lybarger's testimony will answer a lot of the questions that I anticipate you will ask of us, so rather than answer any questions now, let Sam proceed if it would be your pleasure.

Senator CHURCH. Yes. I have one question I would like to ask you concerning the long-life battery you mentioned. What is the cost of that kind of earphone?

Mr. KOJIS. The same cost as any other in that same category.

Senator CHURCH. The battery itself?

Mr. KOJIS. The battery is not any more expensive.

Senator CHURCH. Is that right?

Mr. KOJIS. This is due to a special circuit that is used in the aid. The aid is not as powerful as many of them, it takes care of lighter losses and fulfills a need in the marketplace.

Senator CHURCH. I see.

I think since we are at 12:30 this might be a good breakoff place, and then we will have the benefit of your full testimony without interruption, if that is all right with you.

Mr. LYBARGER. Certainly, that is fine.

Senator CHURCH. I would suggest that we adjourn for lunch and come back again at 2 o'clock.

(Whereupon, at 12:30 p.m. the committee was recessed until 2 p.m. the same day.)

AFTERNOON SESSION

Senator CHURCH. The hearing will come to order.

Mr. Lybarger, we await your testimony this afternoon, so will you please proceed at this time.

Mr. Lybarger.

STATEMENT OF SAMUEL F. LYBARGER

Mr. LYBARGER. Thank you, Senator Church.

Mr. Chairman, at this point I want to congratulate you and the committee for the constructive approach that it has exhibited in serving the interests and needs of the elderly. We are particularly interested in this present activity of your subcommittee because it will unquestionably provide impetus and momentum to the various arms and disciplines of the hearing field in their many efforts to improve service to the elderly.

Since my presence here today is to tell you about our organization, I should like to make one point absolutely clear at the outset: I cannot and do not speak for any individual member manufacturer: my participation is strictly as the current president of the Hearing Aid Industry Conference.

Today we are talking about and dealing with the serious problem of loss of hearing among people of all ages, one that strikes without regard for age, economics, or social position. Thus we are confronted with a national health problem. Loss of hearing is America's No. 1 physical impairment. Approximately 8 million of our citizens are afflicted, according to a U.S. Public Health Service study. Among persons over 65, however, the hearing problem is particularly prevalent and severe. In this group, more than 13 percent have a hearing impairment. This age group of Americans over 65 represents over half of all of our people with hearing impairments, again according to a U.S. Public Health Service study.

We have learned much in the past years concerning what can be done to alleviate this impairment among people of all ages, but much remains to be done.

Perhaps at this point I should pause for a moment to make sure we all know what a hearing aid is. At the risk of being elementary, I will just briefly say that today's hearing aid is an electronic device that amplifies sound for the individual using the hearing aid.

A person's remaining hearing is all there is to work with in cases of impairment. The task confronting hearing aid dealers is to build up sound for the person with a hearing aid in order to reach as near-normal hearing as possible.

The complete hearing aid has four elements—a microphone to pick up sound, an amplifier, a tiny speaker, and a battery power source. Some units have cords and nearly all have earmolds.

An earmold is usually a plastic plug that fits quite precisely the conformation of the user's ear. The earmold makes the whole instrument more effective by transmitting the amplified sound to the ear

canal. It is a difficult task to take an impression of the ear and to make a good, comfortable earmold. Dealers are well trained and proficient in this part of the fitting process, and they've been doing it for years, of course.

This work of fitting hearing aids requires special knowledge, training, and practice. In my judgment, the hearing aid dealer is eminently qualified through his training and experience to do this work in a most capable fashion.

The modern hearing aid industry is comparatively young, and certainly dynamic. This is especially true when you consider that the great thrust forward in hearing aid performance and convenience came in the last 15 years with the invention of the transistor.

While I have been in and around hearing aids for more than 30 years, I have seen firsthand—as a user and as a manufacturer—the revolutionary changes in the size, convenience, and performance of hearing aids which have come about in the past few years.

6,000 Sales Locations

The industry has blanketed the country with inventories, sales and service centers, and with qualified specialists in the fitting and use of our product. Today there are approximately 6,000 locations staffed by some 20,000 people, where you can walk in and get hearing aid service—ranging from a new battery to complete repairs or replacement parts—and of course you can buy a new hearing aid. These locations are equipped with devices such as audiometers to determine prospective users' hearing aid requirements. We thus have taken inventories and service locations to the people who need help, wherever they are. In most towns of any size at all the consumer has a choice of at least several different dealers and brands. Then, to receive this total service, he may select from these trained specialists in fitting and selling hearing aids and, if he wishes, have them come right to his home for fitting and service. And, I might add, this home service is an absolute must in many instances among aged customers, and this is an important aspect of our responsibility.

These dealers provide the vital and costly after-sale guidance and service that make the hearing aid a successful device for the user, a service provided by no one else.

We are proud of the development of this vast distribution system, Mr. Chairman. We believe it is a very substantial national resource in the public and consumer interest and for the total American medical and paramedical spectrum. With continuing refinement and intensification of our coverage and marketing efforts, this resource will become an even stronger base for continuing and expanding services to the hard of hearing of all ages.

I know of no way to serve more people, more economically, more satisfactorily, more promptly, or more reliably than by the expanded use of this system.

Inherent in the industry today, then, is a remarkable distribution system with the following priceless elements: (1) a widespread, diverse inventory of products, equipment, and spare parts; (2) trained specialists in fitting, sales and continuing after-sales services, reliably serving every community in the Nation; (3) reliable and responsible business-

men operating on a competitive, profit-oriented, long-term basis—all playing a role in putting the hearing aid as a public health asset at the disposal of the citizen in need, when and where he needs it.

We believe the U.S. Public Health Service figures testify to the success of the system. The Service says 93 percent of hearing aid wearers who use their aids constantly are satisfied with the performance of their hearing aids. We submit that this figure is hard to beat in any industry.

Now, I should like to tell you what the Hearing Aid Industry Conference is and what we do, and it seems fitting to read you the "purpose" of our organization as defined in our bylaws. Article II states that the purposes of the organization are:

HAIC—Statement of Purposes

1. To establish, foster, and advance the usefulness of the members and their various electro-acoustic hearing aid products to deafened humanity.

2. To cooperate in and contribute toward the rehabilitation and readjustment of the deafened, to enable them to increase their usefulness to society.

3. To collect and disseminate trade statistics and other useful information; to carry on and assist in researches, investigations, and experiments in connection with the said trade to advance any objects or purposes of this organiaztion.

4. And, finally, to voluntarily extend aid or assistance, financial or otherwise, and to cooperate with such private or Government bodies, corporations, associations, institutions, societies, agencies, or persons as are now or may hereafter be engaged in while or in part in the furtherance of the objects and purposes herein named.

Mr. Chairman, I am able to report to you today most genuinely that the Hearing Aid Industry Conference is successfully pursuing and accomplishing these objectives.

The Hearing Aid Industry Conference is a 12-year-old national association of manufacturers of hearing aids and hearing-aid components. Membership includes companies which manufacture or sell nationally approximately 85 percent of the hearing aids in the United States today.

Perhaps our function and goals will be explained in part by the code of ethics [1] for the hearing aid industry, prepared and subscribed to jointly by the Hearing Aid Industry Conference and the National Hearing Aid Society. The code of ethics is a voluntary effort that signifies an intent to provide the best possible service to those who are hard of hearing and to the public in general. With the code our Hearing Aid Industry Conference members recognize a special responsibility to the hard of hearing. And we pledge to provide the best possible service, understanding, and technical assistance to help them derive the maximum benefit from their hearing aids.

The code of ethics states that all advertising and public announcements covering hearing aids and other industry products relating to the performance, appearance, benefits, and use of hearing aids will state only the true facts and will not, in anyway, attempt to misrepre-

[1] See p. 298 for complete text.

sent products or mislead the consumer. This code of ethics was adopted in January of 1960 and was revised in January 1963. It is interesting to note that this industrywide voluntary effort preceded the action by the Federal Trade Commission in updating the trade practice rules, which today closely parallel our code. The Commission's action came in 1965.

The Hearing Aid Industry Conference performs some vital functions for the industry in the public interest—several have been mentioned—and I want to tell the committee somewhat more about these activities.

The Hearing Aid Industry Conference's public service and public education programs have included participation Better Hearing Month, publication of information brochures on hearing and hearing aids, development of a world's fair hearing display, production of an historical hearing-aid pageant, sponsorship of a nationwide program to provide free hearing tests by telephone, participation in numerous research and technical standards committees, the donation, through individual members, of a great many hearing aids each year.

While there are hundreds of examples of this kind of philanthropy and a dedication to furthering the state of the art by dealers and member manufacturers, one of the most interesting efforts was our joint effort with the dealers in establishing for the people-to-people project's SS *HOPE* a complete hearing aid setup, with audiometers, inventory, spare parts and batteries and all of the rest that is required for an ongoing service of this kind. The ship this year is in Ceylon. The Ceylonese ambassador, as well as the *HOPE* management and its staff audiologist, were so grateful and pleased I shall never forget it. It is a source of continuing joy to know that hundreds of people on that remote island of Ceylon are today living better lives because of our companies' effort to team up with the dealers' association and put across this program for *HOPE*.

The Hearing Aid Industry Conference assists various Government agencies in a number of programs. I have cited our relations with the Federal Trade Commission.

Another area of constructive cooperation I will simply mention in passing now is the landmark agreement between the Health, Education, and Welfare Department and the hearing aid dealers of the Nation. This is the kind of partnership between Government and private industry that can best serve the interests of the hard of hearing.

As you know, Mr. Chairman, we have assisted your committee and others in the Congress through the years in assembling research details and other information.

Communications With Others in Field

Also, the Hearing Aid Industry Conference cooperates continuously with a member of other organizations which also are devoted to the cause of the hearing handicapped everywhere. We are also a member body of the United States of America Standards Institute. Many of our members are affiliated with the National and local Better Business Bureaus.

To foster closer relationships and effectiveness among the groups that constitute the hearing health team, there was formed several years ago an organization known as the Inter Agency Committee. Results of

this activity have been most rewarding and at the moment there is progress on several fronts.

This committee is composed of representatives of the American Academy of Ophthalmology and Otolaryngology, the American Speech and Hearing Association, the National Association of Speech and Hearing Agencies, the National Hearing Aid Society and, of course, the Hearing Aid Industry Conference.

This interagency group is actively studying the question of hearing aid dealer licensing and also the difficult problem of hearing aid inventory in clinics, and the potential use of a master hearing aid for fitting of hearing aids. One of the additional objectives of the committee is to study the roles of each of the groups represented on the committee.

The end result of these achievements, we hope, will benefit the hard of hearing public.

Perhaps you would like to know something about the Hearing Aid Industry Foundation that was started several years ago. It is still small, but its objectives are big, and we have high hopes for its contributions and achievements in the future. The Hearing Aid Industry Foundation is a nonprofit organization established by the Hearing Aid Industry Conference in cooperation with the National Hearing Aid Society. Each organization gave equally to its original funding.

The foundation was created to help the cause of continuing research and rehabilitation for the hard of hearing.

The foundation has already made grants to three important institutions that conduct research and educational programs for deaf children and their parents.

An example of our activity that has benefited the medical profession, the audiologist and the public, as well as our own members, is our work on technical standards. As early as 1945 a predecessor organization to Hearing Aid Industry Conference, with many of the same members, published the world's first standardized method of making measurements on hearing aids to determine their electrical and acoustical performance.

The initial work was continued by the American Standards Association with many Hearing Aid Industry Conference members participating, and improved measurement standards for hearing aids followed the initial effort. These became the bases for the present American and international test standards.

About 1960, Hearing Aid Industry Conference became concerned about the uniformity of expression of hearing aid performance. Five or six different ways of stating the gain or amplification of a hearing aid were used, making it difficult to determine from reading an advertisement or specification just how strong the hearing aid really was. A uniform, positive method of numerically stating the gain, output, and frequency range was developed through the Hearing Aid Industry Conference Standards Committee and has proved highly useful. This system has become international in use and a parallel system has been adopted by the USA Standards Institute.

In the field of hearing testing, Hearing Aid Industry Conference standards activity has been extremely useful. Cooperating with many universities and the National Bureau of Standards, Hearing Aid

Industry Conference released in 1965 a report entitled "Interim Bone Conduction Thresholds for Audiometry."

This provides a uniform method of calibrating the bone receiver on an audiometer—the device used to measure hearing loss. The importance of a uniform system of bone conduction testing is evident when one realizes that an otologist's decision on whether to perform ear surgery hinges very strongly on bone conduction audiometry.

Work of Standards Committee

The Hearing Aid Industry Conference Standards Committee is continuing its studies of proper ways to measure hearing aid performance so that information supplied to dealers, physicians, and audiologists can have the greatest meaning and so that development of improved hearing aids for the American public will be made easier.

Research and development is an ever-continuing major activity of individual members of the Hearing Aid Industry Conference. In addition to this, we have a research committee composed of outstanding hearing aid engineers who are working on items of common interest to our members.

One of their primary tasks is to review constantly the literature pertaining to hearing aids and hearing and to provide condensed reports on articles of interest to our members.

Another assignment they are working on currently concerns the telephone pickup coils found on many modern hearing aids. Ways are being sought to overcome the problem created by new telephone designs that virtually make efficient pickup impossible—to the great detriment of the hearing aid user with a severe hearing impairment.

The committee is working diligently, and in close cooperation with the U.S. Public Health Service, on the problem of keeping audiometers in the field accurately calibrated. Audiometers are a major product of Hearing Aid Industry Conference members.

The committee has recently undertaken the task of studying master hearing aids to provide the background material for our standards committee in determining the feasibility of standardizing the characteristics of such devices.

A very vital activity of the Hearing Aid Industry Conference is the statistics program. You are familiar with this, Mr. Chairman, because statistical information for the past 5 years was supplied to you in Mr. Kojis' [1] response to Senator Williams' original letter to us.

This information is of great importance to our own members. The estimate of the total number of hearing aids sold in the United States, and percentages of various types of hearing aids, whether body-worn, behind-the-ear, eyeglass or in-the-ear, are made public.

As in every profession and business today, continuing education is a must. I am pleased to relate to you today just a bit of the detail that makes the continuing education program—as well as the basic training—for hearing aid dealers so successful. As manufacturers, we give this matter of qualification in technical and ethical matters high priority, of course. The overall progress is constant in our basic job of establishing qualified, reliable people throughout the country. This too, Mr. Chairman, is deeply gratifying.

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[1] Text on p. 211.

There are many avenues of education open to the dealer and fitter. For many years these programs have been conducted by the individual manufacturer, as they will no doubt continue to be in the future.

The Hearing Aid Industry Conference pioneered in raising dealer qualification through formal educational programs. To supplement individual manufacturer training, the Education Committee of the Hearing Aid Industry Conference sponsored a series of training seminars at outstanding universities. Leading physicians, audiologists, and hearing scientists conducted the courses.

Following that, the hearing aid dealers organization, the National Hearing Aid Society, developed an excellent correspondence course that is available to all hearing aid dealers, and that further supplements individual manufacturers' training programs.

Other excellent courses are being offered as well, so that the industry now has the best situation it has ever had with respect to dealer training.

Mr. Chairman, Mr. Kojis mentioned that a hearing aid is not a quickly accepted device. Those who need them often go for years without taking action even after their physician has advised them a hearing aid is needed. Hearing aid dealers thus have great psychological barriers to overcome. In a sense, we are selling a product that no one wants—at first.

There is one group that is largely responsible for the benefits that are being enjoyed by over a million hearing aid users in the United States—the hearing aid dealers.

95 Percent Buy From Dealers

Of the approximately 400,000 people who buy hearing aids each year, more than 95 percent of them enjoy the benefits of this hearing help through the efforts of a hearing aid dealer.

The hearing aid dealer has effectively persuaded the reluctant person who can truly benefit from the use of a hearing aid to take the action of buying one. The dealer has, through experience and education and with the manufacturer's capable assistance, fitted the hearing aid to provide a type of sound amplification that gives significant hearing help. He has made an earmold to comfortably fit into the user's ear to convey sound to it. He has carefully and repeatedly instructed the user in the operation of the aid. He has provided service facilities and know-how to keep the hearing aid "on the air" and often travels long distances to render service, particularly where the elderly are concerned. He provides the help, encouragement, and guidance that a new hearing aid user needs to bring him back to the world of sound. In short, the hearing aid dealer is the key to hearing aid success, not only for the elderly, but for all users.

I have made this comment about the hearing aid dealer because the effectiveness of the Hearing Aid Industry Conference and its members hinges on the demonstrated ability and the performance of hearing aid dealers. They are the agency through which successful handling of the hearing aid problems of the elderly are being and will continue to be solved.

Mr. Chairman, we in the Hearing Aid Industry Conference hope we have been of assistance to your committee. We trust we shall have op-

portunities to lend our support and resources as you may wish to use them as your work progresses.

Thank you.

Senator CHURCH. Thank you very much, Mr. Lybarger.

You are wearing one of the hearing aids of your manufacture?

Mr. LYBARGER. That is correct.

Senator CHURCH. How long have you had to wear one?

Mr. LYBARGER. I have worn a hearing aid for approximately 6 years. I first wore what is called a behind-the-ear aid and now I am wearing a hearing aid built into eyeglasses.

I might explain this. I have essentially normal hearing on the right side; I do have a little loss in the higher frequencies. On this side I have about a 40-decibel hearing loss. I believe Dr. Stewart demonstrated this morning about what a 40-decibel loss does.

Senator CHURCH. Yes.

Mr. LYBARGER. I can hear without a hearing aid in most situations. There are some situations in which I cannot hear at all without a hearing aid, one of them being in an aircraft with a very high noise level, and somebody sitting on this side, unless I turn my head. So this is of tremendous benefit to me in a situation like that, in a situation where there are a group of people in a meeting or conference. Surprisingly one of the most striking places where a hearing aid benefits me is in listening to high-fidelity sound. With one ear the sounds are terrible and with both ears it sounds wonderful.

The hearing aid has a limited frequency range compared to a high-fidelity system, but the fact that over a reasonable part of the important frequency range I am getting hearing on this side and the other side makes a tremendous difference.

Senator CHURCH. Did you have any problem adjusting to it when you first began to wear it?

Mr. LYBARGER. I didn't have too much of a problem because I do have mostly a conductive hearing loss, which is a fairly easy type of hearing loss to overcome.

Senator CHURCH. Do you franchise your dealers?

Mr. LYBARGER. In the sense that you are speaking now of my own company?

Senator CHURCH. Yes; your own company.

Mr. LYBARGER. We do in the sense that we have a contract with the dealer. We do not sell the franchise, however, if this is what you mean.

Senator CHURCH. But you do have a contract comparable to the kind of contract that an automobile manufacturer might have with its dealers?

Mr. LYBARGER. I am not prepared to state what other people would have; I don't know what the total situation is.

Senator CHURCH. What I am trying to get at is: Do those that sell your products also sell others or do they sell yours exclusively?

Mr. LYBARGER. I would say that this is, of course, a choice of the dealer. Our contract is such that he can sell other than ours if he so desires.

Senator CHURCH. Now, this morning when we were hearing from the doctors, Dr. Stewart, I recall, said that he felt anyone who was in need of or thought himself to be in need of a hearing aid ought first

to have a test made by someone competent to make it in order to determine the nature of his problem and in order to ascertain what hearing aid, if any, he could be given. Do you think that a test ought to be given to any person who might be a prospective purchaser of a hearing aid?

Mr. LYBARGER. You mean should a test be given, for example, by a hearing aid dealer?

Senator CHURCH. Yes. I am not now trying to determine who should give it. I am just trying to determine whether a test given under the present state of the art, within the capacities of the art, should first be administered before a hearing aid is sold.

Mr. LYBARGER. I would say generally the answer to this would be yes, and I would say also that it is generally always done.

Now, when I say always, I think there may be exceptions, but I am trying to think of an exception right now and I cannot really think of one. I mean generally speaking this is done.

Senator CHURCH. Is this written in as a requirement in the contract of your dealers?

Mr. LYBARGER. That he give a hearing test? Well, I cannot be positive, but I don't recall that that specific point would be covered in the contract. I don't think it would be.

Senator CHURCH. Don't you think it should be?

Mr. LYBARGER. Whether it should be? I would say this is almost completely covered by the types of instruction manuals and the fitting manuals that we supply to hearing aid dealers. The settings, for example, on the hearing aid are based on the test that he would make. So this is covered in that area rather than in a contract.

Senator CHURCH. Would you tell me how a proper test would be conducted? Tell me something about an audiometer and the physical arrangement that is necessary for the conduct of a proper test.

WHAT IS NEEDED IN AUDIOMETRIC TESTING

Mr. LYBARGER. Well, I could only tell you this as applies to our particular system, because different manufacturers do have different procedures on this. In our particular situation, the person would be given an audiometer test over the important speech range by air conduction in both ears. He would then be given a test at at least three frequencies by bone conduction to determine the bone conduction hearing loss.

On the basis of these two sets of data he would draw an audiogram, he would calculate the average hearing loss by air and the average hearing loss by bone conduction.

Then we have developed over a good many years a formula that we use for calculating what we call the operating gain of the hearing aid. This is based on experience and it is based on comparison with other published information, and we would come up with a figure that would give us a first-degree approximation of how much amplification this person should have for that particular type of hearing loss.

Then we have for each one of our hearing aids a chart. That is, it has categories on it for different types of audiograms, whether the audiogram is a flat audiogram or a sloping or suddenly sloping audiogram. By reading into this chart on a scale the amount of amplification that we predict he should need, one comes across and immediately

gets the setting of all of the controls on the hearing aid, how much battery voltage he should use, whether he should cut the low frequencies, whether he should use a filter to reduce the middle-frequency amplification, whether he should cut the high frequencies and so forth, because most of our hearing aids are made with adjustments that permit a——

Senator CHURCH. The chart will show the adjustment?

Mr. LYBARGER. Yes. The hearing aid is then set to those adjustments. Then he makes whatever speech test or conversation tests that he feels are necessary and then makes a secondary or even a tertiary trimming, you might say, of the hearing aid performance to meet the needs of that particular person until he gets what he feels are the best results.

Senator CHURCH. Now, in conducting this test, I take it that it is necessary to conduct it in a quiet room, in a situation where there are not other noises or disturbances that might affect the result; is that correct?

Mr. LYBARGER. This is true. I would think you will find that the majority of hearing aid dealers if they do not have a soundproof room do have a quiet place where this test can be conducted. The type of hearing loss that is difficult to measure under noisy conditions is one where you have almost normal hearing in a certain portion of the spectrum and then the hearing is down somewhere else. Of course, the fact that you will hear noise here would affect the readings over here.

Senator CHURCH. What I am driving at is, is the nature of this test the kind that can be conducted satisfactorily from door to door with equipment that the salesman might carry?

Mr. LYBARGER. Under most conditions we don't get very many people who decide they need a hearing aid when they have only got a 20-db hearing loss, or a 25. Usually they have a substantial hearing loss before they become interested in a hearing aid. So you get a certain amount of margin there.

If you do go into a residence, for example, where the noise level in the living room, let's say was 40 or 50 db, and put the earphones on someone, you could make a reasonably good audiogram for the purpose at hand, not perhaps for diagnostic purposes but for the purpose of deciding approximately how to set the hearing.

I think you can do a reasonable job. Obviously, you could not do a good job in an extremely noisy place; it would not be possible.

Senator CHURCH. Well, as far as your own dealers are concerned, you don't lay down any hard and fast rules concerning how these tests should be conducted then? I take it you have a general procedure in the conduct of the test itself, but apart from that you don't prescribe to your dealers the conditions under which these tests should be given in order to be——

Mr. LYBARGER. I think only as a matter of general education and general knowledge we would not force a dealer to use a specific setup. I think they are well aware of what most dealers are pretty well aware of, what the problems are.

Mr. KOJIS. Senator Church, if I may add, it is common practice that the test be given in the industry so it is not thought necessary to write this into the contract.

Senator CHURCH. I am just wondering to what extent you actually supervise the matter or police the matter for yourselves.

We get these reports coming in to this committee of what would seem to be rather serious abuses where dealers and salesmen are engaging in what, based upon what we have been told, would have to be considered very sharp practices. I don't know how widespread this is, but certainly we are getting these reports from various parts of the country by people who feel they have been swindled.

I am trying to determine to what extent manufacturers assume some responsibility in policing this operation so that the ultimate consumer has some measure of protection. Or do you feel that this is not your responsibility?

Mr. LYBARGER. Well, I think it certainly is our responsibility to police this and I think this is done generally by a trained fieldman from the manufacturer calling regularly on dealers and making sure that he has the right training, that he has the right equipment to do the job. I think most manufacturers provide this guideline for dealers.

I know the use of a measurement of hearing for the purpose of determining hearing aid requirments is something that has been going on for a long time. Earlier in my testimony I said I had been in the industry for over 30 years but that was so I would not look quite so old. Actually I have been in the industry about 39 years. I can recall at the time I first started that while the use of the audiometer was not as prevalent or as universal as it is now in hearing aid dealers' offices, it was, nevertheless, being done then in many offices. The old Western Electric 2-A audiometer was a good one and even at that time in the early 1930's was being used in many offices.

Senator CHURCH. Dr. Stewart, I believe it was, testified this morning that there are any number of afflictions of the ear that are not reached by hearing aids and cannot be remedied by hearing aids. Is it possible to determine when you give an audiometer test whether or not the hearing impairment is of the kind that can in fact be assisted by a hearing aid, or whether it is of the kind that cannot be assisted?

Mr. LYBARGER. I think Mr. Kojis mentioned this briefly before lunch. Maybe he would like to expand on that a bit. I would be glad to, too.

Mr. KOJIS. Well, the first note I would like to make on the question you ask is that we are not diagnosticians, we simply measure the residual hearing. It is not in the province of the hearing aid dealer to try to make a diagnosis, he is not in any sense trying to be a medical man. However, there are in the tests that are made the test that shows an air-bone gap which Mr. Lybarger alluded to. Even the layman can determine, if it is over a certain db stretch that a conductive loss exists. Conductive losses can in a great many instances be helped through surgery.

I think that this observation can be made. Dealers not always make, nor are they trained specifically to make, these observations because this practice starts getting into the medical province and, frankly, the industry and the dealers themselves want to stay out of this.

Senator CHURCH. I understand that. It is the other side of the coin I was really reaching for. Would these tests indicate hearing impairments of an order that would not be helped by a hearing aid? I mean is it within the capacity of the audiometer to make that kind of an indication?

Mr. KOJIS. The audiometer will only give numbers. The interpretation is where the real skills come in and these medical diagnostic skills are not the skills of the hearing aid dealer. This is a diagnosis you are asking for; because the audiometer will not come up with a red or green light saying an impairment exists.

Mr. LYBARGER. However, Senator Church, I would say this type of a hearing test will generally, through the thousands and thousands of observations that have been made over the years, give you a very good idea of what the hearing aid possibilities are.

Now the case where an audiogram indication does not work out at all with the hearing aid when you apply the hearing aid is rather a rare situation rather than a common one, because generally you can tell and, of course, then you do tell. You find out whether the hearing aid is performing, whether it is amplifying properly, whether the person is hearing well. I mean you don't stop with the audiometer test because the final test is in application of the hearing aid.

ADVANCES IN TECHNOLOGY

I would like to say this, that sometimes some of the people outside the hearing aid industry may not always appreciate and some of us in the industry don't always appreciate some of the developments that are available for some of these situations.

We are seeing, for example, a new technique to overcome the type of hearing loss that Dr. Stewart described where the hearing is essentially normal in the low frequencies and drops off very rapidly. If you will recall his recording, the intelligibility becomes very poor when you take the high frequencies out of the situation. There is a new technique and this was originally developed by Dr. Harford and Dr. Barry at Northwestern University who are audiologists. This technique is what is called CROS, and it involves the use of just a plain tube that is placed in the ear canal and the ear canal is left open so it receives the low-frequency tones normally, and through the hearing aid it amplifies and, you might say, injects the consonant sounds into the ear canal where they are heard.

It is amazingly effective in this type of hearing loss that Dr. Stewart mentioned which previously was not always susceptible to frequency response correction.

Senator CHURCH. We had some testimony this morning by Dr. Eagles and he said:

> Too many people are still being fitted with hearing aids who cannot be helped by this means at all.

We touched upon that question just a minute ago. You seem to feel that these cases are very rare, if I understood you correctly.

Mr. LYBARGER. I think they are.

Senator CHURCH. He continues in his testimony:

> Too many are being sold the wrong type of hearing aid, and most tragically of all, too many with remedial ear diseases are going undiagnosed while they try one hearing aid after another until they pass the point where the disease is remedial.

If he is correct, then one thing that we ought to look at very carefully is the extent to which present practices in the sale of hearing aids may be misleading people and not necessarily because this is

the intention but because the method of sale, distribution, and testing that is now going on is having this effect.

He goes on to say:

> In a recent analysis of statistics from the national health survey it was indicated that 34 percent of persons with binaural hearing loss have never been tested by a medical doctor and that only 18 percent have had their hearing tested within the two years prior to the interview. This lack of medical attention is the major reason for dissatisfaction with hearing aids and for their abandonment.

What comment would you have to make on that, Mr. Lybarger?

Mr. LYBARGER. Well, I think we need more information on the statistical end of it, perhaps through the hearing aid industry where we are selling the hearing aid. I think, generally speaking, what we are seeing mostly is that people have seen an ear physician in a majority of cases before they want to buy a hearing aid.

Now, those figures would not indicate that, but I am speaking now of what our observations in the industry would be. I, of course, would prefer personally that a person does have such examination prior to getting a hearing aid or at least within some reasonable time prior to that. However, this is a decision that the individual himself will make and has the right to make.

I don't believe that we can force him to do this if he does not want to do it.

EDUCATING THE CONSUMER

Senator CHURCH. I agree with that, but I am wondering if we could not help educate him to do it. I would not think that the legitimate hearing aid industry is a bit interested in promoting the sale of hearing aids to people who have defects that cannot be assisted by this. You are an honest man, I am certain of that, and you are trying to help people who need help. Probably there is a very big market of people that have not yet been reached who could be helped by hearing aids and should be. There is advertising. There are drugs, for example—medicines and other services that are being advertised today—with an admonition that you ought to see your doctor in this case or that case, this is not a substitute for that, always reminding them that they ought to go first to a doctor of competence to determine what their particular problem might be and then come to whatever assistance can be given by this service or by that drug or by that which is available on the common market.

I am wondering to what extent your industry has undertaken that kind of approach for the sake of better educating people on the nature of ear ailments and what their prudent practice would be.

Mr. LYBARGER. I do know that while this is not universal, many companies have had literature and so forth, that do promote this idea. Certainly, if there is any kind of a situation that a dealer encounters that would indicate that medical examination should occur—he is not in a position to diagnose it, of course—but if he discovers anything that does not look perfectly clear, his immediate recommendation will be to see a physician.

I think you will find that there is quite a rapport between many dealers and otologists where one can help the other.

Senator CHURCH. Now I have a problem this afternoon at 3 o'clock. I am going to have to leave the staff in charge here. I have another conference with the House on pending legislation.

Before I do, I want to ask a question about prices, and then I hope the staff might follow up on that aspect of this inquiry because it is a very important one.

We had testimony this morning that it is possible now, at the present state of the art, to profitably manufacture good hearing aids for, I think the figure given in the testimony was $80. The retail sale of hearing aids, the $300 figure, has been cited several times today.

What is your policy with regard to your dealers? Do you recommend a price to your dealer, or is the dealer free under the contract that you have with him to set whatever price the market will bear? Is the markup over and above your price to the dealer left up to the dealer to determine?

Mr. LYBARGER. Well, I think this is the only legally permissible situation, generally, unless the article is fair traded. We, of course, have recommended prices, but we naturally do not enforce it.

Senator CHURCH. The manufacturer has a recommended price?

Mr. LYBARGER. Yes; we have recommended retail prices. However, the dealer is free to do what he chooses on this. If he wants to reduce the price, for example, this is his prerogative.

Senator CHURCH. You have a price to the dealer?

Mr. LYBARGER. We have.

Senator CHURCH. What is the range of your prices that you sell to the dealer?

Mr. LYBARGER. You mean my own company?

Senator CHURCH. Your own company.

Mr. LYBARGER. I don't have the exact information; I am in the engineering department, not the sales department. The typical price, I think, of our product, and this is a certainly higher figure than yours to the dealer, is on the order of about $135, $136.

Senator CHURCH. So that if the dealer were to charge $300, then he is charging something over 100-percent markup?

Mr. LYBARGER. Roughly.

Senator CHURCH. If you care to supply the committee with a price list, something of that kind, just to be sure that the figures are accurate, we would be happy to have that information.

(In answer to Senator Church's request the following was received for the record:)

RADIOEAR CORPORATION,
Canonsburg, Pa., July 25, 1968.

DEAR MR. ORIOL: One of the questions Senator Church asked me during the hearing last Thursday, July 18, 1968, was to supply more accurate information on hearing aid prices of my own company. In the testimony that I gave, I believe I had indicated they were on the order of 135 or 136 dollars.

I have had prepared a list of our dealer consignment prices, along with our suggested retail prices for those models that we are currently selling, and this is attached to this letter.

It should be pointed out that the net price that the dealer pays us could be somewhat less than the figures given because we do have a cooperative advertising plan that would be applicable on a certain percentage of the sales and also we have what we call an "Achievement Award Plan" that is based on volume of sales.

It is quite possible that the industry's prices to dealers may average somewhat lower than ours, even with these other factors taken into consideration.

We trust this information will be of service to your committee.

Sincerely,

S. F. LYBARGER, *Executive Vice President.*

CURRENT RADIOEAR MODELS

Model No.	Type [1]	Dealer consignment price	Suggested retail price
892	Body	$145.00	$327.50
900	Behind-the-ear	128.50	319.00
930	Eyeglass	134.00	339.00
931	Behind-the-ear	131.00	339.00
940	In-the-ear	130.00	349.50
980, 980-A	Body	145.00	349.00
980, 980-A	Body—Bone conduction	148.50	356.00

[1] All are air conduction except last item listed.

Senator CHURCH. Now, I am sorry but the time has run out on me, and I have to leave. I will leave the balance of the hearing in the capable hands of the staff.

I will see you in the morning. Please excuse me.

Mr. ORIOL. I don't believe there was reference in the chairman's question just now to this figure of 300- and 400-percent markup. Do you have any views; do you think that is fairly common? Do you think that is unusual?

Mr. KOJIS. 300- to 400-percent markup?

Mr. ORIOL. Yes.

Mr. KOJIS. I never heard of it.

Mr. ORIOL. So you think it is very unusual?

Mr. KOJIS. Yes.

Mr. ORIOL. Mr. Lybarger.

Mr. LYBARGER. I think it is unusual. I have no knowledge of specific situations of that nature. There is a wide variety of competitive pricing in this field; it is not a flat price. We are very competitive and there are various things that determine what the final price is—the kind of service rendered, the kind of guarantee that you supply, the amount of research the company does to develop its products. There are a lot of things that enter into the prices and they are certainly not at any particular level. They are over a wide range.

Mr. KOJIS. Let me say that this figure might have been developed by using some of the costs that were given for imported hearing aids.

I am thinking of Japanese hearing aids primarily. These aids may have been sold at a $300 price. This is just an assumption on my part as to where this thing could come from. This is by far a far cry from any normal practice that I know of in the industry.

Mr. ORIOL. Just so we are all sure of what we mean by markup, in your letter of November 15 you say:

> The price markup on hearing aids sold by these outlets is the difference between our standard wholesale price and our suggested retail list price.

Mr. KOJIS. I think this is the markup you are talking about. If a hearing aid were purchased for $80 to $100 from a manufacturer, the difference between that specific price and the final selling price to the customer would constitute the markup.

Mr. ORIOL. Did you have a question on markup?

Mr. MILLER. No.

Mr. ORIOL. We have heard from the National Better Business Bureau that within recent years there appears to have been a marked im-

provement in the quality of advertising for hearing aids. However, some questionable advertising still persists primarily in claims for miniaturization and so-called invisibility. What is the policy of HAIC on such claims? Is this covered in your code of ethics? Do you in any way try to police this kind of thing?

Mr. KOJIS. We hid a little of our light under the bushel a while ago. I wish now to bring to the forefront that both the HAIC and the hearing Aid Dealers Association have ethics committees to which complaints are directed by the better business bureau.

Mr. ORIOL. Consumer complaints?

Mr. KOJIS. Consumer complaints, dealer complaints of all types. I think the dealer group has some figures on their latest scoresheet on what they have accomplished with their group—and I remember our report coming out a short time ago showing that at the moment we had resolved all the problems we did have.

Mr. Lybarger has brought to my attention the code of ethics of the hearing aid industry. I think this is a part of your file showing the objectives of both of our organizations and our attempts to police them.

Mr. ORIOL. We would like that for the hearing record.[1]

Mr. LYBARGER. It is a matter of voluntary persuasion in policing.

Mr. ORIOL. I was just about to ask what happens when there is a clear violation of your code of ethics.

Mr. LYBARGER. I can only speak for the manufacturers' group on that. We have an ethics committee which studies it, makes a decision as to whether they feel it is a violation or not, and then contacts the violator if he is in our organization, and makes efforts to get him to change it, which usually is fairly fruitful.

Of course, this is backed up by the rules for interstate commerce, in which practically all of our members are engaged, with the Federal Trade Commission's trade practice rules for the industry.

I think there has been a great deal of cooperation between our members and the FTC in working out some of the aspects of advertising that are acceptable and in accordance with the rules and so forth. Many of us are working closely with them to improve the total advertising situation.

I think it is much better, as you say, now than it was say 5 years ago.

Mr. ORIOL. These claims for miniaturization are difficult, aren't they? We have one here—I will not mention the name—tiny hearing aid worn all in the ear. The person who sent it to us points out to us that this type of aid is useful generally only to people with very insignificant hearing loss practically

Mr. LYBARGER. I would not agree with the word "insignificant."

Mr. ORIOL. That is my word.

Mr. LYBARGER. I would say small, not insignificant. In fact, I would like to quote you some figures on the types of hearing aids that are sold. There has been quite a change in the mix, let's say, of the types of hearing aids over the past many years.

For example, let's take a period—well, let's say 1962 which would be 5 years from last year. In 1962, 21 percent of the hearing aids sold were the body type, the type that you put in your pocket and have a cord

[1] See p. 298 for text.

going up to a receiver at the ear; 34 percent were the eyeglass type similar to what I am wearing; 41 percent were behind-the-ear aids; 3.1 percent were the in-the-ear aids which at that time were not always quite in the ear—they were a little on the large side—nevertheless, they were contained in the area of the ear.

Now today, based on our 1967 statistics, this has changed so that the body aids now represent only 15 percent of the market; the eyeglass-type aid is down to 25 percent; the behind-the-ear aid is up to nearly 50 percent of the total; and the in-the-ear aid which has received a great amount of attention in development and engineering has gone up to 10 percent—about three times what it was 5 years ago.

This is a very practical aid for many types of hearing losses and is really a very tiny aid. I think Mr. Kojis might be able to give us an idea——

Mr. KOJIS. I was going to ask, Was your question specifically as to the size of the aid or as to its effectiveness in solving the hearing problem?

This happens to be a competitor's aid, so I am not trying to sell you this.

Mr. ORIOL. I will show you the picture of the other. This was even smaller.

Mr. KOJIS. So the size I don't think is the problem we are talking about. It comes to mind as you mention these complaints, these directives toward changing advertising, that we do have these two committees, the ethics committees of both of these organizations. And it would seem to me that with this machinery already in motion that these letters could be directed to these two groups to help solve their own problems and put the concentration of effort for solution where it would do the most good.

POLICY ON MONEY-BACK RETURNS

Mr. ORIOL. It was suggested this morning that there be a 1-week period in which the money would be given back if the aid proves unsatisfactory. What is the members' general policy on money-back returns? Do you have trial periods? What do you recommend?

Mr. KOJIS. I can speak for our company. We do have as a policy and suggest to dealers that they do provide trial periods of 30 days and the programs worked out extremely well. I read here in the AASHO journal of July 1968, I think the article was written by Earl Harford, of Northwestern University, the university did a tremendous amount of work in the hearing aid dealers association with clinics.

If I may read a paragraph here, I think it is apropos of the question you asked:

> To be more specific about this trial rental plan, the average time for the trial is slightly more than 36 days per person. A large majority reported in an exact 30-day duration for renting the hearing aid. More than 90 per cent felt that the length of the trial rental time was sufficient to allow them to reach a decision regarding the purchase of the aid. Finally, persons in the Chicago area spent a little less than one dollar per day for the trial hearing aids.

This, by the way, is used as a selling approach, it is being used more and more as a trial method. It makes for more satisfied customers, and I think takes whatever stigma there may be about high-pressure selling away from the dealer.

This is available to every dealer, I think, and any customer in any major market.

Mr. LYBARGER. I would not want to say this is a universal practice, although it is a growing practice. There are many of our dealers who have such arrangements. Of course, there is a certain type of customer for whom this won't work too well because some people just don't want a hearing aid and this gives them a very easy way to decide what they had already decided before they got it: that they didn't want it.

So there would have to be used some degree of judgment in working out such a plan.

I think, generally speaking, that the competent hearing aid dealer does not want a customer who is dissatisfied. I mean this is the worst thing for his business that can happen, to have a customer who is totally dissatisfied, and he makes an effort to make sure that that person does get satisfaction with the hearing aid.

Mr. MILLER. You refer to the growth of this practice. In your judgment is that due to the rather highly competitive nature of the hearing aid business?

Mr. KOJIS. I think at one time quite some years ago the sales might, as we say, "not stick" because of the rental plan. The difficulty is in people adjusting to their aids. This first 30-day period is a really rough one. However, and again I read from Harford's article here:

> Consequently more than 90 percent of the patients who used the trial rental plan eventually purchased the hearing aid.

I think that answers this question that once the dealers had found that this particular practice was not going to lose sales for them, it was a very acceptable thing, and this is now growing as a result of being a good way to sell a hearing aid. I think there are fringe benefits, also, that accrue to this method of doing business.

Mr. LYBARGER. Mr. Miller, I would not, though, want to say that this is necessarily the overall practice of the industry because, for example, maybe there may be manufacturers who have other ways of handling this that would not necessarily want to go into that particular way; they might have a different way, and so forth.

So I just don't want to create an erroneous impression. This is a very good way if it is being done; nevertheless, it would not necessarily be an overall industry policy at this time.

Mr. ORIOL. You have about 22 members?

Mr. LYBARGER. No; we have about 24 members, some of whom are manufacturers and some of whom are suppliers of hearing aid components.

Mr. ORIOL. How many manufacturers are there in the country who do not belong to your organization?

Mr. LYBARGER. I could not tell you that without further reference but we could supply you with that information.

I think we did supply you with an up-to-date list of our membership initially.[1]

I would be glad to supply you with information on the total number of manufacturers from the magazine directory issue that is published every year.

[1] It was later verified for the record that of the American manufacturers of hearing aids 12 are members of HAIC and 11 are not. However, HAIC members account for approximately 85 percent of the total sales volume.

There is a directory of manufacturers and you can get an idea from that.

I think we represent all but about three of the major manufacturers. Then there would be a number of smaller manufacturers.

Mr. ORIOL. About how many small manufacturers would you guess?

Mr. LYBARGER. I would guess that would be on the order of five or 10.

Mr. KOJIS. With importers, perhaps 20.

Mr. LYBARGER. You have to check whether they are manufacturers or importers or distributing hearing aids nationally.

We have both categories in our organization. We have both U.S. manufacturers and we have organizations that import hearing aids and distribute them nationally throughout the United States.

Mr. ORIOL. Can you tell us what percentage of the total hearing aid sales in this country are made by the members of your group.

Mr. LYBARGER. We stated in the testimony that we estimate this to be approximately 85 percent. We do not have a positive, absolute way of determining this. We can determine it approximately.

Mr. ORIOL. Most of these sales are made through hearing aid dealers and not door-to-door salesmen. Are any of your hearing aids sold from door to door?

Mr. KOJIS. I think you have to define "door-to-door selling." You don't start at one corner of a block and determine who needs a hearing aid.

Through advertising and through State fair exhibits, the lead list is obtained. The calls are then made from this lead list at the home in many cases.

The customer will not come to the office which is the case in a great many of the instances. The salesman would therefore go to the home.

When we start talking about door-to-door selling, we have to be a little more definitive in what we are talking about.

Mr. LYBARGER. Do you mean would we sell to a salesman who had a suitcase and goes from door to door and this is all he did?

I don't know of any manufacturer who would do this. We require that he have an office, a permanent location where the person can come for service and I think this is generally the practice throughout the industry.

There isn't such a thing, I don't believe, among our own members that I know of, where there would be a different situation than that.

Mr. KOJIS. I can't imagine any.

Mr. LYBARGER. The place where a person can come to get service is a vital part of the hearing aid success. If a person can't get service and be guided in the use of the hearing aid, I don't think the hearing aid will ever be a success.

Mr. MILLER. What you are referring to here is the canvasser who is the moving type of individual in contrast to an established firm that provides service in the home.

Is this the distinction you are making?

Mr. KOJIS. Yes, I think that is what we are driving at.

A LIMITED MARKET

If I may, I would like to describe our industry in just a little more detail in a few minutes.

We think of ourselves as selling only to 3 percent of the public and I think that was brought out in the testimony here.

That is our market. This 3 percent does not want our product generally. We went through the reasons for not wanting to wear hearing aids. In total, if used a figure such as $100 an instrument for the wholesale level in selling hearing aids we have about a $40-million business which in essence is quite small.

When I think of the grandiose plans that some people develop for advertising, getting the hearing aid fitting, the hearing aid availability it front of the public with that type of budget, thinking of $40 million for an entire industry for the 400,000 hearing aids that are sold, it does not allow a great deal of money to get this message out.

So, in essence, the point I am trying to make here is that we are a very small industry affecting a very, very small part of the population.

We think our work is necessary and is being done reasonably effectively right now.

Along this line, I have one other point.

When we start talking about markup, people cringe when you say markup of 100 percent, 50 percent, or whatever it may be.

I think this product must be looked at in the light in which the industry purveys it and in the way the dealer handles the instrument itself.

We are not selling automobiles or television sets that are made by the millions that result in low cost as a result of mass production.

We talk about 50 to 60 manufacturers distributing hearing aids—I don't know about my arithmetic—but this come out to a very small pot of potatoes for each.

Mr. ORIOL. Both your testimony and Public Health Service indicates loss of hearing as a major health problem. You have just described a small effect.

Mr. KOJIS. We are talking about national merchandising. Everybody wants a television set or an automobile or a camera.

Still, 3 percent is only a small market for hearing aids. We should not try to analyze our market on the basis of mass-produced items.

Mr. ORIOL. I was leading up to the suggestion made this morning that the industry should perhaps carry on a major educational program to perhaps overcome some of the resistance you were just describing.

PUBLIC UNAWARENESS OF BENEFITS

Mr. KOJIS. The point is the industry is small and has devoted almost all of the funds developed toward educational work and publications such as you see here and the things Sam Lybarger mentioned, but it still has not penetrated the skin that we have to penetrate to get the American public aware of the benefits available to them through hearing aids.

It is just going to be a slow, slow process. There is just not that much money available to put this picture in front of people.

Mr. ORIOL. Is there anything the Government can do?

Mr. KOJIS. I think you did it with the publication of this small booklet that came out recently.

Mr. ORIOL. The HEW booklet? [1]

[1] See p. 51.

Mr. KOJIS. Yes. I think what we are talking about generally is we are searching for an answer to the problem of, one, getting better distribution of hearing aids, and second, the question of prices.

I think essentially this is the gist of our conversation.

The point I am trying to make is, No. 1, as an industry we have expended more in advertising probably than mass distribution industries on a percentage basis.

We have put a lot of money into trying to develop this market because it is a difficult one to develop. If the Government could give us any help, it would be to get these people to look for hearing aids and get them out to see their hearing aid dealers to see what can be done for them.

This would be of the greatest help.

As far as this markup thing is concerned, I think we should spend a minute on it. The prices are quite low for television sets for instance which are built in the millions of units.

The average large manufacturer would be making 15,000 to 20,000 hearing aids. A considerable number make less than this number.

Making 20,000 hearing aids or selling 20,000 hearing aids a year in probably 10 to 15 different models requires 10 or 15 different toolings.

Many times the same circuits can be used but I think in general there are at least five or six very different circuits that must be developed for these hearing aids.

Catalog sheets and all of the rest of the fitting data has to accompany all of this.

When you look at the tremendous amount of work that is poured into development, we get to the point where in looking at our industry and the things we are trying to accomplish there is very little we can do from the standpoint of lowering our costs on a wholesale level.

Someone said $80 was the price that one manufacturer said he could sell aids at.

I think if a manufacturer could sell a hearing aid at an $80 price today and if hearing aids were going to sell better because prices were lower, you would almost be a fool for not selling them at $80.

I think this is obvious. I think the statement was probably taken out of context that a hearing aid was available at $80.

I think if sales doubled, tripled, or quadrupled, then I think hearing aids could be brought down in price.

When we look at this markup, we don't sell a hearing aid as someone buys a television set where they take it off the shelf, take it home and if it works, all right, that is all you hear about it.

We have to consider the fellow who has a hearing difficulty and wants to take care of it and we have the problem of providing service after sales.

When we talk about the intrinsic value of the hearing aid and its markup, I think it must be thought of relative to these other two situations—the expense of trying to find hard-of-hearing people and then follow up.

Mr. ORIOL. I have additional questions and I am sure tomorrow's testimony will spur others but I think we will submit them to you in letter form and accept additional information for the record.

Do you have any questions, Mr. Miller?

Mr. MILLER. I have no other questions.

Mr. ORIOL. Thank you very much.

We appreciate your presentation.

(The chairman, in a letter written shortly after the hearing, addressed the following questions to the witness:)

Question 1. I would like to include your letter of July 23 in our hearing record and I would like to ask a question based on your commentary at that time. You say that you believe that "all of the important groups represented at the hearing" can "work together to achieve the objectives that I believe your committee hopes for." What more, do you think, can be done by the groups you mentioned? What role, if any, can Federal agencies take in any such effort?

Question 2. I will ask another question and include your reply in our hearing record. What has HAIC done to assess the effectiveness of your code of ethics in actual practice? Do you have additional plans or objectives intended to intensify self-policing?

Question 3. And finally, what is your reaction to suggestions that additional training be given—possibly with Public Health Service support—to hearing aid dealers?

(The following reply was received:)

MY DEAR SENATOR CHURCH: I have spent considerable time studying the questions you asked in your letter of August 1, 1968 and while I certainly do not have all the answers to the problems presented, there are a few ideas that the industry can offer that may provide highly practical solutions to at least some of them.

Answer No. 1. In answer to your first question, "What more, do you think, can be done by the groups you mentioned?" we should perhaps look back to see how some of the present relationships between otolaryngologists, hearing aid dealers and audiologists evolved. When I entered the hearing aid field in 1929, for example, the word audiology had not been conceived. At that time, good relationship existed between many otologists and hearing aid dealers and manufacturers. This was particularly true of the outstanding otologists—men such as Dr. Edmund Prince Fowler, Dr. Kenneth MacFarland and others.

Medical hearing help, unlike at present, was definitely limited and was primarily directed to eliminating infection. Perhaps because of the limited help that could be provided by a hearing aid at that time, the average otologist was not a very strong booster for hearing aids and he was often reluctant to recommend one. Even when he did, many of his patients did not take action because of the stigma attached to wearing hearing aids. It was not uncommon to keep on treating patients with no real hope of reversing or halting their hearing losses.

Because the hearing aids then available worked best for persons who had conductive hearing losses and not so well for those with sensorineural hearing losses, there developed, somewhere along the line, the medical concept that people with "nerve" losses couldn't use hearing aids. This misconception, unfortunately, continues today with those who have not familiarized themselves with the capabilities of modern hearing aids.

The hearing aid industry's market then consisted mostly of people who had given up on medical help and who finally, in desperation, tried a hearing aid. They had to be pretty desperate, because hearing aids were large, not very efficient acoustically and were looked on then, much more than now, as a sure sign of old age and physical degeneration. Hearing aids were very, very hard to sell. However, in spite of these factors, tens of thousands of people who had given up all hope of medical help were getting real assistance from the amplification provided by wearable hearing aids—hearing aids that were fitted and serviced entirely by hearing aid dealers.

The hearing aid industry in the thirties and forties worked diligently to improve the performance of hearing aids—as is evidenced by the large number of U.S. patents on hearing aids granted in that period—and a real breakthrough occurred about 1939 when miniature vacuum tubes and the "crystal" microphone became available. These inventions set the stage for a totally different order of help that could be rendered by a hearing aid for those with both "nerve" and conductive hearing losses.

EFFORTS TO COMMUNICATE WITH AMA

All during these and later years, members of the industry maintained a close relationship with the Council of Physical Therapy of the American Medical Association. A program was established for the "acceptance" of hearing aid devices by the AMA that continued until there was a policy change by AMA on their overall program of acceptance. A meeting was held each year with distinguished otologists meeting with hearing aid manufacturers to develop better cooperation between the two groups, particularly with respect to advertising.

These meetings developed a better rapport between the two groups than had previously existed and I feel that the general desire to cooperate has continued, although the meetings are no longer being held.

Of course, over a long period of time, individual otologists and hearing aid dealers have worked together all over the United States to help solve the problems of the hard-of-hearing, where further medical treatment could not help and where amplification was a successful way to rehabilitate the patient. In these hundreds of individual otologist-dealer relationships all over the country, resides a strong basic cooperative effort between the two groups.

The audiologist came into being toward the end of World War II, in connection with the rehabilitation of servicemen who had hearing impairments. Right from the beginning, there has been a very close working relationship between the audiologist and the hearing aid industry, both manufacturers and dealers. Hearing aid manufacturers cooperated in supplying hearing aids and information to the National Defense Research Group that made the first really comprehensive study of hearing from the standpoint of measured speech performance. This study was published in 1947 as "Hearing Aids, An Experimental Study of Design Objectives."

During the postwar rehabilitation period, hearing aid dealers worked constantly with the various Army and Navy audiology centers in supplying hearing aids to military personnel. Since that time, of course, a great number of additional speech and hearing centers, or audiology clinics, have been established and the hearing aid industry has been working with them for many years.

In a study presented by Mr. John J. Kojis at the Workshop for Hearing Conservation in Washington, D.C. in April 1967, it was estimated that there are probably some 15,000 hearing aids on loan to audiology clinics in the United States, from manufacturers or dealers, representing a capital investment, at an estimated manufacturer's selling price of $100, of some $1,500,000. In addition to this original investment, Mr. Kojis estimated that there is an annual upkeep involved of perhaps $35 or $40 that is borne by the dealer or manufacturer. Although it is true that most of these aids are placed in audiology clinics with the hope that a substantial number of referrals will be made to the dealer recommending the purchase of a hearing aid by a client of the clinic, the fact is that there has to be a good deal of mutual confidence and respect between the audiologist and the hearing aid dealer or manufacturer for such an arrangement to exist, and I believe this to be the case. One of the current industry problems is that on the average, the return on investment on this hearing aid inventory is small and alternate ways of providing the liaison between the audiologist and the hearing aid industry that would give equal satisfaction to the client are being studied.

It is thus evident that, in spite of some of the adverse things that were said at the hearings, the truth is that there does exist widespread cooperation between the hearing aid dealer and the otolaryngologist, between the hearing aid dealer and the audiologist and, of course, a very close cooperation between the otolaryngologist and the audiologist.

We are not starting from scratch by any means, as regards to cooperation among the three groups.

Recognizing that there already is a very large and very substantial amount of total cooperation, let's look at the major channels presently existing by which hearing aids are purchased:

1. The client goes directly and promptly from his otologist or physician to a hearing aid dealer with the recommendation from the physician that he purchase a suitable hearing aid. The hearing aid dealer does the hearing aid fitting or selection, and takes care of post-sale service and assistance. I am going to guess that this channel may involve 15% of hearing aid sales.

2. The client is referred to a hearing aid dealer by an audiology facility for the purchase of a hearing aid. This may mean the specification of a particular model with particular adjustments, or it may mean the specification of the

general performance characteristics desired, such as gain, output and frequency response, with the selection and adjustment of the exact model that meets these requirements left to the judgment of the dealer. I am going to guess that about 15% of hearing aid sales fall in this category. I am going to guess further that about 70% of this group has had an otological examination just prior to going to the audiology facility.

3. The client goes directly to a hearing aid dealer in response to advertising, recommendation from a satisfied hearing aid user, etc. The fact that the client goes directly to a hearing aid dealer does not at all mean that he has not seen an ear physician prior to purchasing a hearing aid; it means, in most cases, that he has, but that some time has elapsed. I am going to guess that 70% of hearing aids are supplied on this basis.

There are many other routings that occur prior to the purchase of a hearing aid, but I think most would come under one of the three basic areas above.

Another very important type of channel is from the hearing aid dealer to the otolaryngologist. Since the stapedectomy operation became highly successful in the late fifties, the importance of medical re-examination for those with hearing losses showing large air-bone gaps, has resulted in an awareness on the part of the hearing aid dealer making audiometric tests for hearing aid fitting purposes that he should be on the lookout for such situations and advise the client that, even if he had an earlier medical examination, he should revisit his ear physician. There has been a large flow of such referrals.

Similarly, an important channel of referral from the dealer to the audiologist exists for persons with exceptionally difficult hearing problems or where children are involved.

Improving Existing Channels

It would be my recommendation that the best chance for future success in reaching the maximum number of elderly hard-of-hearing still lies in the proper use of the above already-proved-successful channels. To make these channels work most successfully and to fully utilize the available professional, technician and commercial manpower to its fullest capacity, certain concepts need to be changed and definite improvements need to be made in certain areas. Some of the points I think are important are:

1. The fallacious concept that has been evident in earlier testimony that the majority of hearing aid dealers cannot do an excellent job in applying a hearing aid, must be corrected. They *are* able to do an excellent job of both fitting and servicing. During the past nine years (1959–67) for which statistics are available, hearing aid dealers have delivered some 3,100,000 hearing aids in the United States, and have been fully responsible for the fitting of some 2,600,000 of these, with the remainder being fitted in cooperation with evaluations by audiologists. The combined experience of dealers in applying hearing aids is overwhelmingly greater than that of any other group.

The capabilities of hearing aid dealers can (and are) being used just as efficiently and successfully in supplying hearing aids for Medicaid as for regular clients, and could be employed successfully should Medicare be modified to include hearing aids.

To my knowledge, there is nothing to indicate any significant difference in average user satisfaction between direct dealer fittings and audiologist-dealer fittings for the usual hearing aid situation. If we fail to utilize the cumulative experience and facilities of the hearing aid dealer—who, incidentally, is paying taxes rather than asking for government subsidies—the rehabilitation of the elderly hard-of-hearing person will be a lot more difficult and costly.

2. The importance of the otolaryngologist must be re-emphasized. He is the only professional qualified to pass on the medical situation concerning hearing loss; neither the audiologist nor the hearing aid dealer is qualified to diagnose hearing loss in the medical sense. Hopefully, *every* person with a hearing loss of a degree that might benefit from a hearing aid will see an otolaryngologist. It is not believed that a medical examination immediately prior to the purchase of a hearing aid is ordinarily necessary; it would accomplish little where the use of a hearing aid has already been advised by a physician within a reasonable period or where a person is merely updating his hearing aid equipment.

3. A better statement of criteria for the referral of a client from a hearing aid dealer to an otolaryngologist should be formulated. Suitable criteria are already known and practiced by responsible dealers, but efforts will be made to clarify these criteria by cooperation between the industry and the medical profession.

4. More must be done to familiarize the otolaryngologist with the capabilities and nature of hearing aids. There is no doubt that there are some misconceptions that prevent the fullest utilization of hearing aids as a rehabilitative measure. The industry could well consider better communication means to keep the otolaryngologist more fully aware of industry developments, as it does now with the audiologist.

5. The hearing aid industry needs to continue and accelerate the campaign it started in 1960 to raise the ethical standards of the industry, particularly at the point of sale. More can be done by manufacturers to insure that their products are put only into the hands of responsible, qualified dealers and it is my hope that the need for more careful screening, within the limits of the law, will become an important factor in further eliminating ethical problems.

Regardless of how desirous a trade association or a dealers' association may be of insuring compliance with ethical standards, their enforcement is limited to moral persuasion or, at most, expulsion from the organization. The enactment of licensing laws in eight states, with strong provisions covering ethical conduct, is providing an additional measure of protection against the small minority of unethical industry practices.

6. Dealer education must continue to be extended at an accelerating rate throughout the industry. The excellent work already done by the National Hearing Aid Society in the past few years, has changed the whole level of competence of the hearing aid dealer. It is hoped that hearing aid manufacturers will use every means possible to encourage everyone engaged in fitting their hearing aids to have completed a course equivalent at least to that of the National Hearing Aid Society. The Education Committee of HAIC currently is studying additional possible methods of accelerating dealer education.

7. The present widespread and good relationships between audiologists and hearing aid dealers and manufacturers should continue. Where a hearing impairment is of such a nature as to require the additional professional skills of the audiologist, the dealer can supplement the audiologist's recommendations by delivering and servicing the hearing aid recommended.

There is bound to be a certain amount of overlap in the functions of the hearing aid dealer and those of the audiologist because they are both involved in the determination of suitable hearing aid characteristics for persons with impaired hearing.

To achieve the objectives of the Subcommittee, the problem is how best to utilize the professional capabilities of the audiologist, whose numbers and many other professional duties restrict his availability for hearing aid evaluation, and the technical and commercial capabilities of the dealer to deliver the greatest amount of hearing aid help to the greatest number of elderly people requiring it.

8. There should be a good statement of criteria formulated for the referral of a client from a hearing aid dealer to an audiologist and perhaps vice versa.

Federal Support Sought for Model Law

Answer No. 2. With respect to your second question. "What role, if any, can Federal agencies take in any such effort?", I am sure that further study will be necessary, and HAIC will be glad to look at this possibility more carefully. The one thing that we can see right now that could be of assistance would be governmental support of the model state dealer licensing bill that has recently been agreed on by NHAS, HAIC, and the Committee on Conservation of Hearing of the Academy of Ophthalmology and Otolaryngology and that was mentioned in Dr. Glorig's earlier testimony. We believe that a more uniform situation in all states with respect to dealer competence and ethical responsibilities would be highly advantageous.

Answer No. 3 Your next question, "What has HAIC done to assess the effectiveness of your code of ethics in actual practice?" is indicated by the following quotation from the report of our Ethics Committee, given at our semi-annual Directors' meeting on April 25, 1968, "In summarizing committee activity during the past six months, Mr. Kane reported that eight complaints had been received: three satisfactorily settled, one refusal to agree, four still pending."

We should point out that our Ethics Committee looks only at complaints involving manufacturers or national distributors of hearing aids; matters involving dealers are referred to the NHAS Ethics Committee. We should also point out that many manufacturers do work directly with FTC on ethical questions.

With respect to your question, "Do you have additional plans or objectives intended to intensify self-policing?"—yes, it is my feeling that individual manufacturers must take more active responsibility within the limits of the law, to insure the proper competence and ethical conduct of their own dealers and it will be the objective of HAIC to promote this concept with their own members and others.

Answer No. 4. Your final question, "What is your reaction to suggestions that additional training be given—possibly with Public Health Service support—to hearing aid dealers?" is one that is difficult to answer without very careful study. Training has been and is being constantly performed by individual manufacturers, and most of them have well-organized training programs; one manufacturer has an excellent complete programmed learning course, for example. The great progress that NHAS has made with its dealer course since 1960 has vastly improved the situation over that of a few years ago. The introduction of state licensing legislation in several states is causing hearing aid dealers there to study as never before to prepare themselves for examinations.

There are some ideas that have been worked on—such as seminars and the establishment of associate degree courses for hearing aid technicians in various universities—that perhaps would lend themselves to Public Health Service support. HAIC's Educational Committee will study some of these possibilities—no doubt in cooperation with NHAS—and will be glad to pass along any proposals that appear to have potential.

Our general feeling, of course, is that the government can make its greatest contribution in educating the public to recognize when there is a hearing problem and to motivate the hard-of-hearing person to take action that can lead to successful medical treatment or to the use of a hearing aid when indicated. Another area in which the government can help, and has already helped very much, is in the area of hearing-aid research. It is my understanding that nearly all of the research in universities relating to hearing aids has been tax-supported. This is an excellent way for the government to help advance hearing aid technology and effectiveness—particularly if such research can be directed to the many practical areas where research is needed.

Finally, I want to say that I am writing this letter as the current President of HAIC and I cannot speak for any individual member manufacturer.

Sincerely,

S. F. LYBARGER, *President.*

Mr. ORIOL. The final witness is Roy F. Sullivan, M.A., chief of the division of audiology at the Long Island College Hospital and chairman of the New York State Speech & Hearing Association Committee on Hearing Care under medicaid.

STATEMENT OF ROY F. SULLIVAN, M. A., CHIEF, DIVISION OF AUDIOLOGY, LONG ISLAND COLLEGE HOSPITAL, AND CHAIRMAN, NEW YORK STATE SPEECH & HEARING ASSOCIATION, COMMITTEE ON HEARING CARE UNDER MEDICAID

Mr. SULLIVAN. It is an honor to appear before this committee in the two capacities mentioned. As you may gather, my presentation will consider heavily the medicare and medicaid programs as they affect the hearing-impaired in New York State. The medicaid program is subject to a great deal of interpretation by the individual States. The medicare program, being specified at the Federal level, under title 18, has little or no latitude in terms of its interpretation at the State level.

There are, according to Price Waterhouse, approximately 32,000 to 35,000 hearing aids sold in the State of New York annually by hearing aid dealers at an average unit price of $250 to $275. I might add that it has been reported that as high as 80 percent of these aids are sold on no other advice than that of a hearing aid salesman.

It is further estimated that there are in New York State almost 60,000 hearing-impaired senior citizens over the age of 65 whose degree of hearing loss can be defined as "cannot hear and understand spoken words" or "can hear and understand a few spoken words." (Reference: "The Minority Group Needs of the Deaf" report to the Governor and the Legislature of New York State, Mar. 31, 1968.)

Mr. ORIOL. What was the source of the statement that most see no other than the hearing aid dealer?

Mr. SULLIVAN. That is a statement in Consumer Reports, January 1966.[1] You will find a copy of that reference appended to the summary report, and materials which I have submitted to the committee.

Mr. ORIOL. That report was not limited to New York. It was a national report?

Mr. SULLIVAN. It was a national average figure. The statistics on the number of hard-of-hearing people age 65 is found in that report on the minority group needs of the deaf of New York State, cited above.

Despite the recommendation, of such reports as that cited above and of major consumer publications, to the effect that the services of the clinical audiologist be secured wherever possible in the testing for and selection of hearing aids, and in the provision of appropriate hearing therapy, both the medicare and New York State medicaid programs severely handicap the geriatric hearing-impaired patient in his attempt to secure those services readily available to the younger, more economically mobile hard-of-hearing adult.

At present, under a new medicare ruling, under title 18, a physician may avail his patient of the qualified professional audiologist's services only for the purpose of determining the need for medical or surgical correction of a hearing deficit or related medical problem.

The unfortunate majority of hard-of-hearing senior citizens have noncorrectable losses of hearing. They are not only denied the opportunity to have their purchase of a hearing aid subsidized under medicare but also are forbidden those services of the professional audiologist which entail determining the "need for and/or the appropriate type or specifications of a hearing aid." [Revised Social Security Regulations 6104. 3. See p. 217.]

I might also add not only are audiologists forbidden to provide those services under medicare, but also otolaryngologists or any physicians, as well.

So the elderly patient is first denied assistance in the purchase of his hearing aid and second, he is classified ineligible for any subsidy to the fee for a professional evaluation to determine which particular aid might be the best for him without commercial conflict of interest.

Mr. ORIOL. Just so I understand this clearly, a person senses he has hearing loss. He goes to a physician. He at that point does not know whether he is going to need a hearing aid or whether it might be surgery or some other type of rehabilitation is needed.

When it is determined that he is not eligible for this payment, when in fact it turns out that he needs a hearing aid, what is this magical moment of decision here?

Mr. SULLIVAN. When, for example, the physician refers the patient to an audiologist, he might say, "Rule out otosclerosis," or "Is this

[1] See p. 235 for text.

patient an operable case?" or "Is there an airborne gap?" which means there may be room for improvement in the hearing through chemotherapy of appropriate surgical procedures.

After the diagnostic testing, the patient's coverage for audiological services under medicare ceases. If the physician asks "Can this patient use a hearing aid?" at that point, I may venture an off-the-record response. However, if the doctor mentions prior to the evaluation, that the patient is not operable and requests that I perform a hearing aid evaluation, determine whether an aid is indicated, which aid may be the best and proceed with whatever hearing therapy may help him derive the most effective use of the instrument—these services are not covered under medicare.

In fact, it is specifically proscribed under the new medicare ruling (see revised Social Security regulation 6104.3; a copy of which has been appended to this presentation).

Mr. ORIOL. It is a very complex decision that must be made.

Have any physicians been trying to help the older person in any way by stretching the regulations here?

STEPS IN TESTING PROCEDURE

Mr. SULLIVAN. It becomes a matter of what one calls the testing one does. In actual practice, the initial testing that the audiologist carries out, if referred a patient for a hearing aid evaluation, is, at the outset, essentially the same testing as performed to determine whether or not the patient is a candidate for audiosurgery.

There is additional testing which follows the diagnostic evaluation allowing the audiologist to determine the patient's hearing status with and without amplification in a sound field—here speech stimuli are presented via loudspeaker rather than through earphones.

The audiologist may also evaluate how this patient responds to average, soft, and loud speech stimuli; and speech with a background of simulated or real environmental noise with and without a hearing aid.

On the basis of this evaluation and careful consideration of other relevant factors, the audiologist makes a judicious selection of one or a number of forms of prosthetic application which may suit the individual patient. Then, under laboratory conditions, simulating closely actual environmental listening conditions, he determines how well this patient might function with a particular aid, ultimately settling on a specific recommendation—one which perhaps performs better or interacts more favorably with this patient than any other instrument.

We will then recommend or prescribe that aid with specific gain, frequency range, output, peak limiting or A.G.C., settings, ear of fit, type of ear mold, battery, and conditions for trial aid use.

We will counsel the patient prior to his visit to the dealer, giving him a specific written recommendation so that there is little left to the dealer's imagination as to what and how the aid is to be used, how it is to be set up, or when the next reevaluation is scheduled. This is usually in a week or two to determine whether the aid has been fitted properly and that the aid delivered by the salesman is, in fact, the one which we have requested.

Let us take the example of a typical geriatric neophyte hearing aid user.

We generally request for our patients a reasonable trial rental period with amplification. Since the medicare patient is paying for his own hearing aid without subsidy, in order to not to commit him to what might be an improper hearing aid fitting, we recommend a 4-week trial period.

After 2 weeks, we instruct the person to return with the instrument which he may purchase and we hope, use successfully. We evaluate him with that very instrument he may buy from the hearing aid salesman and determine if it is functioning properly, if it is set up as we have specified, and again evaluate it under simulated and perhaps under real-life listening conditions.

We assess speech intelligibility in a sound field and even on the telephone.

At this juncture we may determine and extrapolate, from both subjective and objective data, how well the patient may function in everyday life with that particular instrument.

If we feel that he is going to function very well, that he is going to "hit it off" with the instrument, we will schedule one additional evaluatory and counselling session at the end of the 1-month trial period prior to formal recommendation of payment. A shorter trial period has not been found satisfactory as some potentially adverse circumstances may not yet be encountered in, say, 2 weeks. I don't think that a shorter period of time is sufficient to determine whether a proper fitting has been achieved; whether the hearing impaired elderly patient is well on the road to successful hearing aid use. Incidentally, many dealers will not countenance the hearing aid trial rental. They insist on full purchase price with the "option to return the aid." I find this most unsatisfactory.

Mr. ORIOL. How much does this man now owe for all of this testing? Just give a range of figures.

Mr. SULLIVAN. For the evaluatory services?

Mr. ORIOL. Yes.

Mr. SULLIVAN. At the Long Island College Hospital, Brooklyn, and at Carlyle Laboratories, 47 East 77th St., New York City, which is a private audiological facility affiliated with the eminent otolaryngologist, Dr. Wilbur James Gould, we charge $25 for the complete audiological evaluation which takes approximately 1 hour to 1 hour and 15 minutes.

Mr. ORIOL. This is the initial visit?

Mr. SULLIVAN. This is the initial visit during which time we generally select and recommend the hearing instrument on a trial rental basis from the dealer.

The charge for follow-up sessions may range from $5 to $15 depending upon time involved.

Mr. ORIOL. What is the rough income level of the people who use your center?

Mr. SULLIVAN. It varies across the socioeconomic spectrum.

Mr. ORIOL. I just wanted to get the general picture. I am sorry I interrupted your statement.

Mr. SULLIVAN. At the final evaluatory session prior to recommending payment we wish to insure the individual is interacting properly with his instrument and know fully well how to operate it.

Hearing Aid Orientation

We perform what we call a hearing aid orientation. We instruct the individual in the optimum use of his aid. Now we are discussing the geriatric patients who we often find having the attitude one that turns on the hearing aid, leaving it at only one gain control setting, one does not adjust it, regardless of whether the individual raises or lowers his voice or whether the background noise level rises or falls. One just keeps the hearing aid at the same level. This attitude, of course, results in much listening discomfort which the elderly ascribe to the aid rather than to their inexperience in its use. Also, aid use on the telephone is a fairly complex matter. We attempt to train the elderly hearing impaired patient to an appropriate degree of mastery of the instrument. We let him know this is a prosthesis to be manipulated as the listening circumstances dictate. Generally, this orientation can be completed in one or two visits.

However, we find often that amplification alone—that is, the simple making louder of the sound—is insufficient to restore adequate and serviceable communicative resources to the aged hearing-impaired individual.

The hearing aid takes all the sound in an acoustic milieu and simply makes it louder. It may be tailored to make the higher frequencies more intense than the lower frequencies or vice versa. However, it cannot make the sounds clearer. The geriatric patient usually has *more* than a simple sensitivity loss.

May I draw some simple analogies between hearing and vision. The speech tapes which we heard earlier this morning simulated a 20, 40, and 60 decibel loss of hearing.

These were simple sensitivity problems and could easily have been corrected by compensating for the number of decibels lost, not according to a strict formula as one refracts lenses to correct for ophthalmologic defects, but in approximate form.

The analogy here envisioned is the individual reading a newspaper with a refraction problem and the print appears too small. He dons an appropriate pair of glasses, the print now seems larger and is easily legible. This is akin to the individual with a simple sensitivity loss of hearing. On the other hand, the geriatric typically has a hearing problem more resembling the visual problem which I have described—they print—however, tiny print with tiny holes cut throughout the newspaper. The individual puts on a pair of glasses and certainly realizes large print, but large print with giant-sized holes. Now he must be taught how to interpolate the "material missing in the holes."

This is, at best, only a rough analogy.

The sounds which the geriatric hears through the hearing aid are often novel and strange to him. For example, the amplified sound "s" as he knew it at age 25 may sound quite distorted and unrecognizable. In the course of hearing therapy which we call auditory training, we try to associate this novel sound with the particular correct speech sound. The audiologist spends many hours in training to administer this type of therapy.

Often times the problem is beyond auditory rehabilitation and requires supplementation from another sensory modality. That is, the

individual may have to read lips, not exclusively perhaps, but supplementing the amplified auditory cues which are now heard, but seem distorted. He is trained and given guidance and practice in this, now, essential communicative skill by the audiologist.

Geriatric Hearing Loss

I would like to comment upon the geriatric hearing loss. He typically suffers from presbycusis which is defined as the loss of hearing attributable to the inexorable process of aging. It consists generally of a higher frequency loss of hearing which might easily be compensated *per se* by frequency selective amplification.

However, this is not a simple sensitivity loss. It is often associated with this "hole-in-the-newspaper-tiny-print" type of phenomenon, a resolution problem more than a sensitivity problem. Here we also have a phenomenon known as a phonemic regression. This consists of an inordinate amount of difficulty in understanding English speech in the face of little or no sensitivity loss. Sounds can be heard but not discriminated. There is a need for auditory training in these cases. Then, there is recruitment, an abnormal growth of perception of loudness. You may perhaps recognize this pattern in someone you know, an elderly individual with a hearing problem who says, "I can't hear you," and, as you raise your voice a bit to compensate, he says, "Don't shout. I can hear you but I don't understand what you are saying."

Another consideration arising from a hearing loss with recruitment is known as the dynamic range. This is the difference in decibels, or units of sound, between the minimum level at which the patient begins just to understand speech half the time it is presented and the level at which speech becomes physically intolerable loud. Often, in fact, most of the time, the elderly impaired hearing patient has a very narnow dynamic range. The diagnosis of this condition indicates the need for very special considerations in evaluating for the fitting of a hearing aid. With the aid, one begins to stimulate the patient; that is, he hears the speech sounds but can't discriminate them. As one advances the gain control forward just a few decibels the patient calls the sound too loud. This is one of the problems associated with a restricted dynamic range.

This consideration must be taken into account when recommending the form of prosthetic amplification, when considering a course of therapy, and when counseling the geriatric hard-of-hearing patient on how and under what circumstances to use his hearing aid, especially in the critical trial period.

Mr. Oriol. This relates to the type of evaluation that might be needed——

Mr. Sullivan. Which might be needed but is proscribed under medicare.

The elderly patient on medicare is denied any form of hearing therapy. This includes (1) the hearing aid orientation, a program whereby the hearing-impaired patient is taught to use the hearing aid at maximum efficiency under a wide variety of simulated and real environmental listening conditions, including the perceiving of speech in a quiet background, in a background of environmental noise, and often on the telephone; (2) auditory training, which helps the hearing-

impaired patient to adjust to the novel and unfamiliar sound as presented through the hearing aid, associating that sound with already-known English speech sounds; and (3) lipreading training, which is often necessary when the geriatric patient's hearing is so severely impaired that he must combine both the auditory stimulus as presented through the hearing aid and lipreading cues.

Any or all of these services are extremely important to the aged hard-of-hearing population with all of its concomitant problems of adjustment. These hearing-handicapped older folk must be handled differently than the middle-aged or the young adult with a hearing impairment. This situation exists even though that major consumer publications have recommended that a trained professional audiologist be consulted whenever possible prior to purchase of an expensive hearing prosthesis from a hearing aid salesman.

The following are changes recommended in medicare: It is suggested that surgically noncorrectable hearing loss, so prevalent in the aged patient, be recognized as a medical problem to be included under the purview of medicare.

This should not only incorporate the services of the certified clinical audiologist in the testing for and the selection of an appropriate hearing aid but also the provision of appropriate indicated hearing therapy. Perhaps even subsidy of the actual purchase of the hearing aid should be considered as well.

Mr. ORIOL. I would suggest at today's prices, the subsidy of today's hearing aid would be very expensive.

You feel, however, that if it were a medicare benefit, increased numbers of elderly people might use hearing aids, and there might be cost reductions?

Mr. SULLIVAN. That would be a question to be answered better by the people in the hearing aid industry than by me.

MEDICAID AND HEARING AID LOSS

I now go on to discuss the medicaid program. Hearing aids can be made available under medicaid, that is title 19. They (aids) are proscribed under medicare. It appears somewhere in the medicare law words to the effect that "thou shalt not have hearing aids, eye glasses, and/or dentures." The proscription is not in title 19 (medicaid) but it is found in title 18 (medicare).

Under medicaid, neither the services of an audiologist nor the provision of hearing aids is ruled out. However, they are conspicuous by their absence in the listing of services and protheses allowed.

So, it has happened, in many States, such as California and New York with their interpretations of the medicaid programs, that the completely subsidized hearing aid is made available to those meeting certain financial eligibility requirements. While I am not an economist, it is evident that the ultimate source of capital for the provision of hearing aids under medicaid is the pocket of the same taxpayer who supports the medicare program.

It is a moot point as to whether we should provide hearing aids under both title 18 and title 19, but it is in my opinion unquestionably correct that they must be provided under at least one of those two acts, either title 18 or title 19.

To provide aids under both acts or under title 18 with no income restrictions may be called into question by some interests. If this were covered under one program, I think that might answer the need.

Mr. ORIOL. You would limit it to the medically indigent as defined under medicaid?

Do you think that makes the most sense?

Mr. SULLIVAN. It depends on whose point of view you espouse. The dimension of hearing impairment transcends economic considerations in my opinion. Their socioeconomic status doesn't change their communicative disability by one iota.

It is difficult for me, working with the hearing impaired from all socioeconomic strata, to draw financial boundaries for assistance in securing an aid.

May I present an illustrative example? The following would represent a typical medicare eligible/medicaid ineligible patient encountered in the division of audiology of the Long Island College Hospital.

He is 70 years old, has little income except for a modest pension and a depreciated social security allotment. He must pay rent, and may have to support an ailing wife. To this hard-of-hearing man, the expenditure of $350 or more for a hearing aid, even on time payments, becomes a sizable burden.

This is especially true because hearing loss is not the only impairment to which the elderly fall heir. They have dental problems, ophthalmological problems, arthritis, liver trouble, and Lord knows what else. Under medicare, they are obliged to assume at least 20 percent of the medical care costs. When hearing aids, dentures and eyeglasses are required as well, the total amount becomes prohibitive. As a consequence, the elderly will pay for the false teeth and glasses, postponing, often indefinitely, the purchase of a hearing aid.

It is an especial handicap for medicare patients in a certain threshold zone just outside the tenuously delineated eligibility requirements of medicaid. So, at this juncture, I'm not prepared to render a definitive statement as to which program should be ascribed the dispensation of hearing aids.

From the taxpayer's point of view, it may be more economical to limit this to the program with some form of income restriction and, of course, at present, that would be title 19.

The answer may be to elevate the income requirements or perhaps correct the income requirements on some other basis in order to bring more of these worthy retired people into the perspective of medicaid.

We have just had a radical shift in New York State, a cutback on the medicaid program which has eliminated hearing aid subsidies to virtually everyone under medicaid between the ages of 21 and 65 who is not on the welfare rolls as well as many nonaffluent retired people. In effect, this cutback seems to have virtually eliminated anyone in New York City who is retired and on a pension.

Mr. ORIOL. Is this developed in your extra paragraphs here?

Mr. SULLIVAN. No, not to any great extent.

Mr. ORIOL. I would like to be a little clearer on that.

You say you virtually excluded a person over 65 under the New York program of medicaid from receiving a hearing aid?

Mr. SULLIVAN. If they are on social security and have a modest pension, the combined income would just about push them outside of the eligibility for the medicaid program.

Mr. MILLER. You say if they have social security and a pension.

Translating into terms that I think may be more meaningful here on Capitol Hill, what you are saying is their combined social security and pension attains a level which is not within the eligibility for medicaid or other welfare programs; is that correct?

Mr. SULLIVAN. That is correct. I am sorry I didn't make that clear.

These individuals may own a small piece of real property. Their life savings may amount to but $1,000 or $2,000 in the bank or in an annuity.

Mr. MILLER. But this is not an exclusion with reference to hearing aids.

This is an exclusion with reference to other medical services as well.

Mr. SULLIVAN. That is correct.

Mr. MILLER. In other words, a characteristic of a retreat on the medical eligibility standards in New York?

Mr. SULLIVAN. Yes; this commentary refers only to medicaid in the State of New York. But its implications may be generalized to other geographical areas.

There is quite a problem in New York State which derives from the variance in standards and costs of living from upstate to downstate areas. When they set a single scale for medicaid eligibility requirements, it happened that entire towns in upstate regions suddenly became eligible for medicaid. The taxpayers of those communities were then shouldered with the burden of 25 percent of the costs of administering that program.

So, we have upstate New York factions saying, "No, we have to raise the requirement to eliminate most of these people from the medicaid rolls" and downstate, urban interests in the New York City area claiming that this move would disenfranchize too many worthy people from coverage under the medicaid program. So there exists a serious intrastate conflict. Additionally, not only are there differences in interpretations of financial eligibility between States but within States and communities as well.

Mr. ORIOL. The late Senator Kennedy at a hearing we had in New York City by the Health Subcommittee advanced an amendment intended to deal with that situation.

I would like to get that to you and get your reaction on whether you think it is practical.

Mr. SULLIVAN. I would be pleased to comment upon it.[1]

Now, the interpretation of title 19, the enabling medicaid legislation, differs radically from State to State with regard to the hearing impaired patient.

While some States make no provision for supplying prosthetic amplification to the medicaid eligible hard of hearing patient, others, such as New York State, permit the aged hard of hearing medicaid patient to obtain a hearing aid, fully subsidized, upon a physician's recommendation.

Discrepancies among the States for medicaid eligible, hearing impaired patients are further multiplied by the fact that each of the more than 50 New York State county or regional agencies, which administer the medicaid program, may or may not see fit to embel-

[1] See p. 116.

lish the sole basic requirement that any physician may prescribe or recommend the use of a hearing aid.

For example, in the Buffalo area, the medicaid agency insists that all hearing aid cases must be referred through the severely taxed audiology centers. On the other hand, in New York City, only board-certified ENT specialists may recommend a hearing aid under medicaid sending the patient directly to the hearing aid salesman.

Further, in New York City the same audiologists who are eligible to do diagnostic testing under medicare be they in private practice, in a university hearing and speech clinic, or in a voluntary hospital hearing and speech clinic, are not eligible to do testing for the selection and fitting of hearing aids or to provide hearing therapy under the medicaid program.

Physician, Patient Denied Free Choice

In effect, both physician and medicaid patient are denied free choice of the professional audiologist's invaluable services, suggested above as essential to the hearing impaired senior citizen under medicare. If the patient does not choose to go to one of the few city-approved, hospital-based audiological centers, which are already burdened beyond reasonable limits with care of needy hearing impaired children, his only recourse is to go directly from physician to hearing aid salesman with no opportunity for the professional audiologist to test, evaluate, counsel, or provide hearing therapy.

In Nassau County, a community adjacent to New York City, conditions are far superior for the medicaid eligible patient with amplification-compensable hearing loss. There, an ENT specialist has the option of referring his patient either to an approved privately practicing audiologist or hospital audiology center, or directly to a hearing aid salesman. Furthermore, while general practitioners may not refer a medicaid patient with hearing loss directly to an aid salesman, he may refer to an audiologist. By comparison, the New York City medicaid program for the hearing impaired appears regressive.

The following are suggestions applicable to medicaid. It is suggested that, as under title 19, the various States can provide fully subsidized prosthetic amplification for medicaid eligible patients, the diagnostic, hearing aid evaluatory, and hearing therapy services of the certified professional audiologist as found in private practice, university hearing and speech centers, and hospital hearing and speech centers be made as accessible to the elderly medicaid eligible, hearing impaired patient as they are to the younger, more affluent hard-of-hearing adult.

Mr. Oriol. You are suggesting an amendment to the Medicare Act specifically setting forth this area?

Mr. Sullivan. In effect, diagnostic audiological testing has been already written into title 18 (medicare), and there, of course, we suggest inclusion of the other audiological services being specifically written in as well. I also suggest this same specific inclusion of the audiologist's invaluable services to the hearing impaired under title 19. That is, I suggest that we include the diagnostic hearing aid evaluatory and therapeutic services of the audiologist together with the option to the State that, if they so desire, prosthetic amplification

within may be provided certain flexible financial eligibility requirements.

Mr. ORIOL. Mr. Miller, do you have any questions?

Mr. MILLER. I think, Mr. Sullivan, you have been most eloquent in your presentation and I compliment you on that.

I have reviewed the clippings that you attached to your testimony. I think that it is very evident that the audiologists have a very able spokesman in you as to the importance of their professional competence.

However, I am a little bit concerned about certain aspects of your testimony and the attachments thereto.

I believe it was the intent of Congress in the creation of title 19 of the Social Security Act, commonly referred to as medicaid, to provide a financing mechanism in cooperation with States through grants-in-aid for the provision of health services to people who are unable to provide them for themselves.

As with medicare under title 18, provision was made for certain specified health services. I think your comments upon those two areas and suggestions for changes open a wide door for possible future inquiry. However, I have the feeling that they are not immediately germane to the hearing of this subcommittee at this moment nearly so much as some of the clippings that have been attached to your statement and your comment on the exclusion of the audiologist.

NEW YORK RESTRICTIONS

I would like to ask in New York medicaid to which you particularly addressed your attention in your opening comments, is it impossible for a physician in EENT to refer a patient to an audiologist or to one of the clinics using professional audiologists under New York's medicaid program?

Mr. SULLIVAN. When considering medicaid, we have to go through two levels of interpretation: from the Federal to State level, and the State level to the regional level.

Mr. MILLER. I am speaking about New York City. I am particularly interested in the one in New York City.

Mr. SULLIVAN. There are nine hospital hearing and speech centers which are approved by the Bureau for Handicapped Children.

They meet the very rigid standards for evaluation——

Mr. MILLER. These you have already discussed. My question is, sir, is there any limitation on a physician under medicaid to refer a patient to any of these centers or to an audiologist for evaluation?

Mr. SULLIVAN. One of the key features of medicaid versus welfare is the "free choice" of private medical practitioner. There is in effect a certain stigma attached, in that some of these hospital centers are city hospitals. For example, you have Bellevue and Kings County Hospitals, which are city hospitals.

Mr. MILLER. Maybe I am not making my question clear. It is a very simple one. Is there any provision in the medicaid program under the direction of Dr. Bellin in New York City which prohibits a doctor of medicine qualified in the care of the ear to refer a patient under medicaid to an audiologist?

Mr. SULLIVAN. Directly to an audiologist?

Mr. MILLER. Yes.

Mr. SULLIVAN. Yes; there is a prohibition in New York City. He cannot refer directly to a certified audiologist. With regard to hospital-based audiology centers, this is severely restricted by New York City. Medicaid as it is also hampered by the policies of the various hospitals.

I was attempting to clarify this complex situation. In the city hospitals in order for a patient to be evaluated in a hearing and speech center, he must go through the outpatient ear, nose, and throat clinic.

If you are an otolaryngologist, and wish to refer a patient to the Kings County Hospital Hearing and Speech Center after you perform the ear, nose, and throat examination, you must remand the care of your patient to a resident physician in the outpatient dispensary of that hospital for the evaluation to be repeated. That resident is generally a stranger to both patient and physician.

Only then can that patient be given a complete audiological evaluation. J. Jones, M.D., could not refer his hearing-impaired medicaid patient to S. Smith, Ph. D., Certified Audiologist.

The other hospitals which are approved are voluntary hospitals. Unless the physician has referral privileges at that hospital, unless he is a staff member, he must refer his patient as above, and remand him to the outpatient clinic where again the resident in training duplicates the examination.

Mr. MILLER. If he is a staff physician, he can refer to an audiologist.

Mr. SULLIVAN. He can refer then to the approved hospital hearing center, but not to a certified private audiologist or to an audiologist in a university setting, audiology center, or to a league for the hard of hearing. This situation exists despite the fact that the physician will send his private patients to these other sites of audiological service.

Mr. MILLER. There is really no impediment for a qualified physician or medical team to refer to an audiologist, medical team providing——

Mr. SULLIVAN. Providing it goes through the approved hospital outpatient clinic, and then on to the hearing and speech clinic.

Mr. MILLER. I wanted to establish that.

Mr. SULLIVAN. But it must be one of the 10 centers approved for hearing aids. For example, the hearing and speech clinic of, let's say, Teacher's College, Columbia University, a fine center, receives many referrals from the otologists at Columbia Presbyterian Medical Center.

Private patients may be referred there but not medicaid patients. There is no mechanism for recognizing the services of this fine audiology problem under medicaid because it is in a university setting. This proscription holds in New York City is also for privately practicing audiologists who may be approved to evaluate medicare patients.

Mr. MILLER. Now I want to relate to another matter and this relates to one of the press clippings attached to your testimony.

You have a February 15 clipping from the New York Post, which has in it the point that exception has been taken to the decision by Dr. Bellin and Dr. Rubin.

They are the two physicians mentioned, but referring to Dr. Lowell Bellin, it says:

> Executive Director of the City's Medicaid program was asked why an audiologist was no longer required.

Earlier in the article it says:

In the past Medicaid patients of all ages in need of hearing help were required to go to an ear, nose and throat doctor and then to an audiologist who would send them on to a hearing aid dealer with a prescription.

Now only a doctor is required to examine a patient to ascertain whether an aid might help his condition. From the doctor, the patient goes directly to a dealer, skipping the audiologist.

I have gathered from your statement and the fact that these are attached to your statement that this is a matter of great concern to you; is that correct?

Mr. SULLIVAN. Yes. These matters are of critical concern not only to me and the profession of audiology, but the hearing-handicapped whom they serve as well.

Mr. MILLER. I would like to direct my question more specifically to the later paragraph in the article which states, "Dr. Lowell Bellin, executive director of the city's medicaid program, was asked why an audiologist is no longer required," and this is what he said: "We found that there were long waiting lists at speech and hearing centers for audiologists' examinations." He said:

So I said to myself, why should someone have to wait a year for a hearing aid? I called in the best people in the field to get their views. Needless to say, the audiologists were against any change and for obvious reasons the dealers felt differently.

We finally kept the old rules for those under 21 years of age and if the ear, nose and throat man feels an adult should go to an audiologist, he is allowed to send him.

In practice, however, the Post has been told, the doctors have been sending patients to dealers merely with instructions to be fitted for an aid, leaving it up to the dealers to make the final decision.

Now, we have heard a great deal of testimony about the competence and we have had some question about the competence of some of the dealers to fit hearing aids but there has been a preponderance of testimony today to indicate that they have a high degree of capability. It may not reach into some of the precise areas that you have discussed and this is understandable because as an audiologist you have a highly specialized field. Now, to my question, has there been any mass of complaints received in New York City about improperly fitted hearing aid or overcharging or other inadequate services with reference to the hearing aids provided under the new program since the 15th of February when I gather this ruling went into effect, or has the effect merely been that people are now able to go to dealers to get hearing aids whereas previously they had to wait so long they didn't get benefit of service?

Has there been any price gouging or excessive costs, any evidence of any extensive improperly fitted hearing aids and complaints from the public about the quality of hearing aids they have been getting under the medicaid program since the 15th of February?

That is my question.

Mr. SULLIVAN. That is quite a question.

Mr. MILLER. Are you prepared to answer it?

Mr. SULLIVAN. Certainly, I am prepared to answer it.

With regard to the question on price gouging, it is impossible to gouge in the State of New York because there are price lists set up by manufacturers which must be listed with the State in Albany.

Mr. MILLER. There has been no abuse on the price?

Mr. SULLIVAN. This is an interesting phenomenon because the State pays for the hearing aids at 20 percent off the "manufacturer's sug-

gested list price." This may mean, for example, that two hearing aids that a dealer has may be identical in list price, yet one cost him $75, wholesale, the other cost $150. So there is no possibility for price gouging in the State per se. However, qualitatively inferior aids may be dispensed under medicaid at the same cost to taxpayer as a superior instrument.

Mr. MILLER. On the second point, the matter of the satisfaction of needs of the people——

Mr. SULLIVAN. The audiologist seldom sees those patients who are sent directly to the salesman. However, those who we do see are generally being evaluated subsequent to a salesman misfitting because they are highly dissatisfied.

Mr. MILLER. Are you seeing many of those?

THE "DIRECT ROUTE" FOR FITTING

Mr. SULLIVAN. We see two to three patients a week who have been fitted by the new "direct route;" those fitted under the typical salesman's expeditious philosophy "we will hang as many hearing aids on as many ears as rapidly as possible." Virtually the only reason we see these patients is because they are dissatisfied. The salesman's fit is generally improper and they have complained volubly to their physician.

In practice the physician sends a patient to a salesman, who in turn actually recommends the aid. That dealer typically handles one major brand and one minor brand.

If, for example, you were sent to a franchised brand X dealer, he represents a line which does not include an eyeglass bone-conduction hearing aid. This is an essential type of hearing for certain types of chronic middle ear pathology; otitis media. Would that dealer then send him to another hearing aid dealer who does carry this instrument?

I would hope so, but I have my doubts. It is my contention that not one, two, or even three lines of hearing aids can fit all auditory pathology.

But when the patient is directed by the otologist to a specific salesman, without going through the specific test procedures which the audiologist is equipped and trained to carry out, then that salesman who first receives the patient will be the dealer to make the sale.

Mr. MILLER. What you are challenging then at this particular moment is not the dealer but the medical profession of the city of New York.

You are challenging not the dealer but the otolaryngologist.

Mr. SULLIVAN. The informed otolaryngologist is the staunchest ally and colleague of the professional audiologist. Otolaryngology is, to a goodly extent, the parent profession from which and under whose aegis and support audiology has developed as a professional field.

You misunderstand my major contention in those newspaper articles which you cite. I am challenging New York City medicaid policies toward the hearing impaired. The New York City medicaid system on hearing aids is not only inefficient and excessively costly to the taxpayer, but detrimental to the best interests of the elderly hearing impaired. I am challenging the logistics of this system.

Mr. MILLER. I think it is pretty evident that this is what you have just done.

Mr. SULLIVAN. May I please respond to one additional point?

You have read Dr. Bellin's comment about the virtually infinite wait, the 1-year wait for a hearing aid. If you will turn to exhibit H (p. 221) in the material which I have submitted you will find an article in the New York Daily News Colorado section where Dr. Bellin is quoted as saying:

> I could have lived with the situation in Manhattan where there were six centers and the waiting period averaged a *couple of weeks* but it was obvious under this system hundreds of New Yorkers were denied any help at all with their hearing.

Why could not some of the long-suffering Bronx patients have been directed by medicaid to those Manhattan audiological centers with the 2-week backlog?

Our suggested answer to the problem was not this "throwing out the baby with the bath water" but rather to avail the city of all the other qualified audiologists and audiological centers which are available.

There are at least 10 other hospital hearing centers which are perfectly qualified, having ASHA certified audiologists on their staffs, there are five or so university hearing centers and a number of private audiology practitioners, all of whom meet requirements under medicare.

It was our simple suggestion for expediting service to incorporate these facilities and make them as accessible to medicaid patients as they are to private patients.

That suggestion was rejected in New York City in deference to using the same overtaxed centers for medicaid patients as are being used for the State-assisted pediatric patients with hearing loss. The medicaid patients are then pushed into the rear of the waiting list in deference to children with impaired hearing. They then have an even longer wait as the backlog grows. Instead, patient and physician alike are forced to the only expedient—out to the hearing aid salesman—back to the doctor—"how do you like the aid?"—if he likes it, fine—it not, there is no recourse, in New York City, for any form of hearing therapy.

Mr. MILLER. I commented at the outset about your eloquence and you continue so to be.

There is no question about that. I think that this is an area that might deserve some further exploration. Perhaps it will be developed by witnesses later in the hearing.

I would like——

Mr. ORIOL. Do you mean the whole general area of medicaid or the New York City situation?

Mr. MILLER. No, the audiologist as a required intermediary which is my understanding of Mr. Sullivan's proposal.

Mr. SULLIVAN. Not necessarily. For example, recommendations were made to the city of New York from the Technical Advisory Committee on Hearing to the Department of Health that: under medicaid the recommendation of a hearing aid require the services of a qualified audiologist unless the otolaryngologist qualifies as an audiologist, in

which case the ENT specialist may refer directly to the hearing aid dealer.

We happen to have in the New York area a few otolaryngologists who are both trained and equipped to function as audiologists.

Mr. MILLER. Do you have enough audiologists in New York City to handle this load for the medicaid patients?

Mr. SULLIVAN. We have many more qualified audiologists in New York City than are permitted to function under medicaid by the city.

Mr. MILLER. I am asking you a straight question that calls for a yes or no answer.

Do you have enough qualified audiologists in the city of New York to care for the medicaid patients under this program?

Mr. SULLIVAN. You press me for the answer to a most difficult and, to an extent, hypothetical question, sir.

Mr. MILLER. I will ask you another: Did you have enough audiologists in the city of New York to take care of all of the patients exclusive of medicaid that may have need for a hearing aid?

Mr. SULLIVAN. There is little or no backlog on private adult cases referred for audiological hearing aid evaluatory services.

Mr. MILLER. You do not answer the question with reference to medicaid patients but including them and adding the others——

Mr. SULLIVAN. All of the centers in New York are now handling all of the nonmedicaid patients that are being referred there.

Mr. MILLER. All of the people purchasing hearing aids in the city of New York——

Mr. SULLIVAN. No, the statistic in New York is somewhere around 70 percent of all hearing aids are purchased directly from the hearing aid salesman.

Mr. MILLER. This is not my question. I am speaking about people like Miss Fabray, and me, and on down to the man who hasn't got 50 cents in his pocket, are there enough audiologists in the city of New York to take care of the demand should all hearing aids be channeled through them?

This is my question.

Mr. SULLIVAN. If we take into consideration Dr. Bellin's comments that there are facilities in Manhattan with but a 2-week delay and I think he labels them six in number——

Mr. MILLER. I am asking for your professional opinion as an audiologist.

Mr. SULLIVAN. I think we can probably handle the vast majority of cases who require evaluatory services in a reasonable amount of time.

Mr. ORIOL. How many audiologists are there roughly in New York City?

Mr. SULLIVAN. There are, I would say, approximately 50 to 75 professionals engaged in audiological practice, in its many facets, in the Greater New York area.

Mr. ORIOL. Your question was hypothetical because no one is thinking of required——

Mr. MILLER. This gentleman is talking about requiring it for medicaid patients.

Mr. ORIOL. That is the way the situation was in New York.

The otolaryngologist in the picture does not want to send his patient to an audiologist, I don't think you can force an otolaryngologist,

if he feels competent to render that service, to have the services duplicated.

Mr. MILLER. Was not this the requirement prior to the change by Bellin?

Mr. SULLIVAN. Yes; it was a prior requirement. However, the suggested inclusion of the audiologically qualified ENT specialist with all certified audiologists was rejected as the sole change by the city.

Mr. MILLER. Did you say the program was forcing him?

Mr. SULLIVAN. The change was as much reaction to these initial strictures as it was the result of pressures from commercial interests. There is appended to the printed material distributed earlier to your subcommittee (exhibit G)[1] a letter sent out by the New York Hearing Aid Dealers Guild circularizing New York City otolaryngologists. In essence, it makes the absurd inference that the professional audiologist is attempting to usurp and undermine the otolaryngologist in the area of hearing aid recommendations. The dealers even included a stamped postcard preaddressed and filled in, expressing support for the, then recent, lowering of medicaid standards re the hearing impaired. I have been unable to obtain any statistics on the proportion of responses to this specious bit of commercial propaganda.

Mr. MILLER. I must confess that a good bit of my questioning has been related to an observation made by Miss Fabray this morning when she commented that we have in this country 1,000—and she, of course, is very deeply interested in everybody getting the best possible kind of care and in the course of her testimony I think she had many fine things to say about many of the dealers.

I don't think she was being critical of the dealers in their ability to fit hearing aids.

Mr. SULLIVAN. However, in her testimony, she made a statement to the effect that it would be very easy for her to "shoot down" the hearing aid dealers and that she preferred to comment on more positive points.

Mr. MILLER. A good bit of my question springs from noting in her testimony that we have 1,000 audiologists in the United States and we need 10,000 and I was relating it to this problem.

Mr. ORIOL. I think it is directly relevant because any practices that arise out of Federal programs that relate to quality of care provided are directly pertinent to what we should be talking about at this hearing.

Mr. SULLIVAN. Tomorrow, I think you might ask Dr. Kenneth O. Johnson, who is the executive secretary of the American Speech and Hearings Association, for some exact statistics on the number of certified and perhaps certificate-eligible audiologists in the country.

Mr. ORIOL. It is very late in the day and I have just two more questions which I will not ask for answers now, but I would appreciate hearing from you.

The first question relates to something that Nanette Fabray said this morning.

She spoke of the stigma, the reluctance of people with hearing loss to admit they may need rehabilitation of some kind. The other was the statement by Mr. Kojis that the industry is selling to people who don't want the product so we seem to have a fundamental problem

[1] See app. 1, p. 220.

here. I wonder whether, from your work day to day in the center, you see any way this attitude can be changed, and whether you have recommendations for educational programs, for things that maybe the Government can't do but others can.

We would be very interested in a detailed discussion of this.

The other question deals with manpower needs.

Throughout the day we have heard many references to shortages here and shortages there.

There will be some proposals made for breaking away and finding supportive personnel. We would very much like to have your recommendations on any programs that would help provide the type of personnel you need every day in your center.

Because it is so late, I will merely ask for those in writing.

I would like to join Mr. Miller in praising you on your presentation.

It was a very productive statement and we are very happy to have it.

Mr. SULLIVAN. I am honored, having been given the opportunity to appear.

I respectfully request that the materials appended to my presentation summary be reproduced with the above testimony.[1]

PREPARED STATEMENT OF ROY F. SULLAVAN

HEARING AIDS AND THE ELDERLY—MEDICARE AND MEDICAID (NEW YORK STATE) CONSIDERATIONS

INTRODUCTION

There are, according to Price, Waterhouse, approximately 32,000 to 35,000 hearing aids sold in the state of New York annually by hearing aid dealers at an average unit price of approximately $250.00 to $275.00. It is further estimated that there are in New York State almost 60,000 hearing-impaired senior citizens over the age of 65 whose degree of hearing loss can be defined as "cannot hear and understand spoken words" or "can hear and understand a few spoken words". (The Minority-Group Needs of the Deaf, Report to the Governor and the Legislature of New York State, March 31, 1968.)

Despite the recommendations of such reports as that cited above and of major consumer publications to the effect that the services of the Clinical Audiologist be secured wherever possible in the testing for and selection of hearing aids, as well as in the provision of appropriate hearing therapy, both the Medicare and New York State Medicaid programs severely handicap the geriatric hearing-impaired patient in his attempt to secure those services readily available to the younger, more affluent hard-of-hearing adult.

MEDICARE

At present, under a new Medicare ruling, a physician may avail his patient of the services of the qualified Professional Audiologist only for the purpose of determining the need for *medical* or *surgical* correction of a hearing deficit or related medical problem. The unfortunate majority of hard-of-hearing senior citizens with non-correctable losses of hearing are not only denied the opportunity to have their purchase of a hearing aid subsidized under Medicare but also are forbidden those services of the Professional Audiologist which entail determining the "need for and/or the appropriate type or specifications of a hearing aid." (Revised Social Security Regulation 6104.3.)

The elderly patient is also denied any form of hearing therapy, such as the hearing aid orientation, a program whereby the hearing-impaired patient is taught to use the hearing aid to maximum efficiency under a wide variety of simulated and real environmental listening conditions, including the perceiving of speech in a quiet background, in a background of environmental noise, and often on the telephone as well; auditory training, which helps the hearing-impaired patient to adjust to the novel and unfamiliar sound as presented through the hearing aid, associating that sound with already-known English speech sounds;

[1] Exhibits appended to Mr. Sullivan's testimony will be found in the appendix, p. 217.

and/or lipreading training, which is often necessary when the geriatric patient's hearing is so severely impaired that he must combine both the auditory stimulus as presented through the hearing aid and lipreading cues.

Any or all of these services are extremely important to the geriatric hard-of-hearing population with all of its concommitant problems of adjustment. This situation exists even though major consumer publications have recommended that a trained Professional Audiologist be consulted whenever possible prior to purchase of an expensive hearing prosthesis from a hearing aid salesman.

RECOMMENDATIONS

Medicare.—It is suggested that surgically non-correctable hearing loss in the aged patient be recognized as a medical problem to be included under the purview of Medicare. This should not only include the services of the Certified Clinical Audiologist in the testing for and selection of an appropriate hearing aid but also the provision of appropriate indicated hearing therapy, and subsidy of the actual purchase of the hearing aid per se as well.

MEDICAID

The interpretation of Title XIX, the enabling Medicaid legislation, from state to state with regard to the hearing-impaired patient differs radically. While some states make no provision for supplying prosthetic amplification to the Medicaid-eligible hard-of-hearing patient, others, such as New York State, permit the aged hard-of-hearing Medicaid patient to obtain a hearing aid, fully subsidized, upon a physician's recommendation. The discrepancies among the states for Medicaid hearing-impaired patients are further multiplied by the fact that each of the more than 50 New York State county or regional agencies which administer the Medicaid program may or may not see fit to embellish the basic regulation that a physician must prescribe or recommend the use of a hearing aid.

The situation in New York varies, for example, from that of the Buffalo area, where the Medicaid agency insists that all hearing aids be recommended through severely-taxed audiology centers to the situation in New York City, where any Board-eligible or Board-certified E-N-T specialist may recommend a hearing aid under Medicaid directly to the hearing aid salesman. (Various press clippings and reports concerning the New York City Medicaid problems can be found in the Appendix to this summary report.)

Further, in New York City the same Audiologists, be they in private practice, in a university hearing-and-speech clinic, or in a voluntary hospital hearing-and-speech clinic, who are eligible to do diagnostic testing under Medicare are not eligible to do testing for the selection and fitting of hearing aids or to provide hearing therapy under the Medicaid program. In effect, both physician and Medicaid patient are denied free choice of the Professional Audiologist's invaluable services, suggested above as essential under Medicare. If the patient does not choose to go to one of the few City-approved hospital-based audiological centers, which are already burdened beyond reasonable limits with care of needy hearing-impaired children, his only recourse is to go directly from physician to hearing aid salesman with no opportunity for the Professional Audiologist to test, evaluate, counsel, or provide hearing therapy.

RECOMMENDATIONS

Medicaid.—It is suggested that, as under Title XIX the various states can provide fully subsidized prosthetic amplification for Medicaid-eligible patients, the diagnostic, hearing-aid-evaluatory, and hearing therapy services of the Certified Professional Audiologist as found in private practice, university hearing-and-speech centers, and hospital hearing-and-speech centers be made as accessible to the elderly Medicaid-eligible hearing-impaired patient as they are to the young, more affluent hard-of-hearing adult.

(The chairman, in a letter written shortly after the hearing, addressed the following questions to the witness:)

Question 1. Several questions were addressed to you at the end of your testimony. We would like to have your replies.

Question 2. You were also asked about the late Senator Robert Kennedy's proposal for smoothing out differences in Medicaid costs in rural and urban areas. His proposal may be found on page 497 of the printed transcript.

(The following reply was received:)

May I take this opportunity to present my brief comments upon these questions presented to me by your Staff Director, Mr. Oriol.

The first question had to do with my reaction to the practicality of an amendment advanced by the late Senator Kennedy during hearings before the Subcommittee on Health of the Elderly on October 19, 1967 in New York. As I understand it, Senator Kennedy had proposed that shelter costs become the basis for determination of financial eligibility for medical health care subsidy under Medicaid. As the purchasing power of the dollar extends further in rural areas than in urban areas, I would consider this proposal to be far more realistic and equitable than others offered thus far.

As I had mentioned during the course of my direct testimony before your subcommittee, the imposition of a single financial eligibility scale for Medicaid recipients resulted in virtually entire populations of Upstate communities falling under the purview of Medicaid. This left an irate 5-to-10% remainder of the population to bear the 25% community costs of the Medicaid program administration. The New York State Medicaid program should have allowed for the fact that land and housing, and to an extent living standards, vary among urban and suburban communities. The necessity would then have been obviated for the general statewide cutback in Medicaid funds resulting in the disenfranchisement of many worthy patients from the New York City area.

The second question posed by Mr. Oriol concerned enlightenment of the public on the need for acceptance of hearing prostheses where they are indicated and hearing therapy where it is necessary for successful auditory rehabilitation. What would be some recommendations for educational programs and for steps which may be taken by the Government that are not easily approached by other interests?

The analogy is often drawn between the initial reluctance, on the part of the sensorialy-handicapped public, to accept eyeglasses and hearing aids. I do not believe the situations to be parallel.

Even when one allows for the change in standard of living between the time eyeglasses were first recommended for common use and the present, it is my personal opinion that the high cost of the hearing aid may be a far greater deterrent to purchase than the direct stigma attached to its wearing and use. A pair of spectacles, not provided for under Medicare, may cost the geriatric patient ten to twenty dollars. A typical price for a monaural behind-the-ear-type hearing aid is on the order of $300 to $350. This prosthesis is, as well, not subsidized under the Medicare program. It is noteworthy that the greatest expense to the consumer occurs in the dealer markup, which is usually in the area of 200%. On a $300.00 hearing aid, this would amount to $200.

Education of the public on a mass-media basis, as is currently being undertaken through the use of advertising agencies by the Rehabilitation Services Administration, will aid in improving the public's attitude toward auditory rehabilitative services as best offered by the Professional Audiologist. However, it is my opinion that the Government or any other body will have a difficult time in selling the geriatric hearing-impaired public on the palatability of the relative financial hardship one must endure in undertaking the unsubsidized purchase of a hearing aid.

Possible solutions to this problem range from a reasonable subsidization of hearing aid cost under the Medicare program to the large-scale wholesale purchase of hearing instruments by the Government for distribution to the hearing-impaired geriatric public via certified audiological centers. This latter approach was presented during your hearings by Dr. Kenneth Johnson, Executive Secretary of the American Speech and Hearing Association. It has also been indicated to me that such a program has been successfully undertaken by the State of Louisiana for their program of aid to hearing-handicapped children.

In summary, I believe the type of advertising campaign to be undertaken by the Rehabilitation Services Administration is extremely desirable. Hopefully, it will be effective in motivating the hearing-impaired geriatric public to secure the necessary hearing-rehabilitative services where indicated. However, it is my contention that the potential stigma to the geriatric hearing-impaired patient contemplating the use of a hearing aid is considerably more financial than social. The suggestion for a partial subsidy of hearing prosthesis under Medicare appears to me most desirable at the present time.

The final question posed by Mr. Oriol concerned the personnel needs of directors of audiological service programs. Grants-in-aid provided by the Rehabilitation Services Administration for the training of Audiologists and educators of the

deaf are invaluable, being in greater demand than there are funds to meet the need. The governmental allotment of additional funds for the training at the graduate level of professional audiological personnel is certainly to be desired. Furthermore, I believe there to exist no small degree of reflexiveness between the relatively small number of hospitals and other institutions throughout the country available to provide professional audiological services to the hearing-impaired population and the availability of trained, qualified Professional Audiologists.

I offered recommendations to be followed concerning inclusion of audiological services under both Medicare and Medicaid as practiced by trained Professional Audiologists either in private practice, university hearing centers, or hospital hearing and speech centers. As a consequence, there should be incentives for Audiologists to enter into private practice after completion of appropriate training. As well, various voluntary and private hospitals would be motivated to undertake the high initial expenditures necessary to outfit and instrument an institutionally-based audiological center in the knowledge that all professional audiological services to be offered there would be covered under the various medical public assistance programs.

Thus, motivation would be provided for new talent to enter the field of Audiology. Hospitals could construct centers which might begin to operate at a self-sustaining level. And, most important of all, professional audiological services would then be made available to a much larger segment of the hearing-impaired population.

Mr. ORIOL. I would like to note that Mr. William Hutton, executive director of the National Council of Senior Citizens was in and presented a statement.

(The prepared statement of William R. Hutton follows:)

PREPARED STATEMENT OF WILLIAM R. HUTTON, EXECUTIVE DIRECTOR, NATIONAL COUNCIL OF SENIOR CITIZENS

Mr. Chairman, this statement is submitted on behalf of the 2,500,000-member National Council of Senior Citizens who are vitally concerned with your continuing inquiry into the cost, service, efficiency and other consumer aspects of the trade in hearing aids.

It has always been the policy of the National Council to urge members with hearing difficulties to consult a doctor for diagnosis of the difficulties.

Assuming the member takes this advice and the doctor who is consulted recommends surgery or other medical therapy, this expense is covered by Medicare but, if the doctor recommends a hearing aid, Medicare pays nothing.

Medicare unreasonably excludes hearing aids, eye glasses and false teeth. The National Council of Senior Citizens has repeatedly urged Congress to extend Medicare coverage to these essential health aids but unfortunately Congress so far has seen fit to do nothing.

The U.S. Public Health Service reports that six and a half million Americans have defective hearing and that at least a third are 65 or over. Some might benefit from wearing hearing aids but only a medical examination can determine this.

Despite the obvious importance of getting medical advice on hearing difficulties, eight out of every ten hearing aids are sold solely on the advice of a hearing aid dealer.

Only one State, Oregon, requires those in business as hearing aid dealers or consultants to meet minimum standards of proficiency.

This is surely a sad commentary on the quality of health care in the USA.

More dismaying still is the refusal of Federal agencies that test consumer goods, including hearing aids, to release the results of their tests.

Mr. Chairman and other distinguished committee members, I call attention particularly to the U.S. Veterans Administration which has adamantly denied public access to test data on comprehensive hearing aid tests made for it by the National Bureau of Standards.

I wish to point out this is in open defiance of the Freedom of Information Law that became effective just a year ago.

The Veterans Administration uses the results of the National Bureau of Standards' hearing aid tests to improve its hearing aid service to armed forces veterans.

The National Council of Senior Citizens applauds this concern for the welfare of armed forces veterans but we respectfully ask how Congress can condone the discrimination involved in providing this highly valuable service for one

group of citizens, worthy and deserving as they are, while unreasonably and arbitrarily denying it to other citizens by refusing to make its hearing aid test data available to everyone who can benefit on an equal basis?

Mr. Chairman and other distinguished subcommittee members, the National Council of Senior Citizens appeals to Congress to bring all possible pressure on the Administrator of the Veterans Administration to comply with the Freedom of Information Law by making available on an equal basis its hearing aid test results.

The National Council of Senior Citizens insists that, where military or security information is not involved, Federal agencies have an obligation to make available to the public consumer information including the results of product testing.

The tremendous pressure to withhold this valuable information from the public—pressure sufficient to persuade the Veterans Administration to defy the Freedom of Information Law—comes from individuals and groups that stand to profit—and in the case of hearing aids—profit handsomely from the lack of information which is kept hidden from the men and women whose taxes support the research that makes the information available.

When an elderly person's hearing becomes defective and a doctor or hearing specialist recommends a hearing aid, the cost for a miniaturized, transistorized battery-operated hearing aid may be $350 plus an additional outlay every few days for a new hearing aid battery.

How reasonable are prices charged for hearing aids? The National Council of Senior Citizens and its members have no way of knowing due to the lack of reliable technical information on the economics of the hearing aid industry.

However, the cost of hearing aids has foreclosed this form of relief for their hearing difficulties for large numbers of the elderly as plaintive letters from National Council members attest.

A San Diego, Calif., retired auto mechanic writes: "My hearing is so bad I am afraid to be out on the street. My doctor says a hearing aid would help but I just haven't the money. Why doesn't Medicare pay for hearing aids?"

A Chicago, Ill., grandmother writes: "I need a hearing aid so I can get around like I used to but the prices they charge for hearing aids take your breath away. Aren't there any low-cost hearing aids?"

From Bridgeport, Conn., a retired auto worker writes: "I think the prices they charge for hearing aids is an outrage. Why can't Congress make Medicare cover hearing aids? Maybe then, the Government could get the price of hearing aids down."

A Cleveland, Ohio, retired machinist's wife writes: "My husband should have a hearing aid. It's hard to talk to him. I got him to go to a doctor and the doctor put him in touch with a hearing aid man but the price they ask for a hearing aid is too stiff for us."

From McKeesport, Pa., a retired steelworker writes: "I need new false teeth and a hearing aid but they'd cost me hundreds of dollars. I just haven't got that kind of dough."

A Los Angeles, Calif., retired insurance man writes: "why do they ask such terrifically high prices for hearing aids. It just seems to me we're being gouged because we have hearing trouble."

Mr. Chairman and distinguished subcommittee members, these letters are typical of mail reaching us regularly from seniors with hearing difficulties. The letters speak for themselves.

The cost of hearing aids is of the greatest concern to the elderly since the majority of older and retired men and women are sunk in poverty or live at or close to the poverty line.

The National Council of Senior Citizens applauds your zeal, Mr. Chairman, and that of the other distinguished subcommittee members in focusing public attention on this very difficult and urgent problem of the more than 2,000,000 elderly who are hard of hearing. Your compassionate concern for the welfare of the nation's elderly and the concern of your distinguished colleagues on the subcommittee deserves the appreciation and gratitude of the elderly from coast to coast.

May I, on behalf of the National Council, urge the subcommittee to continue this avenue of investigation with the object of bringing order out of the present chaotic conditions in the hearing aid industry.

Mr. ORIOL. Thank you very much.

We are adjourned until 10 o'clock tomorrow morning.

(Whereupon, at 4:30 p.m. the hearing was recessed to reconvene at 10 a.m., Friday, July 19, 1968.)

HEARING LOSS, HEARING AIDS, AND THE ELDERLY

FRIDAY, JULY 19, 1968

U.S. SENATE,
SUBCOMMITTEE ON CONSUMER INTERESTS OF THE ELDERLY
OF THE SPECIAL COMMITTEE ON AGING,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m. in room 5302, Senate Office Building, Senator Frank Church (chairman of the subcommittee) presiding.

Present: Senators Church, Yarborough, and Hansen.

Also present: William E. Oriol, staff director; John Guy Miller, minority staff director; and Peggy Brady, assistant clerk.

Senator CHURCH. The hour of 10 o'clock having arrived, we will come to order.

Our first witness this morning is Mr. Colston Warne, president of Consumers Union. He is accompanied by Mr. Morris Kaplan, who is the technical director of Consumers Union.

STATEMENT OF COLSTON E. WARNE, PRESIDENT, CONSUMERS UNION OF UNITED STATES OF MOUNT VERNON, N.Y., ACCOMPANIED BY MORRIS KAPLAN, TECHNICAL DIRECTOR

Mr. WARNE. Senator Church, members of the committee, my name is Colston E. Warne, president of Consumers Union of United States of Mount Vernon, N.Y., a nonprofit organization chartered in 1936 by the State of New York:

> * * * to give information and assistance on all matters relating to the expenditure of earnings and the family income; to initiate, to cooperate with, and to aid individual and group efforts of whatever nature and description seeking to create and maintain decent living standards for ultimate consumers; to maintain laboratories and to supervise and conduct research and tests * * *.

In its monthly magazine, Consumer Reports, our organization seeks to assess from the viewpoint of the consumer the merit of a wide variety of articles ranging from automobiles to household appliances to foods to hearing aids.

This monthly publication has a circulation of 1,325,000 across the United States. It is, in addition, read by many others through library and through family borrowing.

Consumers Union is, in turn, affiliated with the International Organization of Consumers Unions with headquarters in The Hague. Through this affiliation, we interchange test procedures and test results with similar organizations which have now grown up in more than 20 technically advanced nations.

Our interest in the field of hearing aids is of long standing. As early as September 1950 and January 1951, we reported on the costly bewilderment of the consumer in this field and gave brand-name recommendations to our readers accompanied with specific buying advice.

We concluded that, "aids costing $20 to build, cost up to $200 to buy," and that "small, light, economic hearing aids can and should be produced for low-price sales. There is no sound reason in technology or economics why this cannot be done. And there is every reason for doing it * * *."

I should like, with your permission, to submit our 1950–51 report for the record.[1]

Senator CHURCH. May I ask at this point why you think it isn't being done?

Mr. WARNE. Since 1950 there has been a measurable approach toward that end and a number of companies have moved into this field. When I come to the later evidence, as reflected in our study in 1966,[2] this will, I think, be answered.

Senator CHURCH. Very well.

Mr. WARNE. The rapid march of technology after 1950 has brought many new and improved instruments on the market. In the course of our continuing scrutiny of this field, we encountered the fact that the Federal Government, itself, was doing extensive testing of hearing aids through a cooperative arrangement between the National Bureau of Standards and the Veterans' Administration.

Since the Federal Government was making extensive purchases of hearing aids for distribution through the Veterans' Administration, it asked the National Bureau of Standards to develop test data on which to base its buying decisions.

The question immediately arose in our mind: If taxpayers' dollars go to support the development of elaborate standards for testing hearing aids and for the development of quality index scores, scoring schemes and specific test results in order to improve the hearing ability of thousands of veterans, why should not the ordinary consumer benefit from this governmental research? Why should not the veil of secrecy surrounding the Government tests be lifted?

Moreover, recognizing that hearing aids are likely to be purchased by one of the most necessitous segments of the American population—the elderly—by what authority should the Government be able to employ its scientific resources to aid one group of consumers—veterans—while denying these very resources to all others?

GOVERNMENT TEST FINDINGS SOUGHT

Another even broader issue also occurred to us. Might not our senior citizens be greatly aided if they had the benefit of Government test results in a wide variety of other fields? Is there any logic in cloaking Government tests with secrecy to protect those who produce inferior hearing aids, inferior clinical thermometers, inferior heating pads or any other inferior product, or to prevent rewarding those who produce superior products?

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[1] See p. 223.
[2] Text on p. 235.

It was President Kennedy who on March 16, 1962, vividly stated this basic issue. He said:

> We * * * cannot afford waste on consumption any more than we can afford inefficiency in business or Government. If consumers are offered inferior products, if prices are exorbitant, if drugs are unsafe or worthless, if the consumer is unable to choose on an informed basis, then his dollar is wasted, his health and safety may be threatened, and the national interest suffers.

It was President Kennedy who likewise enunciated the right of the consumer to "be given the facts that he needs to make an informed choice." Specifically, President Kennedy said, and I would lay great emphasis on this:

> Too little has been done to make available to consumers the results of pertinent Government research * * * Many agencies are engaged * * * in testing the performance of certain products, developing standards and specifications, assembling a wide range of related information which would be of immense use to consumers and consumer organizations.

Here he referred, specifically, to the information gleaned for Federal procurement purposes and asked the heads of Federal agencies "to place increased emphasis on preparing and making available pertinent research findings for consumers in clear and usable form."

This is from the message of the President relating to consumer protection, March 15, 1962.

I should add that on December 13, 1963, President Johnson gave his specific endorsement to this consumer message of President Kennedy.

These assurances that the consumer interest would be fostered by the administrative acts of Government were furthermore bulwarked by the enactment of the Freedom of Information Act which was interpreted by Attorney General Ramsey Clark as insuring:

> That disclosure [by the Government] be the general rule, not the exception; that all individuals have equal rights of access; that the burden be on the Government to justify the witholding of a document, not on the person who requests it; that individuals improperly denied access to documents have a right to seek injunctive relief in the courts; and that there be a change in governmental policy and attitude.

It has long seemed to us abundantly clear that the Veterans' Administration was following an exceedingly wise policy in requesting the National Bureau of Standards to institute tests of competing brands of hearing aids, the results of which were in due course transmitted to the Veterans' Administration medical officers for assessment, for scoring, and for final purchase of the instruments in accordance with the test results. Such testing represents an essential ingredient in the prudent expenditure of Government moneys.

Why, then, should not these test results be available to all organizations requesting them in accordance with the Freedom of Information Act?

In testifying before the House Operations Committee just a year ago, Morris Kaplan, technical director of Consumers Union, mentioned the great potential in making available to the public the brand and model information now available and kept up to date in the files of the Veterans' Administration, indicating that "the potential savings to the consumer, typically among the older members of the population and often the poorer ones * * * are vast."

The most auspicious starting point for inaugurating a new policy lies in the field of hearing aids. Here the data have been systematically assembled for a period of years.

Senator CHURCH. May I just interrupt at this point?

Mr. WARNE. Indeed.

Senator CHURCH. You make a very interesting point, I think, concerning the research that has been done by the Veterans' Administration on the testing of hearing aids and the position of your own organization that this information should be made public.

Have you attempted through your organization to get this information released? Have you called upon the Veterans' Administration to make a full disclosure?

Mr. WARNE. We have, indeed, Senator. In fact, as I go on to point out—you are anticipating me a little—for the last year we have been engaged in going through all of the formal procedures of the Veterans' Administration; we have met in conference with them; we have filed briefs at various levels.

First we filed a brief appealing against the decision of the head of the Paperwork Management Division of the Veterans' Administration and then against the decision of the Chief Medical Officer of the Veterans' Administration. This appeal which we are now making is our last resort: an appeal to the courts.

Senator CHURCH. Such decisions that have been made up to now have been adverse to disclosure?

Mr. WARNE. Yes; that is right; adverse to disclosure. Although it should be noted that in an early informal meeting there was sort of a gentleman's agreement for disclosure of the material for the last year rather than for the 2-year period as we had initially requested.

Senator CHURCH. But subsequent to that, the decisions that have actually been made have been adverse to disclosure?

Mr. WARNE. Yes; an official decision was made by Mr. William Driver, the Administrator of the Veterans' Administration, in June 1968.

VA TESTING PROGRAM DESCRIBED

The Veterans' Administration testing program has been well described by Dr. Causey, consultant to the Veterans' Administration, as follows:

> The Veterans Administration issues more than 5,000 hearing aids every year. In the existing program, the Veterans Administration submits to the National Bureau of Standards all makes and models of hearing aids obtained for testing purposes. The National Bureau of Standards tests each instrument for a number of electro acoustic factors and transmits the results to the Veterans Administration. Upon receipt, these data are subjected to statistical and comparative analysis. In the hearing aid test, program, no attempt has been made to set up specifications. Actual performance is emphasized in order that we may take advantage of the hearing aid industry's continuing research and development activities toward providing better hearing for those individuals having hearing deficiencies.
>
> Only clinically acceptable hearing aids will be considered for these tests. Clinical unacceptability will be based upon poor physical characteristics as related to use in the clinic situation or poor physical characteristics of an instrument as related to its use by the wearer.
>
> The raw scores obtained in each test item are treated and assigned weighting factors determined by a group of nationally recognized audiologists and physicists serving the Veterans Administration on a consultant basis. Weighted scores obtained by the three hearing aids of each model are averaged for each test. The average score represents the performance of that model on each of the individual tests. The average weighted score on each of the tests are summed to give the measure of total performance achieved by the hearing aid model. The score is designated as "the quality point score."

The report of the Committee on the Judiciary of the U.S. Senate summarizing some of the testimony says:

The Veterans Administration tests are designed so that a point score of 100 will be the average performance of the total group. Hearing aids tested by the Veterans Administration are broken down into three groups on the basis of power: mild, moderate, and strong. This classification scheme is generally accepted throughout the industry. The 64 hearing aids tested by the Veterans Administration in 1961 showed the following quality spread:

Power group	Quality point score of lowest quality aid tested	Quality point score of highest quality aid tested
Mild	54	130
Moderate	[1] 0	140
Strong	61	128

[1] This score resulted from penalties assessed by the Veterans' Administration for lack of quality uniformity. The next highest score in the moderate group was 66.

The conclusion drawn by the Judiciary Committee in 1962 is worth repeating:

An ordinary citizen possessed of the information available to the Veterans Administration, as a result of its testing program, would be in a much better position to get the best buy for his dollar. He would be an informed consumer. Yet, this information is not now available to hearing aid consumers . . . The success of the Veterans Administration program is increasing the level of knowledge about hearing aid quality and thereby substantially reducing prices, suggests the possibility that information could be made available to the general public so they, too, can enjoy the social and economic advantages of being well informed about hearing aids currently on the market.

Coming to our own concern here, Consumers Union is determined to employ hearing aids as a test case to ascertain whether the administrative agencies really will give the consumer access to governmental research information, as embodied in President Kennedy's statement as well as in the clear terms set forth by the Congress in the Freedom of Information Act.

Consumers Union well recognizes that some manufacturers would prefer to substitute advertising hyberbole for scientific assessments. We also recognize that our quest to open test results to public scrutiny may injure some concerns while benefiting others.

Yet, we feel that potential savings to the public are so immense and the principle so important that the effort and the resources which we bestow upon the effort to pry loose these test data from the Veterans' Administration will be well justified by the public interest.

We have today filed suit in the U.S. District Court for the Southern District of New York to obtain these test data concerning hearing aids, afer having been repeatedly rebuffed by the administrators concerned.

I should like to introduce again for the record the brief which we filed this morning in the southern district of New York.

Senator CHURCH. Very well.

Without objection, the brief will be included in the record.[1]

Mr. WARNE. Without entering at this point into the legal aspects of this dispute, we feel confident of one fact—that our hard-of-hearing elderly citizens, whether veterans or nonveterans, have a right to know

[1] Brief to be found in app. 1, p. 256.

which brands of hearing aids have been shown to be superior in Government tests and which brands inferior.

Physicians' Stake in Disclosure

The doctors who prescribe hearing aids have also an even more important stake in such technical information, since it is on their advice that many hearing aids are bought. Consumer groups also have a right to the factual information gleaned by the Federal Government so that they can better assess the promotional claims of sellers. The consumer, himself, has a right to know.

This issue is one which transcends the whole hearing aid field. Basically, it is one of whether the Federal Government will unlock its technical agencies and give the consumer usable and impartial information concerning the merits and demerits of technically complex products offered for retail sale.

If our Government buys by test, for what reason is it so reluctant to make disclosure of its test findings? How can Government officials and the Congress repeatedly give assurances to consumers that they will have freedom of access to information, while the bureaucratic mechanism grinds out techniques of avoidance of the clear mandate of the Congress as well as the clear mandate of social justice?

I do not wish to burden the record here with the full story of the devices employed by the Veterans' Administration to avoid giving test data to Consumers Union. This is a long and complex story of interest primarily to the legal fraternity.

I have prepared a supplementary statement on this which the committee may have.

The highlights, however, are these:

1. Consumers Union first approached the National Bureau of Standards in 1965 where we were informed that they were willing to supply us with test methods, but not test results since their tests were conducted for the Veterans' Administration. We were thus referred to the Veterans' Administration.

2. Finding that the Veterans' Administration was unwilling to assist us by giving test results, we embarked upon our own tests of leading brands and models of hearing aids. Our test results of 40 representative models were published in Consumer Reports, January 1966, and subsequently printed in a pamphlet.[1] This test will be referred to later in my testimony and will be submitted for the record. It is in the January 1966 issue of Consumer Reports.

3. Following the enactment of the Freedom of Information Act, our attorneys on August 15, 1967, telephoned the Veterans' Administration asking how a request for its hearing aid test information might best be expedited. On September 15, 1967, we were informed that a formal written request had to be submitted and that an informal conference which had been arranged was canceled.

4. We made this formal request on September 21 and held conferences at the Veterans' Administration on October 2. The legal and medical authorities of the Veterans' Administration then gave us reason to believe that our request would be granted. At this conference, only one suggestion was made for modification of Consumers Union's

[1] See p. 235 for report.

request; namely, that we request hearing aid results for 1 fiscal year rather than 2. This modified request was made on October 3.

5. There was neither response nor acknowledgment of this letter. On November 3, our attorneys telephoned the office of the General Counsel of the Veterans' Administration and were advised for the first time that "new problems" had arisen. It was later learned that the Assistant General Counsel had given an opinion to the Chief Medical Director of the Veterans' Administration that this material should not be released until after inquiry was made of each hearing aid manufacturer whose instruments were tested, inquiring whether they perceived any legal basis for objecting to Veterans' Administration compliance with the request.

Freedom-of-Information Law Cited

6. This action seemed to us rather singular since the Freedom of Information Act requires that information be made available unless it comes within one of nine exemptions.

Senator Church. I might say in order that we have a more complete record on this point that I will ask the staff to include at the appropriate place in the record the pertinent sections of the memorandum of the Attorney General concerning his interpretation of the relevant provisions of the public information section.[1]

Mr. Warne. Thank you, Senator.

Whether or not the manufacturers are for or against disclosure has absolutely nothing to do with the statutory requirements. To be sure, the fourth of these exemptions, section 552(b) (4) exempts "trade secrets and commercial or financial information obtained from any person and privileged or confidential." The Veterans' Administration did not receive from any hearing aid manufacturers any trade secrets or other information which would come within the fourth exemption. Its agent, the National Bureau of Standards, merely tested the products and recorded their attributes, with Veterans' Administration doctors evaluating the results.

7. On November 16, 1967, we were formally advised of the decision to solicit the opinions of manufacturers and we received on November 20, 1967, a copy of the letter sent to manufacturers. The letter set a time limit of December 8, 1967, for receiving manufacturers' comments.

Inquiries resulted in a letter from the Veterans' Administration dated December 22, 1967, advising that our request was "under active consideration at this time" and that the "comments" of the various manufacturers concerning their "attitude" were being reviewed with General Counsel.

8. In early January of 1968, the Chief of the Paperwork Management Division of the Medical Administrative Service of the Department of Medicine and Surgery of the Veterans' Administration denied our request for test data. The matter then went to the Office of the Chief Medical Director.

During the spring of 1968, correspondence, briefs, and conferences ensued which involved Consumers Union with the legal and medical staffs of the Veterans' Administration and officials of the Department

[1] See p. 303 for text.

of Justice, including the newly appointed Consumer Counsel of the U.S. Department of Justice, whose untimely death you heard of thereafter.

The upshot of this flurry of activity was the referring of the matter to the Director of the Veterans' Administration, William J. Driver.

9. On June 26, 1968, Mr. Driver made the following decision:

> The [Consumers Union] request is denied insofar as quality index scores and the Veterans Administration scoring scheme are concerned; the request for test data is approved as to instruments submitted by manufacturers who, in the light of the foregoing decision, indicate to this agency that they have no objection to its disclosure, and is denied as to all other instruments.

With this decision, Consumers Union had exhausted the administrative process. Our only chance of securing information in any meaningful quantity or scope lies in litigation provided for under the Freedom of Information Act. This we have now undertaken.

Your committee which is today dealing with hearing loss, hearing aids, and the older American is concerned with a serious problem confronted by many of our elderly citizens. As Eleanor Roosevelt, herself a hearing aid user, put it:

> People who need a hearing aid are sometimes not just awed by the cost, which is very high, but would like not to acknowledge that they do not really hear as clearly as they once did.

This reluctance to acknowledge a hearing loss is, however, frequently accompanied by an additional handicap—the bewildering variety of hearing aids and the exaggeration in the claims made for them.

In a market in which 300 to 400 different hearing aids are presently offered for sale and in which all sorts of professional and quasi-professionals, ranging from physicians certified as ear specialists to high-pressure salesmen, are ready and eager to advise the hard of hearing in their choice, it is difficult for the consumer to reach a sound judgment. The prevalent confusion is not eased by accounts of new operations that will cure deafness or by the mystique of "fitting procedures" perpetuated by many hearing aid dealers.

Forty Hearing Aid Models Tested

Our last report on hearing aids was published in Consumer Reports in January 1966. Here are tests of 40 representative models of the kind suitable for most people who can use an aid at all showed that, while the high-priced philosophy of hearing aid retailing has kept the prices of most of these models in the $250 to $350 range, we did find several acceptable models well below these prices.

Two of them, likely to be suitable for many wearers, we deemed "best buys" at a price well below $100. The complete January 1966 report as it appeared in Consumer Reports has been submitted for the record.

You will note that our analysis leads from a discussion of where to start the quest for a hearing aid when confronted with a hearing loss, to the nature of the varying instruments. Of special interest to this committee is our discussion of the high cost of hearing aids. Here we address ourselves to the basic economic issue: Why do many hearing aids cost well over $300 while only a very few cost less than $100?

Perhaps it might not be amiss to quote our conclusion on this point:

> Consumers Union's engineers took apart the Best Buy Sears model and a sampling of some of the more expensive aids. The Sears is not made in a conspicuously less expensive way than the others. There is a strong similarity among them all in general design and in the kinds of parts used. Nor did the assembly techniques of the expensive aids exhibit especially high and costly precision. The answer, then, is not in the aids, but, rather, in their distribution.

At the close of our tests we append, in fact, we always append, a sequence of ratings of the various types of hearing aid—the behind-the-ear type, the in-the-ear type, the eyeglass type, and the body type—listing the brands by groups according to the degree of amplification provided and, within groups, in order of estimated overall quality on the basis of laboratory tests and engineering evaluations.

We found differences in overall quality between adjacent models to be small. The three best brands with high amplification of the behind-the-ear type were listed at prices of $339.50, $295, and $349. With moderate amplification, the three top brands listed at $195, $79.95, and $309—a very wide range.

Among the various types we found two Best Buys—one a Sears, Roebuck brand of moderate amplification of the behind-the-ear type at a price of $79.95, and the Zenith Award brand at a price of $75 in the body type with high amplification. One brand deemed not acceptable, the Yoshiba 1004 at $89.95, was found to have a frequency response judged inadequate for satisfactory speech intelligibility.

This study of hearing aids was prepared under the direction of Mr. Kaplan. Accordingly, Mr. Kaplan can tell far more about this than I can.

During our preparation of this study of hearing aids, we found that the officials of the National Bureau of Standards were very cooperative in giving us the benefit of their test techniques. Their findings, prepared with meticulous care at taxpayers' expense, are invaluable to all researchers. It indeed seemed most anomalous for us to start at the beginning and to duplicate the tests to reach a result which was already known by the Government scientists.

Test Data Gained at Taxpayer's Expense

The Veterans' Administration hearing aid case indeed affords an excellent case illustration of test data obtained at considerable expense to the Government, and, therefore, to the taxpayer, which could be of very considerable use to our senior citizens. It is by no means the only instance in which our citizens could benefit from learning of the performance of products from Government tests.

The Government in the course of its purchasing assembles a host of information concerning the accuracy of brands of clinical thermometers. It makes studies of products ranging from floor waxes to briefcases. It has tested frozen fish fillets, at the instigation of producers in that field—a study which, I might add, it will not release to Consumers Union, but has released to the producers.

Through the purchasing arm of the Government, the General Services Administration, it provides a "certification list" of producers which give assurance that they will produce, according to specifications. The results of governmental testing as to adherence to these

standards would provide valuable consumer information. While no exact inventory of available Government test results has been made, it appears that these tests range through a wide variety of fields.

The net of it is that the Government, itself, has a most useful byproduct, stemming from its own purchasing efforts. No consumer could claim, let alone an experienced consumer organization, that all of these Government test results have relevance for the ordinary buyer.

The methods employed in the testing and the relevance of the test results all need careful assessment. Yet, let me emphasize that the vast laboratories owned by the Federal Government should not draw a veil over their operation in the interest of trade secrecy. This is an idea that Consumers Union cannot accept.

Should consumers of hearing aids face the costly and arduous process of assessing 50 brands on their own? Must a nonprofit consumer testing agency such as Consumers Union invest over $40,000—as it did in 1965—to duplicate what the Government already has at its fingertips?

As our technical director, Morris Kaplan, testified before the Committee on Government Operations of the House of Representatives a year ago, such important consumer products as hearing aids, batteries, tires, floor waxes, lamps, various building products, washing machines, detergents, home freezers, and other articles are evaluated by one or another agencies of the Federal Government. The Bureau of Fisheries does tests on frozen food products in consumer packages at the behest of the producers.

Unfortunately, such information has hitherto been released only to producers and has not been made available to Consumers Union, or to consumers at large, for dissemination to the general public or to any individual.

The Department of Agriculture collects information on the effectiveness and toxicity of insecticides. The Food and Drug Administration tests clinical thermometers and condoms. The laboratories of the Quartermaster evaluate such consumer items as clothing and textiles. Navy laboratories evaluate paints, detergents, and other products.

The General Services Administration and/or the National Bureau of Standards will be testing tires, seatbelts, and brake fluids—seatbelts and brake fluids have now been transferred to the new Department of Transportation. They have tested auto batteries and other items.

It is abundantly clear that a search of governmental agencies would reveal a considerable body of information concerning the performance of available goods and services offered on the American consumer market. Some of this is direct brand information; some relates more generally to product categories such as gas versus electric appliances, alkyd oil paint versus water-soluble paint for interior and exterior use. Such information includes valuable data concerning care, maintenance, and safety in use. The need of today is to unlock this information for the benefit of the consumer.

Thank you.

Senator CHURCH. Thank you very much for your testimony, Mr. Warne.

I have been an admirer of the work that is done by the Consumers Union and its efforts to apprise the consumer of the quality of different products on the market.

FAR-REACHING ISSUES INVOLVED

The issue you raise seems to me to be a very far-reaching one, one that turns upon a determination of the propriety of disclosures by the Government on tests conducted by the various agencies. Clearly, the Government needs to know the quality of products that it purchases and these tests have been carried on primarily for that purpose.

You raise a different aspect of the issue, that being the right of the public to know the results of Government tests for its own protection and information.

What if the Government were to make full disclosure of all the tests and runs on the products it buys? What, then, would be the function of the Consumer Union?

Mr. WARNE. I seem to recall that the Federal Trade Commission has issued test results, for example in the field of cigarettes as Consumers Union also has from time to time in the past.

I don't feel that the release of Government information would be sufficiently rapid to be troublesome to C.U.; in some cases the Government test information would need interpretation.

I feel there will be for many years in the future a very real place for Consumers Union. Mr. Kaplan might perhaps give us a closer view of this.

Senator CHURCH. I merely wanted to determine whether your purpose was to work yourself out of a job?

Mr. WARNE. Well, we are a nonprofit organization and consumers this year will be giving us about $8 million to finance our work. We have no advertising. We have no Government subsidy. We rely upon our membership and subscription sales.

People want this magazine, "Consumer Reports," because it seems useful to them. If the time arrives when they don't want it, I suppose we will fold our tent. I don't think the tent will fold very rapidly; we seem to be very rapidly expanding instead.

Senator CHURCH. I think that is right.

Mr. Kaplan, I will give you a chance to respond to the question but the service provided today by Consumers Union based on a desire by consumers to obtain this kind of information is financed by the subscriptions of consumers, themselves. Now, that is one thing. I think it is a very laudable work you do and a very important service you render.

The question of governmental judgment based upon governmental tests on all products is another proposition. I mean, it raises many other questions as to the role of Government and the extent to which this power might possibly be misused and the character of protections that might have to be established if we were to proceed in this direction.

Do you see what I mean? I mean, it is quite a different proposition for the Government, itself, to intervene here. The criteria and the standards would have to be very carefully established, it seems to me, because the source in the one case is very different from the source in another.

Mr. WARNE. The former Assistant Attorney General, Donald Turner, suggested that there be either some kind of Government testing agency or some governmental subsidy to Consumers Union to permit consumer testing to be a vehicle for antitrust enforcement. He felt that many small companies did not attain their proper place in the sun be-

cause of limited resources and that consumer testing might be a suitable Government vehicle to bring out the merit of their products.

There is also a bill pending in the House by Congressman Rosenthal and 20 or 30 Congressmen which would in essence set up a kind of Government research body which would permit a Government certification of products if they met given standards. This would not be evaluation of the whole spectrum but more the setting of a basic standard.

So, this notion of the Government taking a more active role in consumer testing is being considered in many channels, many sources. But here before us is a very concrete case where our elderly citizens if they are veterans and are impecunious, may get the benefits of Government testing, excellent testing, the good job the Veterans' Administration is doing. But why not the rest of us?

By what virtue would this limited group be carefully guided where the rest of us remain subject to the blandishments of all of the competitive sales pressure that so characterizes this field?

Senator CHURCH. Mr. Kaplan, would you desire to respond in any way to the question I raised?

Mr. KAPLAN. Perhaps briefly.

In spite of the fact that the Government does a great deal of testing, there are many, many areas which the Government is not in. And it seems to me that even if the Government were to release all of the information it now has, there would be plenty of room for a consumer testing organization such as ours to continue our function.

As Mr. Warne has said, if the Government should ever go beyond that, we would be pleased to go out of business because we were created for the purposes of filling a need and if the need no longer existed there would be no point in our continuing. We are a nonprofit organization and have no vested interests in maintaining it.

Senator CHURCH. Are you ever sued?

Mr. KAPLAN. Yes; we have been sued from time to time. I hasten to add never successfully.

Senator CHURCH. Is that right?

Mr. KAPLAN. In the 20-some-odd years I have been associated with Consumers Union, there have been some four or five suits but they have never gone beyond the pretrial examination where the disclosure of our facts was usually enough to persuade the suer to withdraw his suit.

Senator CHURCH. You conducted tests of your own on hearing aids, which has been referred to by Mr. Warne. Do you feel that that examination was inadequate in any respect or that the testing that the Government has done in this field is superior to your own?

Mr. KAPLAN. It is inadequate in several respects.

The most important respect is that it cannot be kept up to date. We published it in 1966 and we have not done a report since. The Veterans' Administration tests every single year.

The second important respect is that we tested 40 brands when there are some 300 or 400, or at least were at that time, on the market. It is not possible for us to test the whole group.

Senator CHURCH. What was the basis for your selection of the 40 brands?

Mr. KAPLAN. It was really an effort to slice through the market and get some feeling for what had happened to the hearing aid situation

since we had tested last which had been a good many years before then.

So, although it was not exactly haphazard, it tried to include examples of the various types, examples of the new developments, examples of low-priced and high-priced aids; but they were in fact nothing more than examples; we did not do a full comparative test of what was available to the consumer.

We did find some results which suggested to us that certain kinds of hearing aids would have been desirable to have included but we had only included a few of those. It would not have been possible to run the whole range. But I think on the technical level the tests were quite adequate. We had the full benefit of the advice of the Bureau of Standards and in fact of the Veterans' Administration.

I must add that the reason that we had their full advice is their own great concern that such information be made available to large numbers of people. They wanted us to do the very best possible job we could so that audiologists and others would have available information not only from producers but from some independent source. So, on that basis, I think our work is quite satisfactory.

Senator CHURCH. I think you have raised an issue of great importance and I am very much interested in its implications. It may well be that your position is eminently sound and that we ought to proceed in this direction. You have a very strong case for it.

I have some misgivings that rise principally from the fact that from my own experience I am not so certain that Government would carry out this responsibility as well as you envision. You mentioned cigarettes, for example. If I recall correctly, it was not until the medical associations and some very eminent medical men began to make public disclosures. It seemed so irrefutable that cigarettes were a serious hazard to the health of people who smoked them that the Government was reluctant to do anything in this field. It was almost forced then to some action out of a general sense of embarrassment.

I know the pressures that are brought to bear on Government agencies. They may conduct tests very well when the purpose of those tests is to decide what the Government would purchase. But let the pressures come to bear on the Government in terms of general disclosures as the guidelines for the consumer public and I must express the doubt that the job would be done as well or in accordance with the kind of standards that I would like to think you gentlemen require.

I am just not so sure that you are going to come up with a better answer by relying more heavily upon the Government than you will come up with by relying more heavily upon your own sources and your own standards and your own expanding circulation to the consumers of the country.

Mr. WARNE. Might I say, Senator, that I have a great deal of confidence in the National Bureau of Standards in its objective, in its competence, and in the facilities which it can bring to bear on a problem such as hearing aid testing.

Indeed, Mr. Kaplan could indicate the degree to which we have relied on the National Bureau of Standards for methodology.

Senator CHURCH. I think there is no question about that, that their scientific competence, expertise in the matter of testing, I think is very high indeed. The aspect that worries me would be the other pressures

that would come to bear, the other arguments that would develop, and the postponements and the partial disclosures and the other things that happen in the whole political processes, as it were.

I am not quite so sure that you would be better satisfied with the results of what would really come out through a Government takeover of a function that now is being done privately.

Mr. KAPLAN. Perhaps, Senator, if we could consider this in two stages. If we at the present time could get information that the Government already has in its files and is regularly accumulating, I think that would be a great step forward.

FIRST STEP: USE DATA NOW AVAILABLE

We could argue the second aspect of this, "Is it desirable for the Government to go beyond what it is now doing?" on a different level and perhaps in a different way? I think an argument can be made that it is a desirable thing to do, but the thing we are presently concentrating on is the problem of making available what already exists and there is enough of that so that this would be a tremendous step forward.

Senator CHURCH. Thank you very much for your answers.

I want to defer now to Senator Hansen and I express my appreciation for his participation.

Senator HANSEN. Thank you, Mr. Chairman.

I was most intrigued by your questions and I would like to pursue them just a little bit further, if I might.

First, if I could direct a question to you, Mr. Warne. Would it be your feeling that equally as important to a consumer, insofar as his satisfaction with the hearing aid is concerned, is the personal attention, the servicing that might be a followup from one company in acquainting a person with less than full hearing with the techniques, the treatment that he should expect to accord his hearing aid and the tuning-in or the little minor adjustments that might be made and what to expect, that is, the understanding that he will have to develop some tolerance?

I say these things because I come from a family in which my father wore a number of hearing aids and I have seen more hearing aids on shelves around the country than anywhere else.

It has been my feeling that perhaps as important to an individual in gaining satisfaction from a hearing aid is a followthrough that would be directed toward helping that person become familiar with the hearing aid and knowing something about its limitations and its potentials. Perhaps these could be factors that would be reflected in an additional price for hearing aid X as contrasted with the hearing aid Y.

Would you share my feeling generally in that regard?

Mr. WARNE. I think there is an important total relationship, that is, knowing where to start in buying a hearing aid and establishing a relationship for repair and adjustment and that type of thing. I think this is very well stated in our summary in the January 1966 issue of Consumer Reports.

It has been my impression that the hearing aid field has been plagued by too much high-pressure artistry of sellers who are not medically

qualified, coming into the industry and making great promises for their equipment and making a very heavy assessment for their time and for the total sales processes. It is a field that perhaps needs a greater population of qualified doctors in the area and a lesser population of salesmen.

Mr. Kaplan can better handle the technical aspect of this.

Mr. KAPLAN. Senator, everything you say is eminently true.

The question is: How best to achieve the objective you are interested in.

The person who suffers from the loss of hearing already has very, very many serious problems. The problem of handholding, the problem of coddling him through the period when it is extremely difficult for him to admit that he has a hearing loss, the difficulty of trying to meet that hearing loss with an inadequate instrument—which is what the very best of these is—is a very serious one and we don't play this down in our view of the matter.

But, because the problem is so complicated, it seems to us that the additional complication of trying to choose a hearing aid appropriate for his needs is so great that at least that additional obstacle ought to be removed. With the very best of intentions on the part of someone who is selling him a hearing aid, that person is most often not the appropriate qualified person to make the decision as to which hearing aid is desirable.

No matter how much good will exists and how much coddling takes place, if the hearing aid, itself, is wrong, nothing will help. So, what we are suggesting is that one of the hurdles be removed. At least, he should go to a place where he is going to get a hearing aid that will meet his needs properly. Thereafter, all the necessary attention should be paid to getting him to use the hearing aid, learn to lipread, to do all the things that are required to help him.

That is no mean task but it becomes extremely difficult, even more difficult if he has to choose from among 400 hearing aids and is likely to choose one that is just wrong for him.

Senator HANSEN. Well, I appreciate your objective and I don't think most of us would argue at all with what might be considered to be in the public interest and for the public good.

Your main thesis, I gathered, Mr. Warne, is that you feel that full public disclosure of the results of all of the testing that had been done by the Government would be in the public interest and should be undertaken at this time. Am I right about that?

Mr. WARNE. Let me make this more specific.

It is our feeling that certainly in this hearing aid field, where it is a regular routine effort of one of our Government agencies and where the citizens need the comparative information there we should have open Government files.

Now, I, personally, would go beyond that but I think it is so important that this hearing aid information be disclosed, that the case should not be prejudiced by bringing in a thousand and one other issues.

So I make my plea primarily in the hearing aid field, but I do sense that the argument could be made equally well in other zones.

I have observed, Senator, that in the agricultural field the farmers do get these results; they get test results on germination of various

seeds; they get a vast host of agricultural materials that have brand ratings on them, so to speak.

So, this is not an exceptional thing we are asking for.

Senator HANSEN. I suspect you would agree with me that the public generally gives great credence to the official reports by the Government.

Mr. WARNE. Yes.

Senator HANSEN. Would you agree also that implicit in this confidence certainly could go great inducement to the purchase of product X over product Y if an official Government report indicated that X was a better product than was Y? Would you comment on that?

Mr. WARNE. I think that would certainly be an influence and that influence would be great or would be small, depending upon the esteem in which the testing agency was held.

Senator HANSEN. I am speaking about Government, not about the individual testing agent. I am talking about the Federal Government.

Mr. WARNE. I am thinking about the Bureau of Standards.

Senator HANSEN. They don't test seeds.

Mr. WARNE. No.

Senator HANSEN. But you spoke about seeds.

Mr. WARNE. Yes, and our experiment stations do test them.

I think the farmers of the Nation have gotten a pretty good notion of whether scientific agriculture is fostered by these experiment stations in the sense that farmers rely upon the germination reports. So, it all goes back to the standing, the reputation of the testing agency.

Senator HANSEN. I think what we are concerned about or at least what I am concerned about is trying to define a policy which best serves the long-range interests of the American people.

I think you have a good case insofar as supporting your contention that the results of the Veterans' Administration testing of hearing aids ought to be made public. I must admit to some misgiving, however, as I contemplate the pressures that I suspect would be placed upon the Government if it were to yield in this particular instance.

It is not my purpose to try to defend or to criticize the Government; I am just trying to explore this question with you. If we assume that in this instance the case is clear-cut, the results of the Veterans' Administration testing should be made public, then it occurs to me that it would not be difficult at all for other people interested in other affairs and concerns of the Government in which tests have been made to say the precedent was created and was recognized in hearing aids so let's go into this one.

I can foresee the time coming when just about any activity of private enterprise in the manufacture of a product might find itself subjected, and I don't use that word critically, to testing by the Government and the Federal Government would be looked upon more and more as the final arbiter in determining what is the best buy, what best serves the purposes of the consumer.

If that were the case, then it seems to me that there might at some time arise some pressures within the country by the people to say, let's not waste our time manufacturing these products which don't measure up; let's just build the good ones.

If this were the case, could we not eventually get around to a situation not unlike that in Soviet Russia where there has not been the competition and where a great deal of the production for domestic

consumption is under the direction of and in accordance with the standards of the Government?

If that were the end result, then I think I would have to say this is not the direction in which we should be moving because despite the fact that a consumer may be taken time and time again by a fast-talking salesman who makes his pitch most persuasively and sells and gets out and isn't seen again, I think there is something to be said for a system which permits anyone who believes he can market a product to get into the business and to try to compete against those who are in there.

I would like very much, if we could, to help those who do the best job. I think your Consumers Union has done an excellent job. I don't happen to belong to it but I have two sisters who do and they swear by you and tell me what kind of a car I should buy. I go to a banker and ask him what kind of car can I get the loan on and that is what makes my decision.

Nevertheless, I think the point is well made that there is something to be said for an independent agency such as yours that comes out with this information. I, frankly, have some misgivings about saying to the Government that whatever tests are made might be fully disclosed to the public because in some cases it may be that the tests are as yet incomplete; perhaps new factors have been brought in.

I think you made a good case insofar as the Veterans' Administration is concerned with reference to hearing aids but I would have some question about saying we should do this and then having said that have other interested groups point to this decision as a precedent that would prompt the Government to make available all of its resources. I just invite your comment.

A Worldwide Trend Toward Measurement

Mr. Warne. Well, I should start this way, that I do think there is a worldwide trend toward measurement, toward purchasing by specification. Thus, the General Services Administration does not buy by advertising claim; it buys on specification, with very careful tests in many fields.

Here and abroad, the practice of governments in seeking to help the consumer—this new era that is sometimes called "consumerism"—seems to be growing; there is an effort to give the consumers the facts they need before they buy, especially in complicated articles.

This trend is not alone confined to the United States. For example, in Norway the Government subsidizes brand name testing; West Germany the same; Sweden the same. There is a drift in this direction. Now, it can go too far but I don't yet see any great danger to the American competitive system. There are more and more of these efforts at comparative testing, comparative assessing of products.

While the hearing aid case stands out very spectacularly, I presume that one must recognize that there is a general trend in the direction of government testing.

Mr. Kaplan is much closer to this problem than I am.

Mr. Kaplan. Several things.

One, you must be aware of the fact that the Government being so large a purchaser at the present time of various kinds of items does in fact by the mere existence of its specifications and testing procedures

and its purchasing power influence very strongly what does in fact go on at the manufacturing end.

A case in point was safety in automobiles in the early days before the act was passed and with regard to tires and with regard to many other things that the Government buys—lumber, for example. The lumber specifications, which are in an unholy mess at the present time, are influenced very, very largely by FHA's views on the matter.

So, to a large extent, the kind of thing you are talking about does already exist in a number of industries and not, I think, to the detriment of the consuming public.

The second thing is that it seems to me that if the Government in doing its testing for its own purposes uses performance specificaions as it now does—as opposed to design specifications—for just what should go into some product, then there is almost no danger of the kind you are talking about. Because if the requirement is only that a product perform in accordance with certain criteria, there is plenty of room for some imaginative producer to devise new and better ways of achieving higher performance as specified.

It is rare that by this kind of procedure the Government would restrict such ingenuity in any way.

So, it seems to me that there is minimal danger along the directions that you are concerned with.

On the contrary, I think there is a great deal to be gained for the public interest in getting off the market those products which are unsafe and clearly unsatisfactory, and there are lots of those. It seems to me that millions and millions of dollars are wasted, millions of dollars of natural resources are wasted in the production of products that are clearly inadequate by any criteria, by any standard.

At least in this first stage that we are talking about if the Government has this information, it seems to me it would be a criminal waste of our natural resources to permit somebody to use them for manufacturing a product that is unsafe or unsatisfactory on any reasonable basis.

So, I think there is a danger and I think one ought to be aware of it, one ought to be concerned with it, but I think it is a danger that is very easy to handle by techniques that are quite clear and should begin to be further developed. I think there are any number of ways that one could use to step in to see that it is handled appropriately.

We are often accused of fostering monopoly by means of our reports because we point out which are the better products and which are the poorer ones.

Now, the answer really is that it is rare that there is only one best product or two in an industry that has been going for any reasonable length of time. There are best products depending on the kinds of needs. There are very few automobiles that we made not acceptable, for example, very, very few, indeed. We will point out one automobile is more suitable for one kind of use than another, and that is very useful information so the right person buys the right automobile.

The same thing is true of hearing aids. There was only one out of the 40 that we considered to be clearly inadequate but there were large differences among the others. Some would be suitable for one kind of person and some for another.

Now, all of this information, I think, is beneficial and the dangers of the Government providing it are minimal.

Senator HANSEN (presiding). Mr. Oriol, do you have some questions?

Mr. ORIOL. Yes.

If agreeable with the witnesses and with the chairman, I merely would like to ask the questions at this time and ask that the replies be submitted in writing because we have other witnesses waiting.

Senator HANSEN. Fine.

Mr. ORIOL. The first question is related to a list of specialized hearing services in your 1966 article at the end of the article.

What was the basis for choosing those particular services to be listed. In addition, what is your opinion on whether there are an adequate number of sources of such services?

Another question is: You mentioned one manufacturer who was able to offer a pension model, I think, which is roughly the same model that costs $100 more than the normal model.

I would like a little additional discussion on whether this model is still available and how it is possible to offer it at $100 less than the other model.

Another question: A representative of the Hearing Aid Industry Conference yesterday said in describing the vast distribution system for hearing aids from private sources:

> I know of no way to serve more people, more economically, more satisfactorily, more promptly or more reliably than by the expanded use of this system.

He also described it as:

> Inherent in the industry today, then, is a remarkable distribution system with the following priceless elements—
> (1) a widespread, diverse inventory of products, equipment and spare parts;
> (2) trained specialists in fittings, sales and continuing after-sale services, reliably serving every community in the nation;
> (3) reliable and responsible businessmen operating on a competitive, profit-oriented, long-term basis—all playing a role in putting the hearing aid as a public health asset at the disposal of the citizen in need, when and where he needs it.

In today's statement, Mr. Warne seemed to suggest that the inadequacies in the present distribution system might be major factors in what people regard as the high cost of hearing aids.

I would appreciate your reaction to this statement and any elaboration of Mr. Warne's comments.

Mr. WARNE. Thank you.

Mr. KAPLAN. Thank you.

Mr. ORIOL. Mr. Chairman.

Senator HANSEN. If the witnesses will respond to those questions in writing, it will be appreciated by the Chair.

We want to thank you gentlemen for your appearance here this morning.

(The answers to the foregoing questions were received for the record:)

Question 1. What was the basis for choosing those particular services . . . .

Answer. I should note first that the "Directory of Specialized Hearing Services" to which you refer was not published in the original article in CONSUMER REPORTS (January, 1966) but rather in a reprint published subsequently. As noted in the subtitle of this Directory, it was compiled by the American Hearing Society, Washington, D.C.

In our opinion, the number of such services is insufficient to meet the needs. Note, for example, that two states have none, 11 have only one listing and

13 others have only two or three, and that there are fewer than 300 such service facilities listed as being available nationwide. (It is possible that a more up-to-date list may be available from the American Hearing Society.)

Question 2. " . . . *additional discussion on whether this model is still available . . .*".

Answer. In a March, 1966 follow-up to our January, 1966 report on hearing aids, Dahlberg Electronics, Inc., has informed CU that its dealers offer certain "Pension" models at reduced prices to people deemed by local dealers to qualify. According to this company, the Dahlberg Clarifier I–Pension is identical with the Dahlberg Clarifier I eyeglass-type hearing aid rated by CU, except that the "Pension" model is priced at $229.50, which is $100 less than the regular price. The Dahlberg Magic Ear Mark IV (not tested by CU) also is said to be available in a "Pension" model at the same discount.

We have called Dahlberg Electronics, Inc. and learned from their Sales Manager, Mr. Donald B. Arndt, that they still manufacture a Pensioner's model hearing aid. It is called the behind-the-ear Dahlberg Model 4100 Rexton hearing aid priced at $179.50. It is claimed by the company to have an average HAIC gain of 34 db. The word "Pensioner" is engraved on the unit to identify it further. As before, the dealer determines who is qualified to buy this hearing aid. We have also been informed that there is now no comparable non-Pensioner model in their current line and that the models we referred to in our report—the Clarifier I and the Magic Ear Mark IV—have been discontinued.

I am sorry that I cannot comment on how it is possible for the manufacturer to have offered the Pensioner model at $100 less than its comparable non-Pensioner counterpart. Perhaps the manufacturer would be in a position to answer this question.

Question 3. "A representative of the Hearing Aid Industry Conference . . . any elaboration of Mr. Warne's comments."

Answer. As our published report made clear, our quarrel with the methods used to get hearing aids to those who need them is not with the availability of products or spare parts. We are concerned with the lack of availability of technically competent, properly trained people equipped to diagnose the nature of the hearing deficiency and to prescribe an appropriate hearing aid and/or other form of treatment. It is our view that the hearing aid dealer is not—either by training or by motivation—an appropriate person to prescribe a hearing aid or to provide the necessary education after a hearing aid has been obtained. Following the publication of our report, we received a letter from the Executive Secretary of the National Hearing Aid Society, an organization of hearing aid dealers, complaining that we had not described adequately the role of the dealer. In reply I stated, in part:

"The efforts of your Society on behalf of the retailer of hearing aids, particularly the code of ethics you have promulgated, are laudable indeed. But I'm afraid you have missed the point of our advice to purchasers of hearing aids. We were aware, and so stated, that 'something like 80% of hearing aids are now sold on no other advice than a dealer's'. A major part of our report was directed toward advising against this practice. Our advice to someone who suspected he had a hearing loss was to consult with a physician first. We indicated that the physician might refer the patient to an all-services hearing clinic. Alternatively, the physician might send the patient to an otologist who, in turn, might send him to a fully-trained audiologist. We pointed out that many dealers own audiometric equipment and 'play to the hilt the role of the professional who can diagnose your trouble and specify the right hearing aid for you'. And 'even if every dealer were skilled, CU believes he should be disqualified as your audiologist because of the conflict of interest created by the strong economic pressure on him to sell the models he handles'. On this point, I'm sure you're aware that the American Speech and Hearing Association code of ethics for its Certified Audiologists bans their doing clinical work for hearing aid dealers.

"Thus, the absence in our report of a reference to your Society as a source for diagnosis of hearing problems or advice on which hearing aid to buy was not inadvertent. Our difference is one of point of view. We believe that a society of hearing aid dealers can perform many useful functions—and yours apparently does. But, in our opinion, hearing aid dealers should not prescribe hearing aids they sell."

Senator HANSEN. Next to be heard is Mr. Kenneth Johnson.

I believe with Mr. Johnson are Mr. Tom Coleman and Mr. Aram Glorig.

Will you gentlemen come forward, please?

If I may, gentlemen, I would like to suggest in the interest of time, in order that we could get down to the give-and-take in discussion that it might be most helpful to the committee if you would submit any prepared statement you have to the committee and it will be included as though it were read without objection.

Then perhaps you could summarize if you would like to and we could get into the discussion at that point.

If I may, let me ask that each of you gentlemen introduce yourselves for the record.

STATEMENT OF KENNETH JOHNSON, EXECUTIVE SECRETARY, AMERICAN SPEECH & HEARING ASSOCIATION; TOM COLEMAN, EXECUTIVE DIRECTOR, NATIONAL ASSOCIATION OF HEARING & SPEECH AGENCIES; AND ARAM GLORIG, M.D., EXECUTIVE DIRECTOR OF THE CALLIER CENTER OF DALLAS, TEX., AND CHAIRMAN, COMMITTEE ON HEARING CONSERVATION OF THE AMERICAN ACADEMY OF OPHTHALMOLOGY & OTOLARYNGOLOGY

Dr. GLORIG. I am Dr. Glorig from Texas.

Mr. JOHNSON. I am Kenneth Johnson, Washington, D.C., American Speech & Hearing Association.

Mr. COLEMAN. I am Tom Coleman, Washington, D.C., the National Association of Hearing & Speech Agencies.

Senator HANSEN. I don't know who was to be heard first.

Mr. Johnson, are you the leadoff man?

Mr. JOHNSON. I don't think it makes much difference. I will be glad to start.

I have a statement dated July 16 and I would be pleased if that would be placed in the record.

Senator HANSEN. Without objection, it will be.

(Mr. Johnson's prepared statement follows:)

PREPARED STATEMENT OF KENNETH O. JOHNSON, EXECUTIVE SECRETARY, AMERICAN SPEECH & HEARING ASSOCIATION

I am Kenneth Johnson, Executive Secretary of the American Speech and Hearing Association, a national scientific and professional society with headquarters at 9030 Old Georgetown Road, Washington, D.C.

Among the significant health problems which afflict the aged are speech, hearing, and language disorders. Cardiovascular accidents, prevalent among the elderly, often lead to the loss of speech and language functions. Cancer, also prevalent among the elderly, can require removal of the larynx or voice box, with total loss of voice. Cancer may also lead to removal of the lungs or of maxillofacial structures important to the production of speech. In addition, progressive diseases such as Parkinsonism and multiple sclerosis often bring deterioration of voice and articulation facility among the old.

The effect of aging on hearing, usually referred to as presbycusis, is a condition found among 30–50% of the population over 65. This condition may persist alone or be superimposed on other kinds of hearing loss. A case in point, is hearing loss caused by exposure to noise. The hazard of damaged hearing due to noise is now recognized as a disabling possibility in many industries and trades. In the United States it is estimated that approximately 1,000,000 workers have serious hearing losses due to high noise levels in their places of work. The

potential cost to U.S. industry through compensation for hearing loss due to this cause is estimated at 500 million dollars, based on the assumption that only 10% of the four and one-half million persons who work in areas of intense noise will develop and file claims for compensation. It would be a mistake to ignore the possibility that tomorrow's aged, having been exposed to today's noise levels, will present hearing disorders in even greater numbers than previously predicted.

Exactly how prevalent speech and hearing difficulties are among the elderly is not known. It is estimated, however, that among persons who are 65 years of age or older about 5% have a speech, language, or hearing difficulty which is sufficiently important or severe as to require professional attention.

The trends in federal legislation for caring for the expanding aged population command that basic issues regarding health problems of that population be dealt with as soon as possible. Some of those issues include the need for expanding the health services available to these persons and the need to protect this population by informing them of what steps they should take to obtain needed services. Both of these issues can be discussed as they specifically relate to speech, hearing, and language problems among the aged.

Issue # 1. The need to expand speech and hearing services.—Before the 20th century there were few services for individuals with speech and hearing disorders. In Europe, the early growth of a profession to manage communicative disorders was closely allied to the field of medicine. In America, the initial impetus for such a profession came from the fields of speech, education and psychology. Professional identity emerged in the early 1900's; special speech and hearing services were initiated in certain public school systems about 60 years ago, university programs were developed for the preparation of clinicians and researchers in this field, and a national scientific and professional society, the American Speech and Hearing Association was founded in 1925.

World War II hastened the development of this profession. Hearing, speech and language reeducation became an important part of military rehabilitation programs for the many service men who suffered speech and language impairments or hearing problems resulting from head wounds or exposure to blasts. Reeducation and rehabilitation horizons broadened as electronics and communication systems produced new techniques for research and new means to assist children and adults with speech and hearing disorders.

Professional leadership in this field has fallen to the American Speech and Hearing Association, since it is the only national organization to which most speech, hearing and language specialists belong. The basic qualifications for entrance into the profession have been established by the American Speech and Hearing Association and include the completion of work for a master's degree. Approximately 1,000 members hold the Ph. D. degree. The American Speech and Hearing Association further recognizes the completion of academic and experience requirements for clinical competency by awarding a certificate attesting to the professional qualifications of the holder. The responsibility of this organization of professional men and women is further attested to by the fact that it has been recognized by both the National Commission on Accrediting and the U.S. Office of Education as the national organization responsible for accrediting university programs offering graduate education in Speech Pathology and Audiology.

The profession of speech pathology and audiology has expanded with great strides in the past 15 years. There are today about 13,000 men and women providing special clinical services to speech and hearing handicapped persons. There are at least 10 times as many speech pathologists and audiologists now as at the close of World War II. This increase is, in significant measure, the result of the substantial support provided our graduate education programs by the Vocational Rehabilitation Administration, U.S. Office of Education, Public Health Service, Veterans Administration, National Institutes of Health, and the Childrens' Bureau. Equal to this growth in numbers of people in speech pathology and audiology, has been the rapid increase in the variety of educational, medical, and research programs in which members of the profession are engaged.

The projected increase in the aged population will place undue strain on currently available speech and hearing services unless special attention is given to the problem. A number of communities are prepared to begin speech and hearing services, but have been unable to develop local financial support. Repeated requests are being made for federal funds in the form of project grants for local demonstrations of service by public and private nonprofit

agencies. These requests must be evaluated favorably in terms of the nation's future needs with regard to speech and hearing problems. One national organization currently lists 96 major communities in the United States with no definable hearing and speech services.

The Vocational Rehabilitation Administration and the Office of Education maintain major programs for support to universities offering graduate education in speech pathology and audiology. A total of perhaps 1200 full time students receive some financial assistance for their graduate study. While this support is vital, we must recognize that assistance for at least 3,000 full time students is required if we are to make significant strides in closing the personnel gap.

There has been a sharp acceleration in providing services to all types of disabled individuals and our rapidly expanding population at both ends of life's span will produce a proportionate increase in the number of speech and hearing problems. We can expect that the present shortage of speech pathologists and audiologists will become more serious—even if the present level of support continues. What is needed here is a very substantial increase in funds to graduate education programs in this field. Only if additional funds are made available for graduate fellowships and faculty support will we have any prospect of coping with the serious communication disorders in our aged population.

It should be noted that there is much interest at present in the possible utilization of non-professional supportive personnel to help meet the manpower shortage in the health and education fields. The American Speech and Hearing Association is focusing attention on this issue, has sponsored two national conferences within the past year to discuss supportive personnel, has initiated a comprehensive manpower study, and is engaged in efforts to develop guidelines and recommendations. However, our study thus far indicates that a greater possible use of supportive personnel will not lessen the need for increased numbers of fully qualified professionals in this field. In fact, in at least the immediate future, any large-scale effort to recruit, train, and use supportive personnel might well increase the shortage of professional personnel available for direct clinical service by diverting extensive man-hours of professional time to training and supervisory functions, and to other activities involved in long-term planning and programming. It is apparent that any realignment of Federal support directed toward utilization of supportive personnel which would result in a reduction of support for professional education would have unfortunate consequences. Whatever the ultimate benefit which will come from wider use of supportive personnel, the immediate problem is a shortage of professional personnel for which the only answer is an increase in graduate education resources.

Issue #2. The need to protect the public.—There is a very important need for letting elderly persons know where to go and to whom to go, for the best attention to their hearing and speech problems. This need is exemplified sharply by a brief description of current procedures and problems involved in hearing aid evaluations.

It is estimated that a small percentage of those with significant hearing loss wear hearing aids. The fact that a preciously small number of the estimated 4 million Americans with significant hearing loss actually use hearing aids is certainly unfortunate but there are many reasons for it. Somewhere close to the top of the list must rank the fact that even when an individual overcomes his shyness about acknowledging a hearing loss, and decides to spend whatever it takes to resolve his handicap, he still may have no clear thought as to how to proceed. Some 300 different hearing aid models are presently offered for sale, and all sorts of professionals and quasi-professionals ranging from physicians certified as ear specialists to high pressure salesmen are ready although not totally able, to advise the hard of hearing in the choice of an instrument. The situation is made no less confusing by the mystique of "fitting" procedures perpetuated throughout the land by many unqualified individuals.

Hearing loss should be considered a symptom of a disease. Therefore, the first consultation concerning a hearing loss should be with a physician. The general public and the aged population in particular should be educated to this fact. Methods should be established which would make the general public, and particularly the geriatric population, aware of the recommended protocols concerning treatment and rehabilitation of auditory disorders. It is helpful to distinguish between the physician who specializes in ear disease, the audiologist who specializes in non-medical rehabilitation-education and evaluative services to the hard-of-hearing, and the hearing aid dealer, who is a salesman in business to sell

hearing aids. The delineation of role and responsibility must be emphasized so that those seeking a solution to their hearing problem, will not mistakenly purchase a hearing aid when, in fact, medical treatment could have eliminated the handicap; or when, in fact, a hearing aid could not improve the hearing condition at all. A physician is the only person trained to diagnose and treat disease responsible for hearing loss. An audiologist, on the other hand, is uniquely qualified to conduct and interpret a wide variety of auditory tests performed to define and better describe the hearing loss, and to predict the extent of the benefit to be derived from use of an aid in most cases. In addition, the audiologist provides educational and rehabilitative services essential to many hearing handicapped persons.

The American Speech and Hearing Association awards a Certificate of Clinical Competence to audiologists who meet graduate education, clinical-training, and ethical standards. Their code of ethics prohibits any commercial interest where hearing aids are concerned. The American Speech and Hearing Association also makes available a list of individuals and centers capable of providing qualified services to the hard-of-hearing public. These individuals and centers are qualified to examine hearing capacity and outline a course of meaningful rehabilitation. From a series of highly controlled tests, the audiologist can determine how well speech is understood and what the specific dimensions of hearing loss are. He can advise as to the chances for success with a hearing aid and what additional or alternative steps may be necessary to help compensate for a hearing loss. These points are particularly applicable to an aged population.

The fact that there are almost 500,000 physically and socially disabled people who each day reside in about 25,000 of the country's nursing and convalescent institutions represents a major market to the hearing aid industry. Such a situation commands attention and demands that protection be provided for both the provider and the recipient of hearing rehabilitation services. One means of providing this protection would be to establish clearly defined protocols applicable to beneficiaries of federally supported programs. Such protocols should require that individuals complaining of auditory disorders, after being examined medically, be evaluated by a qualified audiologist. The selection and fitting of a hearing aid should be based primarily on the audiological evaluation. Such a system or procedure would place the physician, the audiologist and the hearing aid salesman in a proper perspective in the care of the hearing handicapped. In addition, the establishment of such clearly defined steps would ensure that the services provided beneficiaries of federal programs would be of the highest professional quality. One need only examine the success of the audiology program maintained by the Veterans Administration to establish the validity of their requirement that the issuance of a hearing aid be based in the audiological evaluation. The evaluation of the integrity of the auditory system, and the rehabilitative management of hearing loss, including the selection of hearing aid amplification, is a proper function of the audiologist.

Investigations conducted by the Federal Trade Commission indicate that consumers commonly complain of dissatisfaction with hearing aids, and that many of the complaints are from elderly persons on fixed income or public assistance who can ill afford the expense of a hearing aid which meets neither needs nor expectations. So long as the hearing handicapped person purchases a hearing aid without prior consultation with physician and audiologist, we may anticipate inordinate numbers of such complains and less than satisfactory care for our elderly citizens.

Judging from a recent survey of 4,000,000 deaf and hard-of-hearing people, an extremely small percentage of the hearing handicapped sought the assistance of a physician or an audiologist. Almost 60% went directly to a hearing aid dealer. It is certain that many of these people now own a hearing aid and, in addition, support a disease of the auditory mechanism which may very well have been controlled with proper medical and audiological assistance. This seems such a waste, both from humanitarian and economic points of view.

Hearing aid dealers are neither educated nor equipped to evaluate the integrity of the auditory system, define the locus of the pathology or assume responsibility for the rehabilitation of the hearing impaired. This point is important because, under the system in effect at the present time many hearing impaired persons see neither the physician nor the audiologist.

In summary, a great deal is known today about hearing, speech and language—the processes, the disorders and the individuals who sustain them—yet it is a fact that few of our citizens, especially among the elderly, benefit from this knowledge and the kinds of services which are available. We all share in the

responsibility of providing these handicapped individuals with reasonable care for their problems. Reasonable care can be provided the elderly who develop speech, hearing or language disorders if adequate assistance is provided graduate education programs in speech pathology and audiology, if assistance is extended communities in the establishment of speech and hearing centers, and if beneficiaries of federal programs who are in need of speech or hearing rehabilitation services are referred first to qualified physicians, audiologists and speech pathologists.

Mr. JOHNSON. I have some additional remarks.

First of all, some comments relative to the specific topic of manpower which may be helpful, and secondly, I have some suggestions or recommendations which the committee might desire to consider.

Senator HANSEN. Mr. Johnson, if you would, please, sir, move the mike a little nearer to you. I think there are a great many people here very much interested in what you are saying and they are not all able to hear you.

Mr. JOHNSON. Thank you.

First of all, there are about 13,000 members of the American Speech & Hearing Association which is the national professional society to which most professional audiologists in the country belong. Of these, approximately 2,500 or 3,000 individuals are primarily concerned with the hearing handicapped.

Services provided by these individuals are provided in approximately 800 service programs in this country. These 800 service programs will be found in community centers, hospitals, and universities.

In addition to these 800 specific service programs located in hospitals, universities, and community centers there are hundreds and hundreds of speech and hearing programs in the school systems of the country.

These 800 service programs employ approximately 4,000 speech pathologists and audiologists.

Another fact which may be of some interest to the committee is that there is approximately one clinician or one speech pathologist or audiologist in the country per every 12,500 U.S. citizens.

There is a substantial need for additional professional personnel in this area. This need, it seems to us, can be satisfied through two principal avenues:

AVENUES FOR PROVIDING PERSONNEL

(1) Through the development of supportive personnel and specialized services which such individuals may be able to provide; and

(2) Through additional assistance to the academic training programs in the universities and colleges in this country.

At the present time, the Rehabilitation Services Administration and the Office of Education combine to provide financial assistance to approximately 1,200 graduate students a year. There are additional sources of support for graduate education programs in this field, but these are the two primary sources.

These assistances to our university and college training programs are fundamental to the future development of services in this area.

As far as the university programs which are providing the manpower for this field are concerned, there are today 271 universities and colleges participating in this professional area. Of these, about 190 provide graduate education, and graduate education to the master's

level is a minimum requirement for participation as an audiologist or speech pathologist.

As far as the student population is concerned, there are today in our undergraduate training programs something in excess of 18,000 students. Enrolled at the master's degree level, there are approximately 4,500 students. Enrolled in doctoral programs in this country, there are 821.

Now, a few additional comments on the principal topics of this hearing—comments concerning how to improve delivery of services to the handicapped elderly, how to protect the public from what has been described as sharp sales practices or misleading advertising, and associated comments concerning consumer education.

First of all, I think it essential that the subcommittee as well as the public at large recognize that the criticisms of the industry and the dealer system, itself, originate from actions of a relatively small population of the manufacturers and the dealers.

The large number of the manufacturers and the large number of the dealers are excellent individuals providing very consicentious, fine services. This fact must not be lost in the mass of criticism which they tend to receive.

The large bulk of the criticism comes from actions of a small group of manufacturers and dealers.

In addition, in my judgment, the sales and advertising problems which have been described stem from the nature of the business engaged in, as was described quite adequately yesterday. The hearing aid industry is faced with the task of trying to sell hearing aids to individuals who need them but don't want them.

Not all of the criticism which comes to the industry is justifiable. If you would consider this point for a moment, many individuals who can benefit substantially from the use of a hearing aid will not be happy with one primarily because of the difference between their level of expectation and the level of benefit received.

In the process of trying to sell hearing aids, dealers do contribute to the building up of this level of expectation which they may not be able to satisfy. If dissatisfaction results, letters of complaint are generated. Those most ready to criticize dealers conclude that these complaints are additional evidence that dealers sell aids to people who do not need them.

I think it is important we recognize then that not all of the criticism which originates or comes from the public toward this industry is justifiable. Certainly some of it is. But we must keep things in perspective.

My second comment is relative to some of the remarks made here yesterday.

I, personally, do not believe that licensing laws or registration of manufacturers, as was suggested yesterday, or even the self-policing of the industry will change the situation materially as we see it today.

A Major Change in Delivery

If there is sufficient need for additional public protection, if it is decided that the problems which exist in the country in the matter of hearing aid sales are sufficient to warrant substantial overhaul or

substantial change, then it seems to me that you do have, as the Surgeon General indicated, to make a major change in the delivery system for beneficiaries of State and Federal programs.

I have a suggestion to offer in this regard which may prove helpful if the subcommittee determines that there is sufficient need for change. It seems to me that the only substantial change in the delivery system which is possible would be to establish a State-Federal hearing aid purchasing progam which would be based in the Veterans' Administration program. If hearing aids could be purchased according to some State-Federal plan, the aids could be provided to registered clinical facilities or service programs in the country and eligible beneficiaries of the State-Federal programs could be "issued"—received—the hearing aid directly through these service facilities. The Professional Services Board—PSB—of the American Board of Examiners in Speech Pathology and Audiology is already well established and could participate in a national program of this sort by registering clinical facilities.

The benefits whch could be derived from such a program would be: Firstly, the reduction of the costs for purchasing hearing aids by the Government;

Secondly, the total elimination of the issue of so-called sharp sales practices and misleading advertising;

Thirdly, the insuring of objective services to these beneficiaries and the insuring of adequate diagnostic and rehabilitative services.

Now, the preceding constitutes a suggestion for a major change in the hearing aid delivery system for beneficiaries of State and Federal programs.

But, now, what about possible benefits or changes for non-beneficiaries of State——

Mr. ORIOL. May I interrupt, Mr. Chairman? I am not sure who the beneficiaries are to whom you are referring.

Mr. JOHNSON. I am thinking in terms of title 18 and title 19 of the Social Security Act.

There are other beneficiary groups, however, including those who receive services from the Rehabilitation Services Administration's State bureaus.

Senator HANSEN. If I could, just before you leave that point, in order to be certain that I understand you, Mr. Johnson, was it your recommendation that a State-Federal hearing aid program be established and that the purchases of hearing aids for the recipients in that program be made by State and Federal officers or an association of the two?

Is that what you suggest?

Mr. JOHNSON. Let me describe it this way, if I may, Senator.

If a major change is indicated in the delivery system, then an agency of the Federal Government or a State government or a combined agency could purchase the hearing aids on a national basis and distribute these aids in quantity as required to the PSB-registered nonprofit service programs which exist in the country and which could be developed.

The eligible Federal-State beneficiary then coming to the service programs for evaluation, could, upon determination of need and type of need, be given or issued the aid with no need to go through the

hearing aid dealers office. What I am suggesting is essentially the same thing that you have in the Veterans' Administration today. A veteran goes to a designated clinic, is evaluated, and if a need is established, he is issued an aid on the spot. He never sees a dealer.

Now, for nonbeneficiaries of the State and Federal programs, that is, for citizens not eligible for hearing aids through one of the governmental programs, it seems to me that the broadest possible educational program should be developed. I think that we could, with the cooperation of public and private agencies and financial assistance from the Federal Government, develop a substantial public education program to encourage proper use of medical and audiological services.

Audiological Services by Federal Agencies

I think at the same time consideration should be given to strengthening some of the audiological services within the Federal agencies themselves, for it will be from these positions that strength to such a program could be developed.

For children, it would seem to me a reasonable recommendation that a medical certificate should be required prior to the sale of the hearing aid. If this proves not to be possible, then at the least, parents must be advised of the need for both medical and audiological services prior to the purchase of the hearing aid. State laws regulating the sale of hearing aids could include requirements that parents be formally advised of this need.

Senator Hansen. Now, are you speaking of recipients of either State or Federal assistance in the purchase of the hearing aids or people generally?

Mr. Johnson. This suggestion concerns children in general and is not intended to relate to my comments on beneficiaries of State-Federal programs.

Senator Hansen. And you are suggesting State or Federal law that would require certification?

Mr. Johnson. State law.

In the State law, it would be possible to require that prior to the sale of the hearing aid the parent be advised clearly that the child should receive a medical and audiological examination prior to the purchase of a hearing aid. The parent could be advised of this need and would be free to accept or reject the advice.

I am not sure whether it would be possible to require that a medical certificate be obtained prior to the sale of an aid to a child. If it would be possible to do that, I think that would be an excellent way of helping to protect the interests of children and their parents.

Finally, it does seem to me that hearing aids and hearing rehabilitation services should be available to all of the poor who have significant hearing losses.

In addition, hearing aids should be made available to the elderly with moderate to severe hearing losses under titles 18 and 19 of Public Law 89–97. At the present time, as you know, hearing aids are not made available generally and it is the high cost of hearing aids which has restricted the general distribution of aids to otherwise eligible beneficiaries of that law.

I think one of the ways of reducing the cost to the Government is through a national purchasing program but, secondly, by requiring

that individuals have a substantial hearing loss prior to the issuance of a hearing aid. The number of persons who would be issued them would be sharply reduced. A manageable hearing aid distribution program could be developed and maintained by reducing the unit cost and limiting the number of eligible beneficiaries.

Thank you.

Senator HANSEN. Thank you very much, Mr. Johnson.

(The chairman, in a letter written shortly after the hearing, addressed several questions to the witness. Questions and replies follow:)

Question 1. In your prepared statement, you say: "A number of communities are prepared to begin speech and hearing services, but have been unable to develop local financial support. Repeated requests are being made for federal funds in the form of project grants for local demonstrations of service by public and private nonprofit agencies."

What are existing sources of such federal assistance? What recommendations do you have for broadening sources of such assistance?

Answer. Funds are available from the Rehabilitation Services Administration and the Public Health Service through regional and state offices for such activities as planning and expansion of physical facilities. To my knowledge, however, there are highly limited funds available for the direct payment of services rendered by local speech and hearing centers. Generally speaking, speech and hearing centers are deficit producing operations. One may make a generalization that each service rendered results in a small deficit. Extending this generalization, then, one may conclude that the expansion of the clinic services merely serves to increase the deficits produced. These deficits, for the most part, are covered by the resources from the communities involved, e.g., United Givers Fund. The federal government might consider providing some degree of financial assistance to centers to pay for the real and total cost of serving beneficiaries of federal programs. If this were to be done the government would, in most instances, be paying a higher fee than that paid by beneficiaries of other programs. A second suggestion would be for the federal government to consider that it has an interest in the maintenance and the expansion of nonprofit speech and hearing center programs in the country. The annual deficit produced by these centers might be covered, in part, by federal funds. The support could be based on the number of new cases seen each year or on some other formula basis.

Question 2. From what study did you determine that 96 major communities in the United States have no definable hearing and speech services? May we have a copy of that study?

Answer. The study which produced the information that there were 96 major communities in the United States which had no definable hearing and speech services was made by the Institute for Community Studies of New York City. I believe the study was carried on in 1965 and a copy can be obtained by writing to Mr. Tom Coleman, Executive Director of the National Association of Hearing and Speech Agencies.

Question 3. In your statement, you refer to the "mystique fitting" procedures perpetrated throughout the land by many unqualified individuals. We would like to have additional details.

Answer. My comment here concerned the efforts made by some hearing aid dealers to imply to the public that scientifically based, clinical procedures are provided within the dealer's offices. The term "fitting" began to be used to identify the efforts of audiologists to select, through comparative controlled measurements, specific aids and receivers for specific individuals. The term "fitting" is now utilized by many dealers and is, in my judgment, used to convey the idea to the public that the same comparative controlled measurements are used by them. In fact, however, this is not the case. The dealer efforts, in most instances, represent little more than trial and error activities with a client who, ultimately, is sold the aid and the receiver which "sounds best to him". Another aspect of the "mystique of fitting procedures" is the relatively common use of white coats by hearing aid dealers. These coats are similar to those worn by physicians in clinics. Once again the efforts of some dealers seem to be to utilize the image the public has of the scientific nature of the work done by individuals who wear white coats in clinical settings. In general, then, I was trying to indicate in my testimony that the public, though it receives services from individuals who have

as their prime purpose the sale of a hearing aid, is encouraged to believe that scientific practices, such as may be found in medical or audiological clinics, are carried on in the commercial hearing aid dealer offices.

Question 4. On the same page,.you said that methods should be established which would make the general public, and particularly the geriatric population, aware of the recommended protocols concerning treatment and rehabilitation of auditory disorders. Do you regard this as primarily a responsibility of the industry and professional organizations? Or do you believe that the initiative or primary support should be lodged with federal agencies?

Answer. In my oral testimony I attempted to expand on my statement in the written testimony concerning the educational efforts which should be made to advise the general public and particularly the geriatric population concerning proper services for hearing disorders. It is my belief that a major educational program could be carried on through a partnership which would include federal agencies and the professional and lay organizations concerned with proper care for hearing handicapped individuals. There are many public and private agencies which would be willing to participate in a public information campaign intended to guide hearing handicapped persons to proper professional services. Literature and other materials would be required as well as a specific plan for the conduct of the educational program. Federal agencies would be involved particularly in assisting in funding the development of the literature. The distribution of these educational materials and the conduct of much of the educational campaign could be handled by the private agencies but the most effective program would be one in which all public and private organizations concerned with this matter would join together.

Question 5. You ask for clearly defined protocols applicable to beneficiaries of federally supported programs. In your oral statement, you discussed your proposal further, but I am not yet certain whether you are suggesting that hearing aid devices should be provided without cost under Medicare.

Answer. It was my intention to convey the idea that hearing aids should be provided without cost under Medicare. Because I am quite aware of the problems which have developed in England and because of the certainty that the financial cost of such a Medicare program would be enormous if there were no restrictions or no controls, I stipulated that hearing aids should be made available only to certain categories of individuals. In the instance of the elderly I indicated that only those sustaining a moderate to severe loss should be "issued" a hearing aid under Medicare. I would assume, once the federal government entered into a program where certain of the aged would be provided hearing aids, that experience with the cost of such a program would result in gradual modifications and quite probably the expansion of the number of beneficiaries eligible under the program. The principal point of my suggestion, however, is that one can predict in advance, within reasonable limits, the number of the elderly who would be eligible for free hearing aids and hearing rehabilitation services. One can enlarge or reduce the number of eligible individuals by simply increasing or decreasing the amount of hearing loss required for eligibility. If the cost of each hearing aid was reduced through the development of a national hearing aid purchasing program and if careful control was maintained over the degree of hearing loss required for eligibility for a "free" aid, an economically manageable as well as humanitarian program could be established.

Question 6. What is the stand of your association on whether Medicare should pay for consultation that leads to the purchase of a hearing aid?

Answer. The American Speech and Hearing Association has not taken a formal position on whether Medicare should pay for consultation that leads to the purchase of a hearing aid. It would be my assumption, however, that the Association would favor such an arrangement. I believe this would be the case simply because professional services are involved and, in the instance of the provision of professional services under other sections of the Medicare law, payment is made for consultation. It would not be reasonable to assume that consultation for the evaluation of hearing and the evaluation of the need for a hearing aid should be carried on in the absence of payment for professional services rendered.

Question 7. In your oral testimony, you asked for strengthening of some of the audiological services within the federal agencies.

To what services do you refer? How would you like to see them strengthened?

Answer. Leadership in providing a national educational program directed at hearing handicapped citizens and leadership in the conduct of the present programs maintained by such agencies as the Rehabilitation Services Administra-

tion, Children's Bureau, Public Health Service, the Veteran's Administration and the Office of Education require that the agencies maintain positions and employ individuals with competence in audiology. Most of these agencies are understaffed at the present time. The lack of educational materials for the general public, the absence of a national plan for guiding hearing handicapped individuals to proper services, in my judgment, is the result of the fact that the various agencies require funds and authority to employ additional professional personnel in this area.

Senator HANSEN. Who next would like to be heard on the panel? I call on you, Mr. Coleman.

STATEMENT OF TOM COLEMAN

Mr. COLEMAN. Perhaps I should preface my remarks with the fact that I am the only professional layman at this table; one gentleman is from the association dealing with audiology and speech, and the other from the field of medicine.

My organization is what we might call the national nonprofit voluntary organization is this field of human communication composed of nonprofit service agencies around the country as well as many lay and professional individuals who are interested in this cause.

Our basic objective is to assist communities throughout this country to either establish, improve or increase services to the communicatively handicapped, basically speaking of hearing, speech, and language problems including deafness.

Thus, our staff spends quite a bit of its time on the road on requests from communities or service agencies to assist them in various way to accomplish these objectives.

As we have done this over the years, we certainly have become aware of the subject with which this panel, I believe, is charged, the manpower situation—of the severe shortages of personnel, professional and otherwise.

Again I must hesitate a moment here to say that one thing that concerns us as we speak to this subject is the whole statistical review of the situation which has been presented in different ways and which, I am sure, will be presented in other ways before the hearings are over.

We are concerned with what we feel is inadequate knowledge statistically about the number of handicapped people in this country, including those with hearing and speech problems and at all ages. In fact, as Mrs. MacDougall [Nanette Fabray] who testified here yesterday and before a House committee earlier this week said, if it is within reason we would like to recommend to this committee that they look into the possibility of recommending to either the Bureau of the Census or Health, Education, and Welfare the activation of some nationwide census—not a survey, not a study—but an actual census on the incidence of handicaps of all types in this country. I think with this we might be able to do a better job of presenting our material here in the future.

Certainly, from experiences of the agencies out in the field, we are aware that our biggest problem in getting services to people is the shortage of personnel.

Not to steal some of Dr. Glorig's show, but we are aware certainly that the medical specialties of otology and otolaryngology are too few in number to adequately serve the patient population, whatever it is, of this country.

In line with this, we have been working with Dr. Glorig via informal discussions on the possibility that some of this shortage of medical specialists in the ear field might be made up by providing educational programs for the general type of physician, the general practitioner, the internist, and the pediatrician, who I believe initially see the majority of medical patients of all ages and who probably are managing the health problems and care of the bulk of people in this country.

Family Physicians Can Help

I believe that proper education and intelligent use of family physicians can assist the specialists in this field to get more medical and rehabilitation services to people with hearing and speech problems who need them.

We also are aware of the severe shortage of professional audiologist, even with the hard work that Dr. Johnson and his group are doing with the training programs to increase the flow of these people. Realizing that it takes a minimum of 5 years of college training to turn one out, we should encourage immediate support of a program for various levels of supportive technical personnel to assist audiologists in extending services to more people.

We all know this has been done most adequately by the various medical specialties, by dentistry and nursing, and by other professions. We feel it can be done very well and very rapidly in this situation.

Mr. Miller. If I may interrupt, Mr. Coleman.

Yesterday, Mrs. MacDougall, Nanette Fabray, made the observation that there were approximately 1,000 audiologists in the Nation.

Do you or Mr. Johnson want to give us a precise figure as to the number of audiologists, or are you able to do that?

Mr. Coleman. I will speak to this, but I am sure Dr. Johnson has better figures. Again I am confused by figures. I heard Miss Fabray say 1,000; I heard someone else say 2,000 yesterday.

I think the real question—and Mr. Johnson could answer this more specifically—is, can we have this figure in terms of people who actually are providing direct services to the people who are available for this sort of thing?

Mr. Johnson. There are to be, in 1970, approximately 10,000 certified audiologists and speech pathologists. Of that number, between 2,000 and 2,500 will be specialists in the area of hearing disabilities.

Mr. Miller. How many audiologists?

Mr. Johnson. That would be the latter group, 2,000 to 2,500.

Mr. Miller. How many audiologists are there now? You speak of 1970 or 1975?

Mr. Johnson. I referred to 1970.

We are in a transition phase in our certification program but I would say that you have around 2,000 of those people available.

Mr. Miller. Relating to Mr. Coleman's comment, how many of those are available for service directly to the people?

Mr. Johnson. Most of those individuals are available for service directly to individuals now.

Mr. Miller. As opposed to engaging in training of others and research and that sort of thing? I assume that is what you mean.

Mr. Johnson. Yes. Very few of these individuals conduct research and relatively few of them are teaching in our colleges and universities.

Mr. MILLER. Would you comment further on that point, Mr. Coleman?

Mr. COLEMAN. Well, I was perhaps under the wrong impression, Ken. I had thought that this group included all of the people in audiology; that is, what we consider professional certified people, including those in the training programs and research, the Federal Government, administrative jobs, industry, and so forth.

Now, if I am mistaken, then perhaps I should not have answered the question.

Mr. JOHNSON. There are of that number—that is of the 2,000—a good many that carry one some administrative services and there are a few that carry on some research activities, but the large bulk of that number that I am addressing are individuals who are available or who are providing significant amounts of clinical services. Part of the confusion here may stem from whether we are talking about individuals who provide 4 hours per day of services or perhaps 8 hours per day of services and so on.

Mr. COLEMAN. As we look toward 2,500 to 3,000 audiologists, 3,500 to 4,000 otolaryngologists and otologists, again admitting the poor statistics we have, it seems to me that we simply cannot serve with the present professional manpower the millions of people who need help in this country and including the older age group.

It seems that the production rate of the present professional programs will never turn out the additional people we need to establish a reasonable physician audiologist/patient ratio. It seems that in one sense we are in the same position that medical education found itself in a number of years ago. Some of you gentlemen might recall when we would come in from the Association of American Medical Colleges and state that we needed more professional people, but some of our friends from the American Medical Association would say "No, it is just poor distribution of doctors."

Now, both AAMC and AMA are coming in and pleading with you for assistance for more medical schools, larger student bodies, and what have you. We may be in this same position with audiology and speech today.

This leads into the role of the hearing aid dealer. Now, the best statistics I can find indicate that the dealer is providing more services to people—and I am not qualified to judge good, bad or otherwise—but that they are serving more people with hearing problems than any other group in the country. There is little doubt in my mind that they will continue to do this for a long time.

Some have said that one day perhaps the hearing aid dealer may take the same role that the optician does in the eye field. Actually many communities today have only hearing aid dealers available to serve those with hearing problems and are completely void of medical hearing specialists or audiologists. Therefore, it seems that we must rely on the dealer in some ways as a provider of services—if you will permit me—as one of the technical, nonprofessional classes of individuals supporting the provision of services to people.

Thus, it seems only reasonable that in recognition of this—that he is serving people—we have an obligation to assist this individual by upgrading his knowledge, his education, and his ability to provide good services and continue using him as a provider of service.

Again, I don't define service; this is for the professionals. To this end, I think some interesting things have taken place in the last year or two on the part of industry and the dealers' association toward assisting with this problem. Some of the major companies (with the help of physicians and audiologists) have been developing training programs to upgrade the understanding some of their dealers as they go into the field.

In the last few months, the National Hearing Aid Society has approached us to see how we might work with them in developing good training and education programs that would improve or update the knowledge of some of their people, particularly the new ones coming into the field. It seems to us that this is a healthy situation.

Now, as far as the provision of services to people, including the aged are concerned, the Federal and State Governments could help by making more money directly available to service agencies throughout the country for the provision of hearing and speech services. At the present time, too little direct money for services to people flows from Federal and State coffers to the community agencies where much of the service is being provided.

As far as a delivery system involving Federal purchase of products such as hearing aids—I am not speaking for my association; I am speaking for myself—I would have to question this in terms of other practices for providing care to people in the country. Perhaps we should put the burden on industry, itself, to solve the retail costs of prosthetic devices.

You know, historically the cooperative approach of the professions, the voluntary agencies, the governmental agencies, and the industry involved in specific service activities in this country have been one of our great strengths. This combination of getting services, equipment, pharmaceuticals, prosthetics, and what have you to people via the collaboration of private and public resources has worked well over the years. I think this way of life should continue.

Industry Asked To Provide More Help

I believe that the demand should be made of industry, in recognition of the problem of providing hearing aids to people, that they do some soul searching and that they come up with the answers to this problem. They must make it easier for those who need help, who need equipment, to acquire it themselves rather than having Federal or State direct purchase and distribution of such things.

I also believe that licensing is important, including State licensing of hearing aid dealers.

After many, many years with the health field, it is my personal opinion that anyone working with the human body or mind in any State in the country should be licensed.

Thank you.

Senator Hansen. Thank you very much, Mr. Coleman.

(The chairman, in a letter written shortly after the hearing, addressed several questions to the witness. Questions and replies follow:)

Question 1. You commented about deficiencies in statistical reporting on the number of handicapped people in this nation and asked for a nationwide census

on the incidence of handicaps of all types in this nation. I would like to have some additional discussion on:

(1) Present inadequacies in statistical resources.

(2) More details on the objectives of your proposed census and methods for conducting it.

Answer. (1) As a professional medical and scientific writer for many years, coupled with my many administrative duties with various health-related organizations, I have found it a most difficult task to acquire supportive statistics which I consider to be accurate for use in the various materials I have developed. Rather, most statistics used by various health and related service agencies, whether private, or public, seemingly have been based upon samplings, estimates, predictions, and similar "shaky" foundations. I am sure that there are a few exceptions to this . . . perhaps the ease with which the blind (depending on definition) can be identified. However, I have never felt in good conscience when using estimated numbers of specific handicaps, including our own area of hearing and speech disabilities and deafness. Despite the fact that I am the executive of a major national agency working in the field of human communication, it would be impossible for me to present to you tomorrow a reasonable exact determination of the numbers of people afflicted with the various types of disabilities represented in our field of endeavor. Whereas I might use a figure of 250–300 thousand profoundly deaf individuals scattered throughout the United States . . . I am sure this could be refuted by an individual working with the deaf in the State of New York, for instance, who would indicate that his estimates for that state alone approximate one half of this national figure we have used. We need figures that are more reliable.

(2) Not being professionals in the field of statistics or census-taking, it would be presumptuous of me or my staff to suggest the methodology to be used in a nation-wide census on the incidence of handicaps of all types in this nation. However, we could be of assistance in recommending such thoughts as "the need for better definitions of each handicap" (for instance, how do we define deafness), or "how severe should a particular imperfection be within an individual in order to have it declared an actual handicap", or "should cognizance be taken of one's living and employment setting along with his particular physical or mental problem in establishing our criteria as to whether or not the individual is handicapped"? Regardless of the methodology used, it is our belief that some means should be found for a nation-wide census by an appropriate federal agency on the incidence of handicaps of all types . . . not merely another sampling.

Question 2. I am also impressed by your comment that at the present time, "too little direct money for services flows from Federal and State coffers to the services where much of the service is being provided."

What suggestions do you have for broadening the extent of federal support, and what should be priority objectives?

Answer. I am sure that all of us, including the Committee and staff members, are aware that emphasis in the grants field in past years has been on research and training. Though we allegedly now are in the "service era" of federal considerations, which naturally influences states' programs, I am sure that a review of funds available for the purchase of services for individuals with hearing and speech problems (particularly those who no longer can be classified as children or who are aged) would reveal a minimum flow of funds to assist for fees for professional and technical services rendered. NAHSA has an agency membership of approximately 200 service programs . . . most of the services are financed by United Funds and Community Chests, fees, donations and non-federal or non-state monies. Some do have contractual arrangements with state rehabilitation staffs, children's bureaus and similar agencies . . . but many times the present amount of funds available could be used to increase and improve services to the hearing and speech handicapped throughout the country.

When we speak of hearing and speech problems, in reality we are talking about human communication, language development or deprivation, learning or learning disabilities, and many other factors that are important to the mental, social and health status of individuals as well as considering such factors as employability, safety and so forth. We also are recognizing that those with hearing, speech and language handicaps constitute the greatest "disability" group in this nation. Thus, it seems only reasonable to recommend that the Committee and other responsible federal units consider recommendations for legislation that would improve the availability of hearing and speech services to people of all ages in such legislation as Medicare, Medicaid and so forth. At this point, Mili-

tary Medicare (the program for services to military dependents) appears to provide the best coverage currently available for those with hearing and speech needs.

Question 3. You also made the suggestions "the demand should be made of the industry in recognition of the problem—providing, for instance, hearing aids to people . . ." I am not sure whether I understand your suggestion and I would like to have additional details.

Answer. It seems to me that some effort should be made to meet with the leaders of the hearing aid industry to discuss the reality of the financial problems of initial instrument cost, repairs, continual replacement of batteries and other factors as they relate to people who are on subsidized health and welfare programs or to anyone who could be considered "medically indigent". There is little doubt in my mind but that an intelligent approach to these industrial leaders would ultimately result in their assisting with the development of a marketing program which could adjust prices of services for people in special economic categories and, at the same time, retain a reasonable margin of profit for the manufacturer and distributor. NAHSA certainly would be willing to serve as the enabling agency for calling together such a meeting between industry, dealers and representatives of this special consumer group.

Question 4. What suggestions do you or the association have for providing services or hearing aids for those with hearing loss?

Answer. In this time of extreme professional shortages, economic unrest and changing trends in the delivery of services to people, it would be most difficult to suggest any panacea for providing services or hearing aids for those with hearing loss. However, a combination of the following activities could begin to significantly improve the current situation:

(*a*) Developing more efficient methods for delivery of services to people.

(*b*) Developing various levels of supportive personnel to permit extension of the services of otolaryngologists, audiologists and speech pathologists through supervised use of these non-professionals.

(*c*) Providing educational experiences for family physicians (general practitioners, pediatricians, internists) to improve their knowledge of and, in turn, management of communication disorders. Included in these considerations could be workshops to increase the knowledge of otolaryngologists about speech and language disorders.

(*d*) Upgrading the knowledge and capability of hearing aid dealers in order to better utilize this large group of people in providing services to the communicatively handicapped.

(*e*) Conducting continuing intensive public education campaigns to teach the patient or those responsible for him how to make better use of hearing and speech service facilities and programs.

Question 5. Your organization is, I believe, engaged in a training program for providing trained personnel to serve federal employees interested in hearing conservation and hearing rehabilitation. May we have additional details on the extent of this program and some discussion of the possibility of applying your training methods in order to serve other groups?

Answer. Working with the Federal Employee Health Unit and the Neurological and Sensory Disease Service Program of the Public Health Service, we planned and conducted a two-day workshop for physicians and nurses who staff the health clinics in various federal agency buildings in the Washington area to better acquaint them with hearing and speech problems. The emphasis was on hearing loss (and conservation) as a health item of major interest and concern in business and industry throughout the United States. The agenda included lectures on anatomy and physiology of the ear, the hearing process, hearing loss, screening for hearing loss and practicum in the use of audiometers for screening by the nurse or physician. The faculty consisted of an otolaryngologist and an audiologist/speech pathologist. There was every indication that this type of program could be beneficial to those involved in the provision of occupational health services in governmental agencies, business and industry because: noise within such establishments is one of the greatest causes of hearing loss in adults; hearing loss, including deafness, is becoming an important consideration in compensation cases; and development of a good hearing conservation program can prevent much of this type of hearing loss.

Senator HANSEN. I would like to ask my distinguished colleague, the Senator from Texas, to introduce the next panelist who, I understand, is a very distinguished citizen of his State.

STATEMENT BY SENATOR YARBOROUGH

Senator YARBOROUGH. Yes, and I thank you, Senator.

I appreciate that privilege, and it is a privilege, to introduce a constituent, Dr. Glorig, of Dallas, Tex., executive director of the Callier Center of Dallas, and chairman of the Committee on Hearing Conservation of the American Academy.

He represents so many organizations I am going to let him state the names of all of them and his position.

I just heard Mr. Coleman's conclusion. I am much impressed Mr. Coleman, with what you say, that anybody who has anything to do with health that requires touching the human body should be licensed.

I agree with you out of my experience, not merely on the Committee for the Aging, but as a member of the Health Committee of the Senate. I am the ranking majority member next to Senator Lister Hill, who is chairman, and have either cosponsored or supported all of this public health, health education, and the various public health acts of the past 10 years with the different academies, with the increased financing of the National Institutes of Health. The whole spectrum created, as you know, an institute for the deaf, the first forward legislation federally for the deaf since the founding of the deaf college here more than 100 years ago. My interest in that grew out of working in the years I have been in the Senate.

Since I came here one of my early acquaintances was a Mr. Jones, a friend of mine whose wife is a granddaughter of Alexander Graham Bell. So the minute I reached Washington she started to work on me to get me interested in the deaf and supporting all the deaf legislation. She has succeeded. I have been in the home and have been over to the other places where they have pamphlets and a number of documents of Dr. Alexander Graham Bell's work.

He, as his father before him, was a teacher of the deaf. Bell invented the telephone trying to help the deaf understand through sound perception.

I have for 11 years supported deaf legislation. I come here with a great interest in the subject and I am anxious to get to hear you.

Dr. Glorig, will you proceed, please.

STATEMENT OF ARAM GLORIG, M.D.

Dr. GLORIG. Thank you, Senator Yarborough. You are well known in our State, obviously. I am a newcomer to Texas, I have been there 4 years, but I have learned a lot about you in 4 years.

Well, I think that anything I would say would be almost repetitious with what the other two gentlemen have said. I am particularly impressed with what Mr. Coleman said. He says he is not qualified to talk about this subject but in spite of this I think he did a very good job.

Ken Johnson and I have been friends and enemies over a period of some 20 years and we are still battling the same battles we started back in 1948 or 1950.

My problem as a physician and as an otolaryngologist and also qualified as an audiologist, of which there are very few in the country, and in the world, for that matter—as a side remark, there are many more qualified audiologists in Europe and in the rest of the world than there are in the United States. I think this is probably by default on

the part of the otolaryngologist who decided his role was a surgical one and not a medical one; that is to say, nonsurgical. With that void the shortage has come into being.

I would say the large percentage of otolaryngologists, approximately 90 percent of them, are glad it has come into being because they have been in their nonmedical professional capacity a tremendous help to the otologist in his work associated with hearing loss.

The problem of hearing loss is an extremely large one in our country. I am quite familiar with statistics involving this since I have been involved with the U.S. Public Health surveys trying to determine what the population sample consists of. It looks as though—if we look at the 1966 census—there are about 20 million people over 65 years of age. If we look at this census in terms of the U.S. Public Health survey of 1960 and 1962 that about 30 percent of these 20 million people over 65 are in significant need of some sort of help with respect to their hearing problems.

This is in excess of the speech problems that exist in a population of this kind and refers only to those people who have the hearing loss above a level which would need some sort of assistance, whether it be amplification or rehabilitation of one kind or another.

Now if we take the remaining 180 million people in our national population and we look at this population in terms of the U.S. Public Health survey, about 4 percent of the remainder need this kind of help also.

Then if we look at children around school age, I understand this probably would be closer to 5 or 6 percent. If you add all people together into one huge sum, you are beginning to get a little bit of a glimpse of what the problem ahead of us is.

Then we look on the other side, those people who are prepared to look after the many millions of people that need this help. There are approximately 3,500 certified otolaryngologists. That is what I am, and this comes from the membership roster of the American Academy of Ophthalmology and Otolaryngology.

Now when you look at the roster that is furnished by the American Speech and Hearing Association with respect to the number of audiologists, and the number of speech pathologists, and count them, as I did not long ago, in the 1968 register they come to approximately 1,000 certified audiologists.

I think this may be where Nanette Fabray got the number of a thousand.

Now when you ask the National Hearing Aid Society how many dealers there are in the country, it rounds out to about 5,000 dealers who are considered to be contributing in a significant way to the problem of selling hearing aids. If you go to the membership of the National Hearing Aid Society there are about 2,400 to 2,500 members, so the society represents about half the dealers.

Now, if you look at these relatively few professional and nonprofessional and commercial people you begin to realize that we cannot possibly do this job without at least the whole team that is represented by these three groups. That has been one of my interests for many years, trying to get the three groups—the audiologists, the otologists, and the hearing aid people—to define some sort of rules and then work together to do the job which is necessary.

To that end about 5 years ago we organized what we called the five-man committee. This five-man committee consisted of a representation from each of the five organizations. The medical organization, the nonmedical professional organization, the American Speech & Hearing Association, and the other nonmedical professional organization, the National Association of Speech & Hearing Agencies, or Hearing & Speech Agencies more correctly, and then the dealer organization and the manufacturers' organization.

I have attempted to bring these five groups together to sit around the same table so that we could discuss our various problems.

The name has since been changed at the suggestion of Mr. Johnson since the five-man committee was not very dignified, according to his statement, at least the named five men were not very dignified. We have a new name, the Intersociety Committee on Hearing Conservation. This is the broad field of what we are talking about.

This does give the committee a little more status, I suppose. Since it is seeking status at this present time I suppose we should go by that name. We have had several meetings and they have not all been too smooth at times. I think, as I said, Ken Johnson is a better golfer than I am but I think I am as good an arguer as he is.

Model Licensing Bill Advanced

One of the things that has come out of the committee has been a model licensing bill. Well, this model licensing bill is not accepted by everyone as yet. The medical profession through the academy has reviewed it and said as far as they can see it is acceptable as a guide to people who want to set up licensing bills in the State.

The hearing aid dealer organization and the manufacturers' organization have accepted the bill. At the present time it is under consideration by both the other organizations; whether or not it will be accepted remains to be seen. At any rate, we are headed in the direction of trying to get some cooperation.

The hearing aid dealer has been catching hell in this meeting and in other meetings I have attended. If you go back into the history of the medical man—and he is considered to be a fairly honorable man at the present time—but if you look at the medical problems, what I call growing pains, in the late 1800's and early 1900's you will find that we had a lot of the same problems. We had chicanery and charlatanism and bad advertising and goodness knows what. This is the same process the hearing aid dealers are going through. I will not mention the otolaryngologists; they have some similar problems although they have not been advertised quite as much. The doctor of medicine cannot because of his particular professional feelings sell the hearing aid. The audiologist cannot because it is not ethical for him to do so according to his professional society.

So I ask the question, Who in the world is going to give the man the hearing aid unless we have a hearing aid dealer? It appears to me that the problem is not to get rid of him or legislate him out of business but to raise his level so he can fill his capacity in a better way.

Now, many of them are filling their capacity very well, but there are also those that are not.

I think the way the hearing aid society is directing itself at the

present it won't be too many years before we have a body of what I call good, competent, supportive kind of people with respect to servicing the impaired-hearing individual.

It would be nice if all hearing-impaired people could be seen by the otolaryngologist because there may be things wrong with the patient that can be correctly diagnosed and maybe save his life, even, but when you look at the total problem there are not very many of these kinds of people, really. Even if it were good and if legislated that it should be done it would be impossible to accomplish. Some 3,500 otolaryngologists cannot possibly see every one of these people to do the kind of job that we think should be done. The California Medical Association said it would not support a bill that says that a doctor must see all patients because they know it is impossible to do so. In any case, we can't make a patient go to a doctor if he doesn't want to.

Evaluation of "Total Person" Needed

Now the other thing is going to an audiologist. I feel as the audiologists do, that there are certain kinds of cases that should go to an audiological center where they can get the proper kind of evaluation. In my opinion the poorest link in the chain at the present time is the evaluation of these people in the terms of the total person. I have made that statement many times that I think audiologists should be evaluating people, not hearing aids or instruments.

Mr. Oriol. May I ask whether you think this could be part of a multiphasic health strengthening operation?

Dr. Glorig. I am familiar with that since I entered into one with the Public Health men here a long time ago. I think that this is what would be better called comprehensive health care.

Mr. Oriol. Or identify.

Dr. Glorig. Identification is really the secret to this whole thing. The story you get from most people when you start talking about identification is, "what is the use of identifying them if we cannot take care of them." My answer to that has been, and will be until I am 6 feet under the ground, "unless you create a demand you won't get a solution." So identification will create the demand and we will take care of it somehow as we create the demand. I believe these identification programs should be strengthened in every respect. The school programs, for example, have served in reducing hearing loss among schoolchildren because the loss has been found early when something can be done about it—if not corrected, at least rehabilitated.

Well, I think we should look at training programs more closely. Not only the quality of the training that goes into the program but also what happens to these people after they get all this training, particularly Government-supported training programs.

If it were looked at closely, I am sure that by marriage or by something else a lot of these people who receive Government money give the field absolutely no assistance. I don't know how many there are but I would say according to my experience it is a significant number.

I made the statement in my testimony "there is greater need for more Indians and fewer chiefs." We have got to have people that are willing to sit down and do work rather than direct other people.

More properly oriented, well-directed research is essential—par-

ticularly more clinical applied research—which is one of the things that NIH does not support, they support basic research. Who in the world is going to support the application of this research which I think we call clinical research?

I don't think I need to say any more except that the burden of my testimony that is written here is to get better service to the person out there who is begging for something to be done.

Thank you, gentlemen.

Senator CHURCH. Thank you very much, Doctor. I am sorry that I was called away, and was unable to have the benefit of the testimony you gentlemen have given. Of course I will have a chance to read it in the record.

(The prepared statement of Dr. Glorig follows:)

PREPARED STATEMENT OF ARAM GLORIG, M.D.

The extent of hearing loss in any group must be expressed in terms of certain criteria. The usual way depends upon ability to hear and understand everyday speech, which is undoubtedly the most common factor for any population sample. Around the use of this concept, the American Academy of Ophthalmology and Otolaryngology and the American Medical Association have proposed and accepted for general use a means of transposing pure tone hearing tests (audiograms) to hearing for speech. The formula states that the average hearing level of the three frequencies—500, 1000 and 2000 Hz (cycles per second), (C_1, C_2 and C_3 on the piano), can be used to predict hearing loss for everyday speech. Long usage has shown this to be true.

When population groups are analyzed for hearing loss, the statistics are based on this three-frequency average. The formula further states that impairment of hearing for every-day speech does not begin until the average of these frequencies exceeds 25 dB.

On the basis of these criteria, we can look at various population samples in terms of need of assistance for hearing impairment.

It is generally recognized that significant impairment is not apparent until the impairment level reaches about 40 or 45 dB. A glance at Tables I, II, and III gives some approximations based on population studies made by the USPHS and the Research Division of the Callier Hearing and Speech Center. Table III gives a fair idea of the numbers of people who show hearing impairment as a result of noise exposure, primarily industrial. Table II indicates that at least 30% of people between 65 and 80 definitely need help. There are approximately 20,000,000 persons in the United States who are 65 or over. If 30% of these people need help of one magnitude or another, the potential number of older Americans who need services oriented toward better hearing is conservatively 6,000,000. When 4% of the remaining 180 million persons under 65 are added to this, it is rather apparent that the 3500 otolaryngologists, the 1000 audiologists, and the 5000 hearing aid dealers, plus approximately 500 centers equipped to handle impaired hearing persons have an impossible task, even if everyone cooperates well.

During my 20 odd years of experience in otoaudiology, it has been quite evident that a team approach to the problem is essential. It is obvious that it would be to the best interest of the patient to be seen by an M.D. (preferably an otolaryngologist) prior to any attempts at wearing a hearing aid. It is also just as obvious that there are not enough specialists to do this for everyone. Therefore, some sort of criteria should be evolved to act as a guide to the initial examiner, whether he be a medical man in general practice, an audiologist who operates where there is no otolaryngologist or M.D. available, or a hearing aid dealer.

In an attempt to bring the principal groups together (American Academy of Ophthalmology and Otolaryngology, American Speech and Hearing Association, National Association of Hearing and Speech Agencies, National Hearing Aid Society (Dealers' Group), and the Hearing Aid Industry Conference (Manufacturers' Group)), I proposed a so-called "Five-Man Committee." We met several times, and the name was changed to the "Intersociety Committee on Hearing Conservation." The purpose of this group is to provide an opportunity

for unofficial talks, where each society can unofficially express it opinions and criticisms through an appointed representative.

The first definitive task handled by the Committee was the problem of hearing aid dealer licensing. After two or three years discussion (during which time several states passed licensing legislation), a so-called model bill was prepared and approved by the medical society, the hearing aid dealers and the manufacturers. The non-medical professional organizations have not, as yet, accepted the model bill for various reasons, which are not strictly related to the provisions of the bill.

In my opinion, we cannot possibly resolve the situation confronting us with respect to the "older American" without the complete cooperation of all groups and the recognition of the special knowledge possessed by each group. The hearing aid dealer has been subjected to much criticism during the past. He has been called many uncomplimentary names; but, if one looks at the history of medicine, the men trained in the last century, and even the early part of this century, were guilty of "growing pains," that were much more serious. In spite of the present attitude many of the so-called professionals have for the dealers, they are essential to the job ahead of us. For example, the doctor cannot and, furthermore, does not want to handle hearing aids, the non-medical professional, although he feels he is trained to do a better job of "fitting" hearing aids, cannot sell hearing aids since it is against the ethics of his professional society. This leaves the hearing aid dealer as the only one who can deliver the aid to the patient. Obviously, this cannot be done without some knowledge. It is our duty to see that this important member of the team be assisted to accomplish his role as a rightful member of the team. He is not the only offender in this very complex situation. The non-medical professional is by no means less guilty of ignorance of his own place in the overall scheme. For example, audiologists are fairly evenly divided on the matter of hearing aid fitting techniques. There is serious talk of equipment to evaluate the patient's performance with amplification without using a hearing aid. Many audiologists use hearing aids as test instruments at present. These instruments are furnished by the hearing aid industry. In fact, the hearing aid industry keeps over a million dollars in aids at the disposal of many of the audiology centers.

With present methods in use, it would be next to impossible for audiology centers to operate if the hearing aid industry refused to cooperate in this manner. In my opinion, trained audiologists should be evaluating people—not hearing aids. When the medical and non-medical professionals are willing to accept the hearing aid dealer as a member of the team and work toward raising his level of knowledge, adequate to his duties, much better service could be offered the hearing impaired individuals, since there is not, and probably never will be, enough well-trained professionals to do the job. Criteria can be evolved that will assure top professional evaluation for the cases that experience has shown need advanced training and counselling.

There are several ways government policy or programs could be influenced:

1. Private Facilities

Since the care of the "older American" with a communications handicap (this includes speech problems, as well as hearing problems) is highly specialized *and* needs particularly good evaluation service, it is imperative that plans be made for government agencies to make intensive use of good professional, private centers. It is particularly difficult for the "older, impoverished American" to obtain proper services in this field. Most centers operate on a deficit budget and depend on fee scales to augment the budget. Provision should be made through Medicare or whatever program best suits the case, for the support (through fees) of the "older American." Actually, although much of the care entails non-surgical and non-medicinal therapy, the rehabilitative needs of the patient are medical in nature and should be supported through medical care programs. This care should also provide for prostheses (hearing aids in this case) where necessary.

Although I was head of the Army and V.A. program for seven years and am familiar with both of these programs, I am convinced that the task of servicing the "older American" cannot be fully and properly accomplished without the use of private facilities.

2. Training

Government programs should look more carefully at the need for trained personnel or at least at methods to make better use of presently available per-

sonnel. The matter of so-called supportive personnel should be carefully considered before expensive training programs are organized.

The training grants program should be carefully examined to determine the eventual effects. At present, no one really knows how many government supported trainees work in this field and how long. Arrangements should be made to trade service for training similar to the military programs. Numbers of trainees accept public support and never enter the field because of marriage or a change of mind. The training centers should be closely examined. There are many programs of poor quality. Frequently, these programs eke out a mere existence on training or planning grant money. Criteria for training programs should be evolved on a national basis if public support is to be involved.

3. Research

There is a dearth of good, well-directed basic and clinical research in the communications disease field. Government agencies should evolve a system of research support which is directed more toward application. What good is basic research if the findings are not put to use to improve the health of the people? More support should be directed toward clinical research. Certain centers should be examined and commissioned to examine certain aspects of clinical research. These centers should be carefully examined and given continuous, hard support on an annual, not a project, basis. The institution should be made responsible for the end results, not the principal investigator. Principal investigators move from center to center too often and research continuity is badly broken up. If an institution has proven it can maintain a good staff and do responsible work, I believe it should be supported and given certain appropriate problems to investigate.

In Summary

The problem of the "older American" and his communication difficulties is a large one. We must make use of all groups who have a working interest if the problem is to be solved. There is need to investigate methods to make better use of all existing facilities, private and/or government.

Training programs should be more closely examined as to quality and disposition of trainees. There is a great need for more Indians and fewer Chiefs.

More, properly oriented and well-directed, research is essential. More clinical research is a must.

Thank you for the privilege of appearing before this important committee.

TABLE I.—*Over 25 dB (ISO)*

Percent:	*Age*
1	18–24
30	65–74
50	75–79

TABLE II.—*Over 45 dB (ISO)*

Percent:	*Age*
1	18–24
10	65–74
20	75–79

TABLE III.—RELATION BETWEEN EQUIVALENT CONTINUOUS SOUND LEVEL IN 0 TO 45 YEARS AND RISK; PERCENTAGE OF PEOPLE WITH IMPAIRED HEARING IN A NOISE-EXPOSED GROUP

[Age = 18 years + years of exposure]

Equivalent continuous sound level db(A)		Years of exposure									
		0	5	10	15	20	25	30	35	40	45
≦ 80	Risk, percent	0	0	0	0	0	0	0	0	0	0
	Total percentage with impaired hearing	1	2	3	5	7	10	14	21	33	50
85	Risk, percent	0	1	3	5	6	7	8	9	10	7
	Total percentage with impaired hearing	1	3	6	9	13	17	22	30	43	57
90	Risk, percent	0	4	10	14	16	16	18	20	21	15
	Total percentage with impaired hearing	1	6	13	18	22	26	32	41	54	65
95	Risk, percent	0	7	17	24	28	29	31	32	29	23
	Total percentage with impaired hearing	1	9	20	28	34	39	45	53	62	73
100	Risk, percent	0	12	29	37	42	43	44	44	41	33
	Total percentage with impaired hearing	1	14	32	42	48	53	58	65	74	83
105	Risk, percent	0	18	42	53	58	60	62	61	54	41
	Total percentage with impaired hearing	1	20	45	57	64	70	76	82	87	91
110	Risk, percent	0	26	55	71	78	78	77	72	62	45
	Total percentage with impaired hearing	1	28	58	75	84	88	91	93	95	95
115	Risk, percent	0	36	71	83	87	84	81	75	64	47
	Total percentage with impaired hearing	1	38	74	87	93	94	95	96	97	97

Note: Percentage of people with impaired hearing in a non-noise-exposed group is equal to percentage in a group exposed to continuous sound levels below 80 db(A).

Senator CHURCH. Since I have been called out I think I should defer any questions to Senator Hansen.

Senator, do you have any questions at this time of the panel? Since I have been away I thought perhaps you better handle the questions.

Senator HANSEN. Thank you very much, Mr. Chairman.

I might observe that Senator Yarborough came in and did introduce the last very distinguished panelist.

Would it be your recommendation, Mr. Johnson, that a medical certificate should be prerequisite to the selling of a hearing aid?

Mr. JOHNSON. The suggestion was that as far as children are concerned that one of two situations should prevail. One, as a minimum, that there be a requirement in State laws that parents be advised by the dealers prior to the sale of a hearing aid that a medical and audiological examination should be conducted. Second, and the more desirable but perhaps least possible of my two suggestions for protecting the interests of children, a medical certificate might be required prior to the sale of a hearing aid indicating that there is no medical condition which precludes the use of a hearing aid or which should be cleared up before a hearing aid is sold.

Senator HANSEN. Would you comment on that, Doctor?

Dr. GLORIG. This has been one of my recommendations for many years, that anyone under 10 years of age should have the benefit of medical and audiological examination by the profession represented by Dr. Johnson. I think I could carry this one step further and go to some of the older people like over 70, maybe, a round number of 70 should also have the similar kind of examination before getting a hearing aid because there are many problems associated with the older citizen with respect to wearing amplification that do not occur so much in the lower age groups. These criteria can be set up. I have suggested them for several years to some of the States that are looking at these problems with respect to the State beneficiary whether title 18, 19, or whatever, that certain cases could be recognized approximately from

an audiogram, that when the audiogram looks like this they ought to be sent to professionals.

Senator HANSEN. This morning earlier we heard testimony to the effect that the results of Government testing, particularly some agencies of the Government, should be made available to the public. Would you comment on that testimony?

Dr. GLORIG. Well, I don't want to get in the middle of an argument between someone who wants information that the Government does not want to give them but I can say that I was in on the start of the Veterans' Administration method of doing this. It has grown to something which is pretty good now but I don't think that some of the technical information that we get from the National Bureau of Standards would really be of too much value as far as the public is concerned.

Senator HANSEN. You are saying it is too technical for the average layman?

Dr. GLORIG. Yes. And as far as the wearing of a hearing aid at the present time, I am not sure it would be too significant. It might be good for setting up specifications with respect to battery drain and these kinds of things but with respect to what this does when you put it in an ear I am not so sure it is applicable.

Senator HANSEN. Thank you, Mr. Chairman.

Senator CHURCH. Thank you very much, Senator.

Are you saying, Doctor, that the state of the art is such that there is a great deal more to be ascertained before we would have fully reliable criteria for the public?

Dr. GLORIG. Let's put it this way: We are a long way from fitting glasses, as far as hearing aids are concerned. At the present time it is more or less a trial and error method.

Senator CHURCH. Is this a matter, Doctor, that really in the final analysis comes down to the actual use of the device itself and only the wearer himself finally is able to determine whether it is working for him or not?

Dr. GLORIG. I think this becomes more understandable when you look at it this way. You have a person here who has been losing hearing over a period of years. Now he has ended up with a hearing loss which is deficient in information with respect to intensity as well as with respect to pitch, so that he is not able now to relate the frequencies that are important from the standpoint of understanding the spoken word.

If you now look at what he has done by way of compensation all these years, he now ends up with something that is entirely different than he started with.

Now what you are doing is introducing an instrument which is meant to get him back to where he was 15 or 20 years ago. He has to relearn to hear over again and it is a similar kind of a process that he has been going all these years except that it does not take that long with assistance by people like Dr. Johnson's people. It is nice to say training is good and it is essential. I know it is because we set it up in the Army and VA but it is one hell of a job to get people to come in for this training; they just will not sit still for it.

We try to set up lipreading classes and auditory classes. I am running one of the largest centers in the country and we have very little

success in getting people to come for training. First, it is costly. Second, they have to come when you are open. Even though you set up night classes they don't take an interest in it. So it is not an easy problem to get training to these people. They have to learn it over a period of time.

Senator CHURCH. Senator Yarborough, I am flattered that you are here today. I wonder if you have any questions?

Senator YARBOROUGH. Thank you, Senator Church.

No, I have no questions but in the interest of time, Dr. Glorig has only stated a fraction of this very fine paper he has prepared and I am asking leave at this point to print his entire paper in the record, together with these tables that are explained in it—the loss of hearing, the percentage of people of different ages, percentage of loss, the different levels, and also his life record which he is too modest to mention.

Dr. GLORIG. That is only because I am a little older than the rest of them, that is all.

Senator YARBOROUGH. Four pages. It would be the envy of anyone to have accomplished all of these things. I congratulate you. We are glad you moved to my State of Texas 4 years ago and we hope that you stay there and continue to give us the benefit of your expertise, and the wisdom that comes from these tremendous accomplishments, the universities you attended and the positions you held.

Dr. GLORIG. Don't be too nice. I may be calling on you.

Senator HANSEN. Mr. Chairman, if the Senator will yield.

I might observe that just prior to your joining us this morning, Senator Yarborough, I had asked without objection that the prepared statements of each of our three panelists be included in the record in their entirety. I appreciate your further interest. I assure you, Senator Yarborough, I share your high regard for these gentlemen who are with us this morning.

Senator YARBOROUGH. I have been perusing these statements and I am impressed with Dr. Johnson's statement that of the 4 million deaf and hard-of-hearing people an extremely small percentage sought the assistance of a physician or an audiologists before they went to the hearing aid dealer, 60 percent went directly to the hearing aid dealer.

Dr. GLORIG. Senator, may I ameliorate that by saying many of these people have seen a physician in the past year and a half and have been told that nothing can be done for them in the way of medical treament.

Senator YARBOROUGH. So they do go ahead, then, without further medical assistance.

Thank you very much. I have no further questions.

(The chairman in a letter written shortly after the hearing, addressed the following questions to the witness:)

1. You suggested that anyone over 70 years of age should be required—I believe—to have the benefit of medical and audiological examination before the purchase of a hearing aid could be made. I believe you would require State certification that such an examination had been made. Is your recommendation limited only to beneficiaries of Federal or State income assistance programs, or would you apply it to all persons past a certain age?

2. Your prepared statement gave several recommendations of great interest to the subcommittee. I have a few questions about them:

a. You stress the need for "government agencies to make intensive use of good professional, private centers" in order to serve older individuals with hearing loss. You mention that Medicare or some other program could provide support

in such cases. I would welcome additional commentary from you on this point.

b. You are critical of training "programs of poor quality." What deficiencies do you now find, aside from those you have mentioned? How would you develop "criteria for training programs . . . on a national basis," as suggested in your statement?

c. I am concerned about your comments about "the dearth of good, well-directed basic and clinical research in the communications disease field". May we have additional discussion on this point and more information about your recommendation that "certain centers should be examined and commissioned to examine certain aspects of clinical research?"

3. You gave a good account of the progress made thus far by the Intersociety Committee on Hearing Conservation. We will welcome word—at any time—on new developments.

P.S.: Several witnesses referred to the likelihood of additional hearing impairment in future years because of the exposure of younger people today to rising noise levels. What is your view of the current situation and the likelihood of increasing hearing loss?

(The following reply was received:)

Answer 1. I suggested that where state beneficiaries were concerned, in order to be certain tax money was correctly spent, the youngsters (under 10) and oldsters (over 70) be properly evaluated oto-audiologically prior to purchase of an aid. As a believer in private enterprise, I cannot insist that everyone see a doctor prior to buying an aid. This must be done by educating the public as to what the best way is; but the choice must remain the individual's. I believe what is good for the beneficiaries is also good for the public. But, can we insist with the public?

Answer 2. (a) Medical programs such as Medicare and Medicaid, etc., could do much good for eligible persons with communicative diseases by making it possible, in fact insisting, that such persons be sent to recognized centers for proper evaluation and therapy. Support could be in the form of fees to the existing private centers. Most practitioners of medicine are not prepared to make correct decisions in these cases. I believe support of this kind could go far to properly care for these people, and, as well, assist the centers which, for the most part, are non-profit and on deficit financing budgets supported by the community. The failure to benefit these cases is usually because of inexpert evaluation and follow-up therapy. There are 500 or more such centers throughout the country that can supply moderate to excellent service. At present, these centers are hampered because of provisions that make it difficult to enter into direct relations with the patients, naturally by way of the medical profession. However, the medical profession must be instructed to make use of these centers and not trust their own, frequently faulty, judgment.

(b) The majority of training programs in this field are devoid of medical orientation or association. Traditionally speech and hearing training programs have come down through speech (drama, elocution, debate) departments that really have little or no relation to communication disorders, such as what the field is confronted with. Medically oriented and cooperative programs have begun to appear only recently. Most university programs have no access to medical diagnosis and/or therapy. They are coupled with so called speech and hearing therapy programs where poorly trained and supervised students conduct the therapy sessions. The so called clinics are conducted under the guise of training programs, but are actually organized to produce an income for the department.

It is from these sort of programs that we obtain the majority of our special education teachers in the public school systems. Now I know that the need for such personnel is great and that this need is being met very much second best by these poorly trained persons. My suggestion to better this situation is that public school systems seek consulting relations with centers such as ours where good supervision can be provided and essential advanced evaluation and therapy are available. There are too few well-trained individuals whose ability could be spread to provide more people with better treatment in this manner. Supportive personnel are essential, but they must have professional supervision.

Much of the support for training programs comes from Federal and State programs. I believe these monies could be spent more wisely if they were given to training centers that have demonstrated ability to turn out good students. New programs should be started, but the whole center should be more closely

scrutinized. Thousands of dollars are wasted on poor programs, such as I have described above. Perhaps a national committee of consultants, consisting of otologists, speech pathologists, and audiologists, as well as educators, could be formed to review requests for training funds. Perhaps regional subcommittees could assist. These committees should be able to visit the schools and centers to determine the situation first hand. I do not mean to deny any worthy institution, but I believe regional consortiums could be formed to great advantage.

(c) I believe many, many research programs are being supported with little or no regard to eventual application. In my opinion, public health supported programs should be directed to just that—*the public's health.*

I am not against research for research sake, nor am I against research whose application may be in the distant future. I am against the practice of allowing most investigators to spend all of their efforts on ideas of their own with little or no coordination with the public need. Researchers should be required to investigate particularly urgent problems, becoming acquainted with the needs of the public health program through cooperation with local and federal public health departments. It is time some attention was paid to getting service to the people. This means clinical research, which (in this field) is usually left to the clinically oriented workers whose knowledge of research leaves much to be desired.

There are certain centers that are well equipped to do basic research. These should be supported to the fullest extent.

Presently, research is done on a project basis by principal investigators who cannot plan well-rounded programs because the support is limited to a yearly period. Support is obtained on a which came first "the chicken or the egg" basis. Personnel cannot be hired until the money is available; the money is not available unless one has the personnel. It is difficult to hire good personnel because of the insecurity of government funding. Why not pick certain centers whose staff and facilities are adequate to conduct a total program on certain aspects of the problem? Why not program support as well as project support?

There are many good non-profit organizations that find it very difficult to get a sufficiently high enough priority to win an approval of grant requests. Yet, state supported university research, frequently of lesser quality, seems to get most of the money.

Perhaps I have said enough. Please believe I will be glad to assist at any time.

Answer to P.S.: Hearing loss is increasing, but I believe most of the increase is due to noise exposure. We are a highly mechanized nation, and the human ear is being exposed to much too much noise, particularly in our industries. I have been interested in industrial hearing conservation programs for many years; and as a matter of fact, am still very active in promoting this activity. Unless we insist on this type of safety program, we will produce many, many more impaired hearing persons, particularly the older groups.

Senator CHURCH. Mr. Miller has a question.

Mr. MILLER. I have two quick questions for you, Mr. Johnson. You have suggested that a national Government purchasing of hearing aids for people on medicaid or other Government supported programs would cut costs. Can you give us the costs for the Veterans' Administration under its program including all the related overhead for each hearing aid provided?

Mr. JOHNSON. No, I can't provide that information. You have added some additional figures there including overhead, and so on. I believe, however, the average purchase cost is substantially under $150 but I think perhaps a request to the Veterans' Administration would get you that information.

Mr. MILLER. I suggest this might be an appropriate inquiry to make of the Veterans' Administration.

Senator CHURCH. Yes.

Mr. MILLER. My other question, I am still not clear on this number of audiologists.

Mr. JOHNSON. I figured you would be back.

Mr. MILLER. I am interested in the number available for daily duty in the matter of testing hearing, and fitting hearing aids.

Can you provide now, or at a later time for the record, an inventory of the audiologists currently in the country, and the nature of their work, their present work, and where and how such services are provided geographically?

Mr. JOHNSON. Yes, I could provide a written statement for you. I think part of our difficulty here comes from the fact that the counting which you gentlemen did was an accurate count. It is a matter of how one defines what an audiologist is. There is a particular list published in the 1968 Directory of the American Speech and Hearing Association which includes approximately, we will say, a thousand or 1,200 names but there is an additional list published in that same directory of individuals that can properly be classified as audiologists which approximates that same number.

By 1970 I think the estimate is still reasonable that we could expect perhaps 2,000 of these people be available. It is very true that a number of them I included are in administrative services so you are entirely accurate there. Many of them are also directors of programs and thus provide only partial services during the day.

I think that we are not too far off in the number of audiologists available to provide clinical services as of 1970.

Mr. MILLER. If you would provide that for the record.

(The following letter was received for the record:)

AMERICAN SPEECH AND HEARING ASSOCIATION,
Washington, D.C., July 25, 1968.

DEAR MR. MILLER: Because of your pleasant persistent questioning concerning the supply of audiologists by 1970 during the subcommittee hearings on July 19, I have rechecked my estimate carefully. By 1970 our best estimate is that there will be about 2150 certified audiologists—the vast majority of whom will be providing clincial services during a part or all of each working day.

This figure of 2150 is arrived at by adding the following groups: 1) Present members holding the Certificate of Clinical Competence in Audiology (873); 2) Present members holding the Basic Certificate in Hearing (854); 3) Present members whose applications are being processed under current standards (140); 4) Present members who will take the Special 1969 Examination (239); and 5) An estimated 150 individuals who will join the Association between now and 1970 who will have qualifications in the area of audiology. While the descriptive phrases used above may not be meaningful in themselves to you, they all describe groups of individuals whom we have sound reason to believe will hold the Certificate in Audiology by 1970.

The other, individuals testifying before the subcommittee apparently were misled by their count of only category No. 1, i.e. present members holding the Certificate in Audiology. The 1968 Directory of the American Speech and Hearing Association includes a list of these individuals but, likewise, includes a list of those in category No. 2, i.e., present members holding the Basic Certificate in Hearing.

In discussing the errors in the testimony, it may be helpful to point out that all of us, I included, grossly underestimated the number of individuals, as of 1970, who will be qualified to provide "audiological" services. At the time of the hearing all of us spoke in terms of the number of certified audiologists, as though these were the only individuals to provide "audiological" services. Most of the 8000 individuals, as of 1970, who will hold Certificates of Clinical Competence in Speech Pathology are quite able to help hearing handicapped persons in most of the rehabilitative services they require. Most speech pathologists are able to provide auditory training, speech conservation and necessary counselling and orientation to the hearing handicapped. Many may also be able to provide lipreading instruction.

During the hearing I indicated there were about 800 speech and hearing service centers in the United States. The 4000 persons employed in these centers

obviously are not all certified audiologists. Most of them are speech pathologists, many of whom are providing "audiological" services for which they are quite qualified. Diagnostic audiological examinations and hearing aid evaluation services probably would not be provided by a speech pathologist. These services should be provided only by a certified audiologist.

The supply of professional personnel in service centers who serve the hearing handicapped is, as you see, substantially larger than the data presented at the hearing would indicate. To complete the manpower picture there is another already significant and still growing group providing audiological services in these 800 centers. This is the group of new Masters degree holders who are required to obtain a year of supervised experience prior to taking their National Examination in Speech Pathology or Audiology. As in other professional fields, these interns provide a significant amount of service.

Thank you for the opportunity to assist the subcommittee in its important efforts to help the hearing handicapped elderly citizen. If I may be of further value please let me know.

Yours very truly,

KENNETH O. JOHNSON, Ph. D.,
Executive Secretary.

Senator CHURCH. I believe that is all the questions, gentlemen. Thank you very much.

Our next witness is Commissioner Hunt, the Commissioner of the Rehabilitation Services Administration.

Commissioner, you have been very patient this morning. I want to put you on so there will be no need for you to return this afternoon.

STATEMENT OF JOSEPH HUNT, COMMISSIONER, REHABILITATION SERVICES ADMINISTRATION, SOCIAL AND REHABILITATION SERVICE; ACCOMPANIED BY DR. L. DENO REED, ACTING CHIEF OF THE REHABILITATION RESEARCH BRANCH, OFFICE OF RESEARCH, DEMONSTRATION, AND TRAINING, SOCIAL AND REHABILITATION SERVICE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Mr. HUNT. Thank you, Senator.

Senator CHURCH. I might mention it is at the suggestion of Senator Dirksen that the Social and Rehabilitation Service was contacted, though the committee was going to do it in any case, but he felt that you would have a very special contribution to make.

Mr. HUNT. Thank you, Senator.

I am very pleased to appear here this morning in order to share with you our thinking relative to the pervasive health and adjustment problems stemming from hearing impairment. As you well know, Miss Mary Switzer, Administrator of the Social and Rehabilitation Service, has for many years had a deep and abiding interest in helping the deaf and the hard of hearing to achieve at levels that reflect their true abilities.

Many exciting and effective advances in the capacity of the community and the individual to reduce together the isolation and cultural and economic impoverishment that accompany hearing loss are due to Miss Switzer's commitment and persistence.

With me today is Dr. L. Deno Reed, Acting Chief of the Rehabilitation Research Branch in the Office of Research, Demonstration and Training, Social and Rehabilitation Service.

Although the responsibilities of the Social and Rehabilitation Service and the Rehabilitation Services Administration are not limited to

older persons, we are acutely aware that hearing impairment has a definite relationship to the aging process. We know that many young persons successfully rehabilitated today from the handicapping aspects of another physical or mental impairment may very well eventually return to their State vocational rehabilitation agencies for a new pattern of vocational rehabilitation services relating to a newly developed hearing loss that comes with advancing years.

While experience is yet too limited to estimate the frequency of this particular aspect of a very large problem, we do know that it will be considerable as the growing impact of environmental noise affects man's ears.

I turn now to the questions toward which our testimony is directed. May I say initially that the Social and Rehabilitation Service and the Rehabilitation Services Administration stand ready at any time to give this committee all possible help in its important mission.

Extent of Hearing Loss Among Older Americans

We are speaking of a disability—hearing impairment—which affects millions in our society, from the very young to our senior citizens.

The National Center for Health Statistics, of the U.S. Health Service, conducted a national health survey on the characteristics of persons with impaired hearing in the United States from July 1962 to June 1963. The information in this report was obtained through a nationwide household interview survey in a representative sample of the U.S. population. The sample included about 42,000 households containing 134,000 persons.

Significant findings from this report include a dramatic association between hearing loss and age.

It was estimated from the interviews that approximately 8 million persons have some hearing loss in one or both ears. Approximately 4,085,000 persons were estimated to have some loss of hearing in both ears. The association of hearing loss and aging from the data in this report appears to verify observations and experience I think we have all had over the years.

It reveals that for all persons with binaural hearing loss, there is an increase from 3.5 persons per 1,000 population under 17 years of age, to 132 per 1,000 persons 65 years of age and over.

It brings out further that approximately 80 percent of the persons with hearing loss in both ears were 45 years of age or older and 55 percent were 65 years of age or older. To further compound the problems of these 4,085,000 persons with binaural hearing loss, it was estimated that 5.4 percent (222,000) also had severe visual impairment.

Availability of Hearing Aids and Needed Services

The State-Federal program of vocational rehabilitation in the fiscal year ending June 30, 1967, rehabilitated a total of 173,594 persons with a variety of disabilities. Of this number, 4,923 were deaf persons, and approximately 29 percent, or 1,428 of them, were 45 years of age or older. Another 5,440 individuals were hard of hearing and about 44 percent, or 2,394 of them were 45 years of age or older.

Of these 10,363 persons afflicted with deafness or other hearing impairments, all returned to employment as a result of the services provided them through their State vocational rehabilitation agencies. These services are made available to physically and mentally disabled people under the public program of rehabilitation, and include: comprehensive diagnosis, counseling, surgery and medical treatment, prosthetic devices (including hearing aids), hospitalization, personal adjustment training, vocational training and training materials, tools, equipment, licenses, interpreting services, job placement, followup, and any other goods or services necessary to render the individual fit for gainful employment.

There has been a steady increase in the number of people with hearing impairments rehabilitated by the State-Federal program of vocational rehabilitation. This reflects favorably on specially developed programs and services of our State rehabilitation agencies that the Congress has made possible through the Vocational Rehabilitation Act amendments of recent years.

I think it was just 2 weeks ago the President signed the Vocational Rehabilitation Amendments of 1968.

Hearing and speech centers have been established in many urban and rural areas that bring vital hearing rehabilitation services such as the trial and selection of hearing aids, training in the use, lipreading training, and speech development and correction close to the people in need.

Under our innovation grant program—which is called section 3 of the Vocational Rehabilitation Act—for example, rehabilitation counselor aids have been employed by the Minnesota and West Virginia rehabilitation agencies to provide special services to the deaf and hard of hearing. We have utilized our expansion grant authority for the development of intensified hearing and speech services in Illinois, Indiana, Maryland, Missouri, and Virginia. Hearing and speech service centers have been established to enrich and extend case services under Laird amendment project authority in Florida, Texas, Kansas, Louisiana, and other States.

The statewide planning for meeting the rehabilitation needs of all disabled people by 1975, authorized by the 1965 Vocational Rehabilitation Amendments, has stimulated an increased awareness of the needs of hearing-impaired people. Of interest is a recent progress report on statewide planning in Florida which indicates that some 10,000 of its citizens are limited in, or unable to carry on, major activity because of hearing impairment. It is estimated that approximately 9,000 of these people are age 45 or over.

The rehabilitation research program includes studies which have relevance to the needs of hearing-impaired elderly persons. Some of the research is directed toward improved methods of hearing testing and diagnosis, such as a study on bone conduction hearing tests.

Another major demonstration project relates to the development of standards and guides for use of communities in establishing and developing improved facilities to serve adults, including the older Americans. The Rehabilitation Research Branch has supported studies to improve and develop tests of hearing, especially for persons with sensorineural hearing impairments. A significant number of older

Americans have hearing impairments of this type. Many are not able to utilize a hearing aid, and this is an area needing further study.

There is also a demonstration project underway concerned with employer attitudes toward hiring deaf persons, especially those over 45 years of age. The intent is to break down the barriers to employment of capable individuals who happen to have hearing impairments.

I would also like to mention another major study being conducted by National Analysts, Inc., Philadelphia, Pa., on the subject of susceptibility to health fallacies and misrepresentations.

This study is being supported cooperatively by seven Federal agencies: Food and Drug Administration; Agricultural Research Service; Veterans' Administration; National Institute of Mental Health; National Institute of Child Health and Human Development; and two agencies within the Social and Rehabilitation Service: the Administration on Aging and the Rehabilitation Services Administration.

A part of this study includes specific questions related to hearing aid purchase and hearing aid use by older Americans.

The project is administered through the Food and Drug Administration and is monitored by a steering committee representing the seven Federal agencies.

I might say Dr. Reed who is with me is a member of this steering committee.

Senator CHURCH. I wonder if I might interject.

This study springs, I think, from work that was originally done in this subcommittee.

Mr. HUNT. Yes.

Senator CHURCH. You have mentioned the rehabilitation research program as including studies which have relevance to the needs of hearing inherent to elderly persons. You have said that some of the research is directed toward improved methods of hearing testing and diagnosis such as a study of the bone conducting hearing tests.

Did you hear the earlier testimony today?

Mr. HUNT. Yes, I was here earlier.

Senator CHURCH. And the testimony in particular of the gentleman representing Consumers Union?

Mr. HUNT. Yes, I heard his testimony.

Senator CHURCH. And then you heard his complaint that Government research and Government testing may be very extensive and very well conducted, but the American people are not made party to it or disclosures are not made available. So, in effect, he would say, what is the use. To what extent are the results of these research programs that you have mentioned made available for the public?

Mr. HUNT. They are available for the public and a number of copies of each one of these research projects are printed and distributed to the lists.

Of course, through the Information Service in the Department of Health, Education, and Welfare they are available to anyone who requests a copy of these research projects.

We have organized in SRS the research utilization branch and the purpose of this is to encourage the application of the research project down into operations, down into the service agencies, down into the clinics.

We have also published rehabilitation briefs. There are not many

so far, but they are in the process of being developed. There are about 10 or 12 or 15 issued already in a variety of fields now. It may be that Dr. Reed would like to supplement what I have said because he is working in this research area at all times and this is his field of specialty.

Senator YARBOROUGH. Mr. Chairman, may I interrupt just a moment?

Senator CHURCH. Of course.

Senator YARBOROUGH. You, Mr. Hunt, are Commissioner for the Rehabilitation Services Administration in the HEW. There is a similar service, is there not, in the VA for veterans only?

Mr. HUNT. Yes.

Senator YARBOROUGH. There is research there. Is there correlation of what you are finding between you and the VA?

Mr. HUNT. A great deal in a variety of fields has enjoyed a very close relationship. I could not at this point pinpoint something with respect to this.

Senator YARBOROUGH. The only reason, Mr. Chairman, I interrupt, I must go to another meeting. I thank you for presiding so ably here and having these hearings and setting them up in this special subcommittee of which you are chairman. I want to thank you for your leadership and the fine service I think you are rendering.

Thank you very much.

Senator CHURCH. Thank you, Senator Yarborough.

Won't you please continue, Commissioner. I know you are about to propose some changes in the Federal program.

Mr. HUNT. Suggested changes in Government programs that may be helpful to the hearing impaired:

Some of our observations and activities appear to fall directly on the broad question of program direction.

The Rehabilitation Services Administration has long been concerned with providing improved services to a greater number of hearing-impaired individuals. Vital to the achievement of this goal is the development of more professional training programs to increase the number of qualified professionals in all vital categories of service—psychology, speech pathology and audiology, counseling, and social work—to work with and treat individuals with hearing disorders.

As our doctor friend from Dallas said, there is a real need for dealing with the whole person, and there are many specialties involved with a person's hearing impairment.

In the field of speech pathology and audiology, approximately $3.5 million was granted by the Rehabilitation Services Administration in fiscal year 1968 for the support of teaching grants and for 664 traineeships. In the area of the deaf, our agency used approximately $770,000 in fiscal 1968 for the support of long-term and short-term teaching and training grants. This includes 106 long-term traineeships and 768 short-term traineeships. We are providing you with detailed information on this training activity in attachments A and B to this statement.

Despite these rather impressive figures, we know that there exists a severe shortage of personnel trained to serve people with communicative disorders. Existing training programs should be expanded and additional training programs launched if we are to make appreciable inroads into this manpower shortage. This is probably especially true in the field of audiology. We see, too, a need for increased activity in

the training of support personnel in order to relieve professional staff of some functions which could be performed by individuals with less than full professional status. The audiometric technician would be an example of this kind of support personnel.

Joint Action With NHAS

We have known for some time that our program has not been reaching many hearing impaired people who could benefit from the services available through State rehabilitation agencies. In May of this year, a part of its effort to provide increased services to greater numbers of the hearing impaired, the Rehabilitation Services Administration signed a joint statement of principles of cooperation with the National Hearing Aid Society.

This agreement [1] has great significance and potential in that more than half the Nation's hearing aid dealers are affiliated with the National Hearing Aid Society. Quite frequently, hearing aid dealers are the first point of inquiry from hard of hearing people. As a result, they are in an excellent position to increase the flow of referrals to the State rehabilitation agencies.

It is significant to note that hard of hearing people in need of vocational rehabilitation are often not aware of the availablity of services through the State-Federal program. The National Hearing Aid Society has thus agreed to encourage hearing aid dealers to inform hard of hearing people about the vocational rehabilitation service and to cooperate in activities that improve opportunities for the hard of hearing.

The Rehabilitation Services Administration in turn will encourage the State divisions of vocational rehabilitation to become informed about hearing aid dealers and to acknowledge referrals from dealers and to cooperate in programs elevating standards of performance.

Informal discussions have been held with National Hearing Aid Society Executive Board to explore the possibility for a series of training experiences which will involve workers in the field of vocational rehabilitation and hearing aid dealers at the community level.

We hope that this training plan will materialize for it will hasten achievement of the goals of the agreement: to provide more hearing rehabilitation services to a greater number of hearing-impaired persons.

I would like to say something in addition to my text, Mr. Chairman, which I don't think is emphasized too much in the statement, that all of the clients that come to the Rehabilitation Service in this country are required by Federal standards to see that there is a complete examination made where there is a hearing impairment, so that they do not go and deal directly with hearing aid dealers. There are throughout the country with support of our Administration a number of clinics where there is full equipment and professionally trained people to test the various kinds of hearing aids.

As was pointed out in previous testimony, and I have seen it in a number of clinics myself, the variety of hearing aids used on the one person produce quite different results and it does not mean that the

[1] See app. 1, p. 285 for agreement.

hearing aid that necessarily produces the least result in my case is going to do that in the next case.

There are of course defective hearing aids. As was pointed out earlier, there are those that are not acceptable, I suppose, but it is only when you really go into a clinic and watch these tests going on that you realize this is a pretty nice science. This is why the audiologist comes in and does a lot to assist the doctor in the case to really do something in the best scientific way possible for the impaired person.

Senator CHURCH. What is the cost to a person for a testing of this kind?

Mr. HUNT. What does it cost? What is the present fee schedule, Dr. Reed?

Dr. REED. The present average fees for diagnostic examination is about $30. This is testing with the hearing aid, medical examination, the audiological examination, and actual selection of the hearing aid.

Now the cost of the hearing aid itself is separate. In almost every instance the State vocational rehabilitation agencies do get hearing aids at a reduced cost for clients of our Service.

Senator CHURCH. Is anyone at all eligible to come?

Dr. REED. For these services?

Senator CHURCH. Yes.

Dr. REED. This is available to any person.

Senator CHURCH. So the problem becomes one of making this service known, and of course there are many places where there are no such clinics. How many clinics of this kind do you maintain through the Service?

Dr. REED. None of the clinics are maintained by the vocational rehabilitation agencies. These are private or public hearing and speech centers from whom the State agency purchases services.

Senator CHURCH. And how many of them are there?

Dr. REED. I think we heard yesterday that there are approximately 800 to 900 such centers in the United States.

Mr. HUNT. If in a State, Senator, where there is not a center within a reasonable distance of the person's home, the Rehabilitation Service has the authority to pay that person's expenses to the clinic and to return, and this means across State lines, if necessary.

Senator CHURCH. The only one such clinic in my State is the Idaho State University. Many of these clinics are maintained by the university.

Dr. REED. Yes, a significant number of them are maintained by universities. However, in the last 10 years there has been a significant increase in the development of hearing and speech clinics within hospitals and rehabilitation centers. As a matter of fact, a significant number of the professionals who receive training through the Rehabilitation Services Administration program established such programs within hospitals and rehabilitation centers outside of universities.

Senator CHURCH. You mentioned your reliance on dealers to convey this information to people who come to purchase hearing aids.

Mr. HUNT. This is not an exclusive reliance. We realize not only with respect to the hearing problems of disabled people but the problems of other disabled people that we still face the eternal problem of having people know about the Service.

Now, this is done in a variety of ways. We have all kinds of radio

programs. We have all kinds of issuances concerning opportunities for the hard of hearing and the deaf. We felt that not only could we work with the national society in having them heighten the standards but since they knew a lot of people through advertising and otherwise needing aids, this society could really encourage referrals by member dealers so that the flow would be greater and the person would get the free service because the person is interested, as I am sure the dealers are, in having a person go through a complete service. They have nothing to lose by this.

All reputable dealers have a lot to gain by it because the rehabilitation program has been very generously funded by the Congress and in most States money is available to take care of a greater number of these people than we now know about. That is why we think it is very helpful to do this.

Senator CHURCH. In the diagnosis that is given in one of these clinics is a recommendation made as to the type of hearing aid that a person ought to purchase?

Mr. HUNT. Yes.

Senator CHURCH. Based upon the results of the test?

Dr. REED. Yes. As a matter of fact, there is specific information concerning the type of hearing aid, including internal control adjustments that has been shown to be successful with this particular individual.

Senator CHURCH. Now you mention, Doctor, that hearing aids were purchasable by these clinics in reduced amounts of money. I didn't quite follow.

Dr. REED. I can give you a specific example. In the State of Pennsylvania hearing aids that are purchased through either State health or rehabilitation programs, the dealers through the parent manufacturing organization sell the hearing aids at a discount, in some instances as much as 20 percent of the retail cost of the hearing aid.

Senator CHURCH. I don't have any further questions.

Mr. Miller.

Mr. MILLER. No. We may submit some in writing but none at this moment.

Mr. HUNT. We could leave these pamphlets with you.

Senator CHURCH. Yes, we would appreciate that.

(The chairman, in a letter written shortly after the hearing addressed several questions to the witness. Questions and replies follow:)

Question 1: You noted that hearing and speech centers have been established in many urban and rural areas to bring vital hearing rehabilitation services to those in need of them. (a) Are these centers funded and operated by RSA? (b) Who may apply for services there?

Answer. (a) Many of these centers are supported in part by the State vocational rehabilitation agencies under various authorizations of the Vocational Rehabilitation Act, specifically Section 2 which provides the basic support for vocational rehabilitation services, Section 3 which is for rehabilitation innovation projects, and Section 4(a)(2)(A) for expansion of vocational rehabilitation services.

Few such centers are actually operated by the State vocational rehabilitation agencies. In many instances these State agencies have made grants to institutions such as hospitals or schools, and to voluntary and professional organizations such as hearing societies, for the purpose of establishing hearing and speech centers. Subsequently, the State vocational rehabilitation agencies may, in accordance with the fee schedule that the center has established, purchase for their clients audiometric diagnosis, hearing aid evaluation and fitting, speech

correction and development, lipreading training, auditory training and other necessary and appropriate services.

(*b*) Any person may apply for service to these hearing and speech centers. The general purpose of these facilities is to provide comprehensive service programs in speech and hearing. For example, one innovation grant to the Missouri School for the Deaf will, as part of its project, provide a completely equipped mobile van with audiometric testing equipment which will travel into the rural regions of the State to bring its services to the people who live a great distance from the metropolitan areas. This has great potential for the elderly and for those whose mobility is limited by other handicapping conditions who cannot travel to the city for services.

We believe, also, that widespread practices among these centers are to waive fees entirely or proportionate to the economic circumstances of the applicant. Some centers receive regular annual support from the community United Fund.

Question 2: You also described special rehabilitation counselor aides employed under your innovation grant program in Minnesota and West Virginia. Would their services be of special help to the person past 45?

Answer. Yes, rehabilitation counselor aides are certainly of special help to persons past 45. This help is not unique to the vocational rehabilitation caseload over 45 since it is effective at all client age levels. However, the counselor aide is a very real help in at least three important ways.

First, the aide saves much time for the client by speeding up in-take procedures, by arranging for necessary examinations, by handling emergencies or adjustments during the counselor's absence in the field, and so on. This client-time economy may be more important for more persons over 45 because they are more likely to be at peak in occupational, social and economic commitments.

Second, the aide in relieving the counselor from much routine thereby releases him for more individual attention to those client needs that may yield only to the expertness of the counselor himself. This has special significance to the 45 plus person whose onset of impairment has been recent and a source of emotional problems, or whose experiences over the years with aural rehabilitation have been inadequate or frustrating.

Third, the aide is able to communicate manually, and thus reinforces deaf client confidence in the agency and overall rapport. The over 45 deaf person may be more rigid toward a public service like vocational rehabilitation because of inadequate early experience stemming from poor communication. Thus, an aide who communicates well serves to hold the older deaf person for the services he needs to become maximally functional.

Question 3: I am interested in the demonstration project which "relates to the development of standards and guides for use of communities in establishing and developing improved facilities to serve adults, including older Americans." May the subcommittee have additional information on this project and the relevance to the needs of aged or aging Americans?

I am pleased to enclose herewith two copies of "Community Planning for the Rehabilitation of Persons with Communication Disorders" * which is a product of the demonstration project referred to in my testimony. Additional copies are available. It is relevant to the needs of older Americans principally in the fact that hearing impairment is so much more prevalent in persons over 45.

You will note that the document features community planning as coordination of all resources within a community and development of needed additional programs to serve all members, especially those with communicative disorders. Persons over 45 are principal beneficiaries in view of the greater incidence of hearing and speech problems among them.

Question 4: We would also like to have more information about your demonstration project concerned with employer attitudes toward hiring deaf persons.

Answer. The demonstration project concerned with employer attitudes toward hiring deaf persons is being conducted by the Alexander Graham Bell Foundation for the Deaf located at 1537 35th Street, N.W., Washington, D.C. 20007, under a grant from the Social and Rehabilitation Service. The purpose of this one-year pilot study is to design and pre-test standard interview instruments and procedures for assessing the attitudes of "on-the-line" hiring personnel in order to:

(1) Collect attitudinal information which will be useful to vocational rehabilitation counselors of the deaf, the National Technical Institute for the Deaf, and the President's Committee on Employment of the Handicapped;

*In subcommittee files.

(2) Impart to the industry people who are interviewed information on the vocational aptitudes and capabilities of the deaf.

It is not possible at this time to indicate the findings of this study since it will not be completed until November 20, 1968. We will be pleased to send you the final report when it has been received by Social and Rehabilitation Service.

Question 5: I find that I need more information on the following points:

a. As I understand it, the RSA does not absolutely insist that a person must be returned to the labor force in order to receive rehabilitation services. If this is so, do you have a maximum age beyond which such services are not provided?

Answer. Some vocational rehabilitation programs for handicapped individuals do not have the objective of returning the person to the competitive labor force. For example, vocational rehabilitation services may be provided a disabled housewife in order to assist her in overcoming the handicapping aspects of her disability as they relate to the function of homemaker. Such a housewife would, after receiving appropriate rehabilitation services, be prepared to carry out her homemaking activities, but placement in competitive employment would not be contemplated.

There is no maximum age beyond which a client may be found ineligible for available vocational rehabilitation services on the basis of age alone. Regulations implementing the Vocational Rehabilitation Act Amendments of 1965 (Public Law 89-333) Section 401.20 Eligibility (b) states that each ". . . State plan shall specify that no upper or lower age limit will be established which will, in and of itself, result in a finding of ineligibility . . ."

b. Let us say that a person past 65, 70, or even 80 wishes to join a work project such as the "Green Thumb" program now conducted by the Department of Labor or the "Service in Retirement" program proposed in Senate Bill S. 3677, which would amend the Older Americans Act of 1965. Would the prospect of service in such a part time position suffice to qualify the person for rehabilitation service? or would he have qualified even without it?

Answer. Disabled older Americans applying to State rehabilitation agencies for rehabilitation services may be found eligible for such services whether or not there would be the prospect for employment in the "Green Thumb" program or in the proposed "Service in Retirement" program contained in Senate Bill S. 3677 which would amend the Older Americans Act of 1965. Such projects as the "Green Thumb" program and the proposed "Service in Retirement" program expand employment opportunities for older citizens. Our State rehabilitation agencies have been cooperating and will continue to do so with the "Green Thumb" program as it enables many older citizens to obtain employment.

c. Is a means test ever applied to an applicant for rehabilitation?

Answer. There is no means test imposed on an applicant to determine his need for vocational rehabilitation services. However, once a person has been found eligible for such services, States have the option of imposing a means test for certain of the services required in the vocational rehabilitation process of that person.

By agreement with the States, and as required by the Vocational Rehabilitation Act, a means test is prohibited for the following vocational rehabilitation services: (1) Diagnostic and related services; (2) Counseling; and (3) Placement. The revised Regulations of the Vocational Rehabilitation Act, Section 401.29(b) Economic Need, further provide that "a State need not condition the provision of any vocational rehabilitation services on the economic need of the handicapped individual . . ." but, if it does so, ". . . the policies so established shall be reasonable and shall be applied uniformly so that equitable treatment is accorded all individuals in similar circumstances."

The means test as a condition for receiving vocational rehabilitation services is not contained in the general State plans for eleven States. They are: Alaska, Arkansas, Guam, Hawaii, Maine, Michigan, Nevada, New Hampshire, Oregon, Vermont and Washington.

Also, the means test consideration is not contained in State plans for the blind in the following eleven States: Arkansas, Connecticut, Hawaii, Iowa, Maine, Massachusetts, Mississippi, Nebraska, Nevada, Oregon and Vermont.

Senator CHURCH. We are at 10 minutes of 1.

I want to hear Mr. Raymond Z. Rich, who is president of the National Hearing Aid Society.

Mr. Rich, would you prefer to wait and give your testimony in an afternoon session?

Mr. RICH. I am at your preference, sir. I can go now.

Senator CHURCH. It does not matter?

Mr. RICH. It does not matter.

Senator CHURCH. About how long do you expect your testimony would run?

Mr. RICH. I can possibly shorten it, summarize it somewhat.

Senator CHURCH. It would be convenient if we could complete the hearing this morning and not have to come back this afternoon. If you can accommodate us that way, we will see that the entire statement is included in the record.

STATEMENT OF RAYMOND Z. RICH, PRESIDENT, AND ANTHONY Di ROCCO, EXECUTIVE SECRETARY, THE NATIONAL HEARING AID SOCIETY

Mr. RICH. Mr. Chairman, I am Raymond Z. Rich, president of the National Hearing Aid Society. I am accompanied by Mr. Anthony Di Rocco, our executive secretary.

On behalf of our society I wish to thank you for the invitation to appear and testify along with other members of the hearing health team.

Our organization is vitally interested in the problems of hearing loss among people of all ages. We welcome this opportunity to assist you in exploring the question of hearing loss among older Americans.

I would like to mention briefly the hearing aid dealer and specifically the electronic hearing aid of over 50 years ago, because ever since one was made somebody had to bring its benefits to the public. We have heard a great deal here in the past 2 days about us and some of our activities, but we would like with some pride and politely to present the good that our men and women do and have done all through these years. We are by the very nature of our task in contact with people and we learn a great deal about their problems, and we can comment with some validity on such problems from firsthand observation.

One of the most important points I would like to raise so, though you have heard it here from those who are afflicted, or those who are close to this work is the history of hearing loss, the treatment that humanity has given to this problem. All through the history of civilization, the assumption that they were not able to take responsibility made them outcasts.

The basic consequence of that is that they wish to avoid the stigma of aging with which hearing loss is so often associated, that a very serious point of vanity enters. Since the affliction is invisible they try to conceal it no matter how frustrating it is.

They do initiate action in most instances, they will not initiate efforts. They have to be induced to take action.

It is true that the hearing aid dealer in the great majority of cases has been the motivating force in encouraging these people to avail themselves of the benefits of amplification through hearing aids.

I have stressed these attitudes because they have tremendous importance to what is done and has to be done for these people.

It reflects upon your first question in your invitation about statistics. Since it is a concealed problem and they try to conceal it, I am sure

that gathering statistics as to the exact number is very difficult. We know and accept statistics as offered. I am mentioning those you have already heard, that 7 to 10 percent of people over 50 have some sort of hearing problem. This comes from one authority. Then the other one we heard more often, that 13 percent of those over 65 have some degree of hearing loss, taking into account the extended life expectancy due to progress of medical science. This naturally will increase.

Data from the Public Health Service indicate that we have been responsible for reaching about 75 percent of those who have been helped through the efforts of the hearing aid industry directly or indirectly.

It is equally important to note, Mr. Chairman, that according to that survey 93 percent of those who constantly wear their hearing aids are successful, are satisfied with the result. That even if we add to that number those who wear it only occasionally——

Senator CHURCH. There is something about that that does not get to me. Would it not follow that those that wear their hearing aids constantly—if you are talking about a group that is satisfied—the group that is not are the ones that do not wear their hearing aids?

Mr. RICH. There is a strong correlation. The person who for one of several reasons does not manage to master the use of his hearing aid or does not wish to, or does not come to grips to accept his own problem will not become as successful.

Senator CHURCH. That figure is 93 percent of those who like their hearing aids?

Mr. RICH. Who wear them constantly.

Senator CHURCH. I have trouble with that statistic.

Mr. RICH. I have an additional figure to add; that if we add to constant users those who wear their hearing aids only occasionally, the percentage of satisfaction still is 84 percent, which is an excellent record.

I mention this in view of the many times we heard about problems in complaint letters. One of the distinguished panelists here today mentioned that very often these complaints do not stem from the fact that hearing aids are unsatisfactory but because the result does not come near to the hopes and expectations of the wearer and could not because of the limitation of their hearing mechanism.

LIMITATIONS OF HEARING AIDS

I might stress at this point that it is probably the major part of our work, to somehow convey to these people the limitations so that they could become successful. The person who does not know the limitations of his hearing mechanism may not accept the result.

In answer to your second question, sir, about availability of services, they are readily available to all those whose hearing loss is not subject to medical or surgical reversal, to those who wish to avail themselves this type of correction, compensation. Through the phenomenal progress in hearing aid design and production, dealers can provide today a very large selection of hearing aids, different types to accommodate all degrees and types of loss which can be benefited. Seldom does the hearing aid industry, whose representatives you heard, receive credit for their energies, their devotion and engineering production skills for that progress which is unparalleled in the world.

Now the person who brings the benefits of the hearing aid to the public is the dealer. His is the task to select, fit, sell, and service this instrument and provide postfitting care and counseling service. I can hardly stress these last two points because seemingly as I have learned here today and learn every day everywhere this is the least known, the least appreciated fact, especially by those who themselves are not hard of hearing and do not know about the extent of our work.

The hearing aid dealer plays a prime role in helping his client and on his skills will hinge the success or failure of a novice user. His work does not end with the sale of the product; for years to come he will see his client. During those years he will supply batteries, cords, tubing, mechanical adjustments, and repairs. Most important, he will provide personal reinforcement in this undertaking, a very important factor, and just commonsense and understanding of the problems of those who are hard of hearing.

These products and services I have described are being supplied in approximately 5,800 hearing aid offices and outlets dispersed throughout the country. Many dealers have to travel, and do travel, to homes and communities where no such services are available to people who just could not come to their offices.

Then, of course, a considerable amount of money is spent to make the general public aware of where such services are.

It is evident that the dealer does play a key role in the success of the use of a hearing aid, and to help him in this the National Hearing Aid Society devised its program to expand his knowledge and skills and enhance his performance. The National Hearing Aid Society, Mr. Chairman, is an organization dedicated to maintaining the highest standards among those engaged in the selection, sale, fitting, and service of hearing aids.

It was founded in 1951 by dealers who saw the need to define standards of competence and ethical conduct. We have now included in our association 32 State associations as chapters. With chapter members there are 2,300 individuals comprising the membership and with the exception of one State they are to be found everywhere in the United States, Puerto Rico, and the District of Columbia.

I won't read you the 10 points which are the society's purposes because I touch on them briefly in my summary. Anyhow, they are listed in my statement.[1]

Objectives and Activities of NHAS

One of our most important activities, and I think this will interest you because of your remarks regarding a question here yesterday, is our certification program whereby hearing aid dealers and consultants who meet the strict standards of experience, training, competence, and character become certified. It is mandatory for each applicant to successfully complete the extensive NHAS basic course and subsequently pass the final examination.

In addition to passing the course and examination, the applicant for certification must submit an extensive application which must receive the approval of the National Board of Certification. This application requires several endorsements, including at least one by a physi-

[1] See p. 289.

cian, preferably an otologist; proof of experience with supervision in the fitting of hearing aids for a period of not less than 2 years; and that the applicant subscribes to our code of ethics. Also, each applicant is investigated through members, references, better business bureaus, and chambers of commerce.

In order to expand education, the National Hearing Aid Society offers its comprehensive course to anyone in the hearing aid field. It includes instruction in acoustics, the human ear and hearing process, types of hearing loss, audiometry, and selection and fitting of hearing aids.

This course serves as a standard for educational requirements for some State associations and a guide to State licensing boards in developing examinations. In addition, many hearing aid manufacturers have included this course as part of their training program for dealers. Since 1961, over 3,000 persons have enrolled in the course. In addition to this, our educational facilities are enhanced by our annual meeting.

Members, nonmembers, and manufacturers assemble by the hundreds to participate in seminars, panel discussions, and symposia and to learn from leading specialists in the hearing field.

Regional meetings held during the spring are condensed versions of the NHAS annual meeting. Sponsored by State chapters, they afford the dealer-consultants—who are not able to attend annual meetings—opportunities to participate in informative educational sessions.

From time to time several NHAS State chapters have arranged courses at local colleges in cooperation with their instructors and officials. These experiences serve as pilot projects toward the society's development of a more formal course of study and training program in the art of selection and fitting of hearing aids.

Another major tool in the educational efforts of the National Hearing Aid Society is Audecibel, its official journal. Its purpose is to bring to the otologist, the audiologist, our members, and others who work with the hard of hearing, authoritative articles, papers, and data concerned with research, techniques, education, and new development in the field.

Researchers, teachers, engineers, hearing aid dealers, and others are invited to submit articles and papers for publication. Issued quarterly, Audecibel is in its 17th year of publication. Over 10,000 copies are circulated free of charge to all United States and Canadian otologists, audiologists, speech and hearing centers, schools for the deaf, university speech and hearing departments, medical libraries, government agencies, hearing aid dealer-consultants, including all NHAS members, and manufacturing firms.

The society also administers a code of ethics which closely parallels the Federal Trade Commission's trade practice rules for the hearing aid industry. Adopted in 1960 and revised in 1963, the code of ethics was prepared jointly by manufacturers of hearing aids and components and by hearing aid dealer-consultants in the United States and Canada. It is a voluntary effort that signifies an intent to provide the best possible service to those who are hard of hearing and to the general public.

The code details rules regulating guarantees and warranties, advertising, conduct of business, scientific claims, testimonials, disparage-

ment, misrepresentation in general, and other undesirable business practices.

Our committee on ethics has the responsibility to review all questions arising under the society's code, to interpret it, and to recommend any changes in it.

Since its inception 8 years ago the committee on ethics has reviewed 1,021 cases. Of those cases involving possible violations, an almost total compliance has been achieved through committee action.

Grievance Procedures

All complaints concerning members of the society are referred to the national grievance committee, and if this committee finds that a complaint is justified, observing due process of law, it will take such action against the party found guilty of an infraction as it deems proper in view of the gravity of the offense.

Senator Church. Let me ask at that point in connection with grievances and review of cases, what can the society do in cases where it finds that its rules are being violated other than, I suppose, you take the certification away from the dealer?

Mr. Rich. Yes. We can fine the dealer; we can suspend him or expel him. Those who have taken the trouble and the pride of becoming members of the society certainly value this membership.

Senator Church. How many certifications have you canceled?

Mr. Rich. We have canceled very few certifications. As I noted, most infractions have been corrected through the compliance with grievance committee action. Many people when they do things which are just not quite ethical are often unaware of their views being out of line with the code. They can be prevailed upon, they are willing to cooperate, they are willing to listen.

The main problem, Mr. Chairman—and I don't have it in my statement—is one that I experienced while president of the Ohio association. I think the example would illuminate in a most interesting manner the problem. Three times we have sent out letters to otologists, the medical profession, better business bureaus, and such, requesting their assistance in connection with our code of ethics, telling them that we are trying to elevate our standards, and asking them to call to our attention any one of those cases that they might find in their everyday contact with hard-of-hearing people we so often hear about. We have rented a post office box for that purpose for several years. It is most interesting to note that never has there been received a report identifying one single offender.

We know they are there but we cannot take action against anyone there has been no complaint against.

This may illuminate somewhat the problem we have.

Senator Church. So far as manufacturers are concerned, there is no correlation between membership in the society and dealerships? I mean the manufacturer can sell, I take it, the dealer whether or not he is a member of the society?

Mr. Rich. Yes.

Senator Church. So the only onus that would fall upon the dealer in having a certification canceled would be purely one of professional standing within the group?

Mr. RICH. Yes, with possibly some consequences that may emanate from such action. We must be mindful of the laws of the country. We are limited in this respect. Certainly we cannot——

Senator CHURCH. Have you ever taken certification away?

Mr. RICH. Yes; we have. To evidence how important it was, with legal assistance it took a great deal of trouble to prove each case—at least in one such instance, a great deal of trouble. This indicated to us its importance and the value of certification.

Of course, no other professional association has any power beyond that. We might say that in those States which now have legislation our code of ethics is almost completely incorporated adding to it now legal sanctions.

In addition to benefits provided to individual members, the NHAS provides chapters with a voice in national affairs with Federal Government agencies and professional groups. Other areas of assistance to chapters include education and consultation on legislative matters and local problems.

Since its inception 17 years ago the National Hearing Aid Society has maintained rapport with other groups—the five-man committee mentioned by Dr. Glorig, which consists of one representative each from the American Academy of Ophthalmology & Otolaryngology, American Speech & Hearing Association, Hearing Aid Industry Conference, National Association of Speech & Hearing Agencies, and the National Hearing Aid Society. It is now called the Inter-Society Committee on Hearing Conservation, and Dr. Glorig identified some of its work. This committee offers excellent means of improving cooperation among the five participants.

The society maintains a liaison with the Alexander Graham Bell Association for the Deaf through which we exchange educational and informative material.

Our society members, as individuals and as a group, contribute much of their time and effort to many charitable projects to help the hearing impaired. Just recently our society completed the securing of hearing aids, accessories, batteries, et cetera, and servicing of hearing test equipment for the good ship SS *Hope*, for its trip to Ceylon a couple months ago. This was accomplished with material contributions of members of the Hearing Aid Industry Conference. Last year our Florida chapter provided reconditioned hearing aids for the U.S. Marine Corps program to assist the needy in South Vietnam.

We, the NHAS, were a cofounder along with the Hearing Aid Industry Conference of the Hearing Aid Industry Foundation, a nonprofit organization to foster continuing research in hearing loss and rehabilitation. Through relatively new, the foundation has already made three grants in the last 2 years to established institutions in our country.

As an additional public service, and to enlighten the layman with facts about hearing aids, the society has produced and made available an educational booklet, "How To Choose the Right Hearing Aid for You." Introduced in 1967, over 60,000 copies have been distributed free of charge to the public by our members.

Through the years the NHAS has accepted every opportunity to meet with various committees and agencies from both Government and ancillary organizations. Last year, society officials met with members

of the Federal Trade Commission and the Department of Health, Education, and Welfare.

The meeting with the FTC brought about a better mutual understanding of State legislative matters, the FTC rules, and our code of ethics.

Our contract with the Rehabilitation Service, Department of Health, Education, and Welfare, has been described here today by a previous witness, the Commissioner, Mr. Hunt. We would like to add to it briefly only that this agreement [1] based on the refreshing concept of cooperation between Government and private enterprise will bring about an enlarged program in the rehabilitation of the hearing handicapped. It will result in reaching a greater number of hard-of-hearing citizens and improving their capabilities of leading more productive lives.

We are very proud to be part of this. The hard of hearing should be motivated to act. I don't know of any more noble method than vocational rehabilitation because it tends to return the person to useful life, and we certainly will do our best in that program.

This hearing itself brought today into focus questions of possible policies and programs which I will share with the members of the National Hearing Aid Society at our annual meeting this fall. We will then certainly contribute ideas based on the 50 years of service and contact with the hard of hearing; ideas based on hard fact and firsthand information. Improving hearing services for the aging citizen will be by its very nature a gradual process as there are no shortcuts. We know that we must overcome first obstacles first, if we are to succeed and reach our goals. Our hard-of-hearing elderly citizens should have every chance to participate in the normal social contact left to their reduced activities. That chance is currently available to all—the only obstacles that stand in its way are ignorance and prejudice—ignorance of available sources of help, and prejudice against the stigma of wearing a hearing aid.

Witnesses before me today and yesterday have indeed reinforced this part, and it is the major and main obstacle in the way of most hard-of-hearing people receiving help and rehabilitation.

Let us, therefore, preserve perspective and balance in our judgment. The members of the National Hearing Aid Society are a disciplined, highly motivated group working daily side by side with the professions in fulfilling their role on the hearing health team. It is only logical to suggest the full and even greater use of this effective team combating the wasteful consequences of hearing impairment. We have built this force, together with the manufacturers, on our own and at no cost to the Government. Recognition and support of our education and training programs will certainly help to enlarge them. Our sense of justice compels us to reject the notion that a man who earns his living through the sale of a product is any less trustworthy or less honest than a man who is paid a fee for his services. We hope that the Government, the professions, and the public will reject it as well. Let us preserve the benefits of our free enterprise system.

We hear many ideas proposed to help aging citizens covering many areas of concern including hearing disability. But, among them surely

[1] Text on p. 285.

must be the desire to preserve the individual exercising with as much independence as we can possibly preserve for him, the wisdom and experience gained through a productive lifetime. We must guard against any approach that would result in the denial of individuality. We must make them the beneficiaries, not the pawns of any plans helping their rehabilitation. Individual hearing aid fitting to individual requirements by skilled dealers and fitters, aware and sensitive of individual idiosyncrasies connected with hearing aid wear, offers the best hope of achieving a common goal, better hearing assistance for the aging.

I hope that my remarks have been of assistance to your committee. I sincerely thank you for the opportunity to express them. I assure you of our continued interest and cooperation in the future.

Thank you.

Senator CHURCH. Thank you, Mr. Rich.

Would you have any changes to recommend in the present system of selling hearing aids?

Mr. RICH. Our entire program is basically a change which has been going on now for years. It is very hard without the support of anyone, just by our own bootstraps to elevate ourselves as we have in the outlined program, so we are essentially in the midst of a proposal. We are trying to improve and eliminate unethical practices, to elevate competence.

SHORTAGES IN ALL AREAS

You, in a very remarkable way, yesterday touched the very problem at the very beginning and only protocol and good manners prevented me from shouting out, "There it is." You noted yourself, as we listened to testimony right from the beginning, that there is a shortage of all medical, audiological, and other experts, including dealers. How then are we going to reach that great number of people who are unreached at this time?

Witnesses in their testimony today and yesterday noted that help is needed, certainly not with elimination of any one, but increasing their abilities. Those people who are willing to go and work in this rather interesting, rewarding, but very difficult field of encouraging and assisting hard of hearing are rare people. It is much easier to work in many, many other jobs and therefore we have difficulty training them ourselves. Once we have found them, let us train them, influence them. They are interested and we are succeeding but imagine how we could succeed if we would have some recognition, some support. We have been extremely proud of that part of recognition that the Rehabilitation Service Administration has seen in our program. They felt that we are on the right spot—we can assist, and this is a change. We are really in process of such a change as far as our contribution is concerned.

Senator CHURCH. Have you any questions at this point?

Mr. ORIOL. I merely wanted to ask whether your training is primarily for dealers who are already in business or whether your training is attracting new people to become dealers.

Mr. RICH. We attempt this very difficult task simultaneously in both. First of all we are aware that those already in the field had no such opportunity previously and we are correcting that and at the same time the entrant, the new man, should have an opportunity.

Manufacturers are increasingly aware of that and are using our training programs as well as many of their own to do the job.

We also are hoping, I mentioned here, to develop pilot projects. We have attempted at several universities, programs in which we could interest people coming into this field, hopefully, which would eventually change the approach in the field of hearing aid fitting. This is very difficult so we are at this time only trying and exploring, but the course as we have it serves both entrants and those who are in the field now.

Senator CHURCH. There are no further questions.

I want to thank you very much for your testimony, Mr. Rich.

(The chairman, in a letter written shortly after the hearing, addressed several questions to the witness. Questions and replies follow:)

Question. 1. An earlier witness said that approximately one-half of the hearing aid dealers throughout the nation are members of the National Hearing Aid Society.

1a. Is your membership concentrated within certain geographical areas, or is it fairly evenly distributed throughout the nation?

Answer. The concentration of the membership of the National Hearing Aid Society matches the population density of the United States to a remarkable degree. This distribution is as follows:

Region	Percent United States population [1]	Percent total hearing aid dealers [2]	Percent total NHAS membership
Northeastern	30	30	20
Southeastern	16	12	12
Midwestern	17	18	17
Northwestern	12	16	18
Southwestern	10	9	10
Pacific	15	15	21

[1] Current population reports, series P–25, estimated for 1966, U.S. Bureau of Census.
[2] Current audecibel circulation to hearing aid dealers, July 1968.

Question 1b: Is your membership increasing or decreasing?

Answer: Since 1963 our total membership has increased more than 200% . . . and, it continues to grow at a rapid rate. We have presently in our files, over 200 applications for Certification. There are presently over 500 hearing aid dealers and consultants enrolled in our "Basic Course in Hearing Aid Audiology". (The successful completion of the course and final examination are one pre-requisite for Certification.)

Question 1c: What efforts are you making to increase membership?

Answer: We are making a continuing effort to increase membership through various means including the following:

1. We consistently stress and the industry journals emphasize the importance of attaining the NHAS established standards of competency through Certification.
2. We encourage enrollment in the Society's Basic Course by mailings to individuals and through our State Chapters. Chapters, as well as manufacturers, are offered reduced group rates as an incentive, and have been taking advantage of this offer to an increasing degree.
3. The Society's Annual and Regional meetings include educational sessions.
4. At National and State Chapter membership meetings the advantages of membership of certification are stressed.
5. The Society's Membership Committee explores and develops plans to recruit new members.

Question 2a: What actions are taken by your Society when you receive complaints about the sales practices or other methods of non-members?

Answer: The National Hearing Aid Society has been generally successful in obtaining compliance with its Code of Ethics and the closely parallel Federal Trade Commission's Trade Practice Rules for the Hearing Aid Industry relating to sales practices and methods of non-members where complaints come to our

attention. Usually the mere notification to the offending non-member dealer that his activities were brought to our attention has been sufficient. In all but a few instances we have been advised by the offending dealer himself or otherwise that the actions in question have been or will be curtailed as suggested.

Question 2b: Have you referred complaints to the Federal Trade Commission or State regulatory agencies?

Answer: As to those non-members dealers not heeding our request, the Federal Trade Commission has been accordingly advised; and State and local Chapters of the National Hearing Aid Society maintain close contact with the regulatory agencies in their states.

Question 3: On the day before you testified, Dr. Eldon Eagles of the National Institute of Neurological Diseases and Blindness made the following statement:

"In spite of the highly commendable efforts of the various public and private organizations concerned, as well as the voluntary regulatory efforts within the industry, too many people are still being fitted with hearing aids who cannot be helped by this means at all; too many are being sold the wrong type of hearing aid; and, most tragically of all, too many with remediable ear disease are going undiagnosed while they try one hearing aid after another, until they pass the point where the disease is remediable. In a recent analysis of statistics from the National Health Survey, it was indicated that 34 per cent of persons with binaural hearing loss have never been tested by a medical doctor, and that only 18 per cent had had their hearing tested within the two years prior to the interview. This lack of medical attention is a major reason for dissatisfaction with hearing aids and for their abandonment."

If the NHAS concurs with this statement, what efforts is the Society making to correct the practices described, and what more, in your opinion, should be done?

Answer 3: The quoted statement is so very broad and general in scope, that any number of factors unknown to us might have resulted in its conclusions. We assume that the otologists, the audiologists, "the various public and private organizations concerned," and the manufacturing sector of the industry are also being asked to comment on the statement by virtue of the involvement of each of them with the questions presented.

In behalf of its dealer members the National Hearing Aid Society can neither agree completely nor disagree completely with the statement. We do not condone the fitting of any person with an unnecessary hearing aid or with the wrong type hearing aid. We deplore the tragedy of any person failing to obtain medical assistance particularly if he may suffer from obvious and remediable hearing disease.

The scarcity of otologists appears to parallel a similar lack of sufficient professional medical personnel in almost every specialty relating to the diagnosis and treatment of human disease and defects. Testimony at these Hearings has emphasized the great lack of otologists.

Our dealer members are acutely aware that knowledge and skill are essential to the proper fitting of hearing aids. As ethical dealers, we also recognize that increased competence and high ethical standards assure the best service to the public.

Our success and progress depend entirely on such practice. Consequently, the Society's program is directed toward advancing the technical knowledge and skills of the dealer and toward strengthening his adherence to high standards of competency and ethics.

At the same time we are engaged in a program to educate the public concerning the proper means of meeting their hearing problems. The Society has published a booklet, "How to Choose the Right Hearing Aid for You" which emphasizes in clear language the advisability of a medical examination. Also, a large percentage of those whose hearings loss has been corrected by surgery has been referred and is being referred to the care of otologists by the hearing aid dealer.

We have taken the initiative to improve this referral to otological care by inviting to our meetings and seminars otologists of renown who have acquainted our membership with the benefits of mid-ear surgery. There is little doubt that the increasing success in referral of the hearing impaired to medical and surgical care has been a result of this teaching effort. There is no doubt that criteria could be established and agreed upon to cover all aspects of dealer referral to medical attention. At the same time we are trying to correct a misconception inherited from past years that the hearing impaired with nerve loss cannot be helped by hearing aids. This misconception has deprived many of help they can derive.

The quoted statement refers to "too many people" with unnecessary or inadequate hearing aids and without medical care. The generality of this statement makes it impossible to determine the numbers involved or the circumstances underlying the problem.

Surely, we assume, the statement did not intend to imply that the 34% of persons with binaural hearing loss who were not tested by medical doctors had all visited hearing aid dealers and that the dealer had not advised a medical examination. The low proportion of the otologists in comparison to the number of hearing impaired and the reluctance of the hard-of-hearing to seek any kind of help coupled with the lack of public education may well explain why that 34% of the hearing impaired have not had a medical examination. It is not clear, however, how this information as to the 34% ties in with success or failure in the use of hearing aids.

Often benefits limited by the impairment of the auditory mechanism but acceptable by known standards of evaluation are not appreciated by a hard of hearing person because despite all caution the benefits fall short of the wearer's expectation or are lost due to his impatience to attain them through a time consuming process of learning.

Our concern regarding the success or failure of the use of hearing aids by those who have been fitted with them is as great as that of all other members of the hearing health team. With such concern in mind, *any* number of people—however small—who have been improperly advised should be considered "too many."

Statistics of the National Health Survey also show, as we testified, that 84% of the persons wearing hearing aids are satisfied with them.

The Hearing Aid Dealers of America provide a remarkably widespread network for the fitting of hearing aids and related services. In view of the established shortage of professional manpower, criteria could be established for the full utilization of the ability and knowledge of the large network of hearing aid dealers to make the rehabilitation effort complete. Our organization, which represents approximately one-half of the dealers in the United States, is consistently urging higher standards of competence and increased membership to help meet the problem.

Question 4a: May we have details on the three grants made by the Hearing Aid Industry Foundation, as mentioned in your testimony?

Answer: The Hearing Aid Industry Foundation was founded in 1965 jointly by the National Hearing Aid Society and the Hearing Aid Industry Conference. It is an independent, non-profit organization whose Board of Directors establishes its policy for annual grants.

The initial grant of the Foundation in 1967 was made to the John Tracy Clinic at Los Angeles in recognition of years of outstanding work in disseminating information about the hearing problems of children within its different programs.

In 1968, the Foundation made two awards. The first was granted to the Callier Hearing and Speech Center at Dallas, Texas. That Center is developing one of the unique world centers for medical and non-medical research on hearing and speech problems and its practical application to all age groups.

A second grant was awarded to the Alexander Graham Bell Association for the Deaf in Washington, D.C. That Association used the grant in support of the much-needed republication of an out-of-print classic for the education of the deaf, "The Story of Lipreading" by Fred Deland.

Question 4b: Do you have any recommendations for subjects of research by any Federal agency?

Answer: Two subjects which we would recommend for federal research are those which we feel to be beyond the capacity of either the National Hearing Aid Society or the industry as a whole. These are (1) a thorough study of the attitudes of the hearing impaired and how to overcome their resistance in seeking help of any sort; and (2) the collection and analysis of more statistical information about the hearing impaired and all the areas of hearing rehabilitation.

Question 5: Do you have any suggestions for changes in present Medicare and Medicaid legislation?

Answer: Hearing aids and related services are presently being offered through Title XIX of Medicare which provides funds to individual participating states. The extent and the effectiveness of these "Medicaid" types of programs vary from state to state. At present it is too early to judge performance in most states as the programs must be developed within the confines of overall state plans. As

a result, support for providing hearing aids depends upon the resources and the facilities of the state and how ambitious a program it institutes.

There are two outstanding programs which have developed an experience factor. These are Medicaid in New York and Medical in California. Both utilize the benefits of a well-dispersed, statewide dealer network and the individual attention these networks provide in all the local communities.

In the New York City area, serious bottlenecks occurred initially when it was required that all recipients receive an audiological evaluation in addition to the primary medical examination. These bottlenecks were removed, when otologists were allowed to decide whether a given case should go through clinical procedures or be sent directly to the hearing aid dealer. The enclosed letter from Dr. Lowell E. Bellin, Executive Medical Director, Medicaid Program for the City of New York indicates that services for the hearing aid recipients not only did not decline but have been actually speeded up, thereby fulfilling the purpose and the intent of the legislation.

Should the extension of the scope of Medicare itself become feasible NHAS is ready to assist and to cooperate in working out a program. If the changes that education has already wrought in extending the competence of the dealers is considered with the accomplishments of future efforts in education, it can easily be understood how this already-established network could become the key within the hearing health team for the most widespread, economical, and efficient distribution of hearing aids and related services while providing the needed personal attention throughout the United States.

THE CITY OF NEW YORK,
DEPARTMENT OF HEALTH,
New York, N.Y., July 18, 1968.

DEAR MR. RICH: Enclosed please find copy of the case history of the events surrounding the standard setting for hearing care under Medicaid.

I prepared the enclosed report for formal presentation at the annual meeting of the New York Public Health Association a few months ago.

It is instructive that a review of our statistics a few weeks ago disclosed that since the imposition of the new standards, specifically the elimination of the compulsory referral of patients over 21 to speech and hearing centers, there has been no increase of consequences in the average cost of a hearing aids under Medicaid. Likewise, the number of binaural hearing aids being dispensed remains very low.

Needless to say, we are continuing to monitor these aspects of the program in view of the liberalization of controls.

I think it is reasonable to assume that the hearing aid dealers of New York City are currently policing themselves and controlling any errant colleagues from abusing the program. I had warned the leadership of hearing aid dealers that should there be any evidence of abuse subsequent to our liberalization, I would immediately reimpose the previous more stringent standards. Happily, thus far, this has not proved to be necessary.

We have no evidence to suggest that the quality of hearing aid care has declined since the establishment of these new standards. Quite the contrary, more people in New York City who desperately have needed hearing aids have been able to acquire these in a shorter priod of time since the removal of the bottleneck resulting from the shortage of approved speech and hearing centers.

Sincerely,

LOWELL E. BELLIN, M.D.,
Executive Medical Director, Medical Assistance Program (Medicaid).

Senator CHURCH. I thank all the other witnesses who have testified in the hearings.

I think this completes our witness list. We will hold the record open for a reasonable time, 3 weeks, Mr. Oriol suggests, for the inclusion of other material that might be offered.

Mr. RICH. We have some.

Senator CHURCH. So that everyone has an opportunity to include in the record pertinent material that they think important.

CLOSING STATEMENT BY SENATOR FRANK CHURCH

Two days of very helpful testimony have given us on this subcommittee much to think about, and I see a clear need for additional inquiry and possibly an additional hearing or two.

I am directing the subcommittee staff to look intensively into the following:

ONE. There seems to be a major difference of opinion among our witnesses about the problems associated with delivery of hearing aids and hearing rehabilitation services to the elderly. The industry describes the present system as more than adequate. Public Health Service representatives and others see a pressing need for new innovations, and much more emphasis upon more adequate examination before fitting of hearing aids.

TWO. Surgeon General Stewart listed sereval possibilities for Federal action in his statement. Each proposal should be examined further.

THREE. Regulation of industry is always a last resort after other measures fail. I think that basically we have a consumer education problem here. We should find out how the Federal Government—possibly working with private industry—can help the people get the facts they need.

FOUR. The Consumers Union testimony this morning raises weighty issues about the proper use of information abtained through Government testing procedures. This subcommittee has already received a lengthy statement from the Veterans' Administration on their hearing rehabilitation program, but we need additional information.

Finally, I would like to thank the witnesses for the time and attention they obviously gave to the preparation of their statements. You have helped us to go very far in 2 days.

Unless there is somebody else that wants to be heard at this time, we will go to lunch.

(Whereupon, at 1:20 p.m. the subcommittee was recessed subject to call of the Chair.)

APPENDIXES

Appendix 1

ADDITIONAL MATERIAL FROM WITNESSES

ITEM 1: EXHIBITS PROVIDED BY JOSEPH L. STEWART,* CONSULTANT, NATIONAL CENTER FOR CHRONIC DISEASE CONTROL

EXHIBIT A. NATIONAL CENTER FOR CHRONIC DISEASE CONTROL

(News Release—Friday, July 21, 1967)

The effectiveness of many hearing conservation programs in the United States was questioned today by the Public Health Service's National Center for Chronic Disease Control.

Medical authorities at the Center believe that the use of inaccurate audiometers to measure hearing ability and detect ear damage or disease is widespread in hearing conservation programs across the country. They are backed by the findings of a three-year PHS evaluation of audiometers recently completed by the University of North Carolina's Audiometric Calibration Center.

In this study, the Calibration Center evaluated the accuracy of 100 audiometers. Not one of the instruments met the study's calibration specifications.

The National Center for Chronic Disease Control is concerned about the medical implications involved. According to Dr. Joseph L. Stewart, Audiology Consultant to the Center's Neurological and Sensory Disease Control Program (N&SDCP), an audiometer that is out of calibration can cause serious errors in large-scale screening programs.

It can, for example, miss the child with a potentially dangerous infection of the middle ear or indicate its possibility in another child, in whom it doesn't exist.

"No hearing conservation program can be effective if its audiometers are not checked for calibration on a regular basis," Dr. Stewart said.

While there is no way to determine the extent or medical impact of past audiometric errors, the Center is taking steps to bring about accurate hearing evaluations in the future.

For the next several months, the Calibration Center and the N&SDCP will be following the 100 audiometers that were tested and calibrated during the three-year study just completed.

The instruments will be examined at three-month intervals to determine how often they need to be recalibrated, why they go out of calibration, and which functions of the instruments give the most trouble.

At the same time, the N&SDCP is negotiating with non-government contractors for the construction of a model audiometer, free of the defects discovered in the study instruments. Among other improvements, and unlike any audiometer now on the market, it will be self-calibrating.

Summary of the Study

The audiometer evaluation study was begun in January 1964 at the University of North Carolina's Audiometric Calibration Center. Supported by the Neurological and Sensory Disease Control Program of the Public Health Service's National Center for Chronic Disease Control, it was designed to obtain specific information on the calibration and general operating condition of the typical audiometer in use in a hearing conservation program.

*See pp. 14–43 for testimony.

During the course of the study, researchers at the Calibration Center applied 14,000 individual measurements to instruments representing 30 different models of 8 manufacturers. In all, 100 audiometers, obtained from health departments, public schools, physicians and hospitals, military and industrial installations, Veterans Administrations and hearing aid dealers, were examined.

Not one of the 100 instruments met the study's calibration specifications. Evaluations ranged from "slightly out of calibration" to "inoperable," although the majority were found to be "grossly out of calibration."

The Calibration Center's study report traced the inaccuracy of most test instruments to owners and/or operators who, apparently, had been unaware of the need for periodic calibration. Forty-six of the 100 instruments tested had not been calibrated from the day they were purchased. Moreover, when technicians removed the back of one audiometer submitted by a physician, they found a rat's nest inside, constructed in part from bits of the instrument's wiring and insulation materials.

A second major reason for the poor showing of the audiometers is that most manufacturers are not utilizing the latest electronic techniques, such as solid state construction. As a result, when engineers at the Calibration Center removed one brand new instrument from its crate, they found it to be so badly out of calibration that they had to tear it down and rebuild it completely.

EXHIBIT B. COPY OF LETTER SENT TO CUSTOMERS

DEAR FRIEND: By special arrangement with the ————, in conjunction with our 25th Anniversary in ———, we have been authorized to give you the best trade-in offer available today on your present hearing aid.

This offer is limited to Hearing Aid Users on our record for three years or more and will expire October 31st, 1967. The United States Public Health Service states that the average hearing aid user purchases a new instrument once every three years.

As you know, people who wear glasses have periodic examinations and get new lenses when indicated. People who wear hearing aids should have periodic checks on their hearing and get a new prescription when necessary. Your ears are ten times more sensitive than your eyes and deserve the best of care.

May we suggest that you, as one of those eligible for our Triple 25th Silver Anniversary Trade-in Allowance visit our offices or phone or write for a home demonstration at your earliest convenience.

You, as a valued customer, don't need cash to get in on this offer. Use your Silver Certificate as a down payment and finance the balance on easy budget terms.

Remember: You save $75.00.

Remember: Offer expires October 31st, 1967.

Why not fill in the enclosed reply card now?

Cordially,

——— ———.

P.S.—If you lose or misplace your $75.00 Silver Certificate, stop in the office and we will issue a duplicate.

EXHIBIT C. ADVERTISING SUPPLEMENT

MILD NERVE DEAFNESS

The most common cause of hearing loss

If you hear sounds...but can't always understand the words—a classic symptom of nerve impairment...

OUR RECOMMENDATION...

(Rule 9)

Miracle-Ear®!

the all-in-the-ear hearing aid developed & patented by Electronics, Inc.

U.S. Pats. 3,197,576; 3,197,577; D200,836

Miracle-Ear has helped thousands who could not understand words clearly. They could hear, but words seemed blurred and jumbled. This is a classic symptom of nerve deafness—the most common type of hearing loss.

Years to perfect . . . seconds to put on. Miracle-Ear has no tube, no wire! When you need a hearing lift, just slip it in your ear. If diagnosis shows you have this type of loss, you may hear again clearly *and understand* what people say, even in meetings, groups, church, theater, automobile and on TV.

Your hearing may seem alive again! Miracle-Ear could be your hoped-for answer that could help change your life and that of everyone around you. Before buying a hearing aid, find out for yourself if Miracle-Ear can work its wonderful benefits for you!

Send postpaid reply card now... no obligation whatever!

ASK YOUR DOCTOR ABO... HEARING AIDS

ITEM 2. THE EFFECTS OF NOISE ON HEARING THRESHOLDS; NATIONAL CONFERENCE ON NOISE AS A PUBLIC HEALTH HAZARD—A STATEMENT BY W. DIXON WARD,* UNIVERSITY OF MINNESOTA

Noise affects the ability of an organism to detect weak signals both while it is present and afterwards, the latter on a temporary and, under some conditions, permanent basis. The concomitant change in threshold sensitivity is commonly called "masking"—such interference, when the signal to be detected is speech, will be discussed next by Dr. Webster. However, masking is of course not limited to speech. Danger signals may also become undetectable; if you intend to cross a street near where a worker is tearing up the sidewalk with a jackhammer, you should be careful to use your eyes even more than usual, because you will not be able to hear an approaching truck until too late, in all probability. One can hardly deny that this would represent a distinct health hazard.

However, effects of this nature are not what was intended as my topic here, so let me press onward. The diminution, following exposure to noise, of the ability to detect weak auditory signals is termed temporary threshold

*See pp. 62–67 for testimony.

shift (TTS) if the decrease in sensitivity eventually disappears, and NIPTS (noise-induced permanent threshold shift) if it does not. For years it has been assumed that these two phenomena were very closely related: (1) that noises that produced equal average amounts of TTS (sometimes called "auditory fatigue") would also produce equal amounts of NIPTS; (2) that if one noise produced twice as much TTS as another, it was also twice as dangerous in regard to NIPTS; and (3) that if one individual showed half as much TTS as another, he would suffer only half as much permanent loss. The notion seems to have originated with Temkin in Russia in the late 1920's, since Peyser mentions him (but with no bibliographic reference) in the first article to propose a test for susceptibility to acoustic trauma that consisted of measuring the TTS produced by a short exposure to a high-frequency tone (Peyser, 1930).

Now auditory fatigue in all its aspects—not only the temporary shift of threshold but also correlated phenomena: shifts in pitch, loudness and timbre of supra-threshold stimuli (diplacusis, recruitment, and distortion), disappearance of a sustained tone that is initially above threshold (tone decay), ringing in the ears (tinnitus), and changes in the lateralizing power of a monaurally-presented tone as its duration increases (so-called perstimulatory fatigue)—is to some of us quite fascinating in its own right. Information about these phenomena are, we feel, important to an eventual understanding of the normal mode of operation of the auditory system. We shall therefore in all probability continue to ask for funds to continue research in the area. Several of us, however, are becoming convinced ever more deeply that the relevance of TTS to the problem of permanent hearing loss from noise is negligible.

In all fairness to the proposition that TTS and NIPTS are isomorphic in man, it must be admitted that it has never been tested directly. No one has ever selected a group of normal-hearing individuals, subjected them to a wide variety of TTS tests, and then exposed them under controlled conditions to noise so high in intensity that large amounts of NIPTS were produced. Although a few studies have involved presentation of a single TTS susceptibility test, followed later by measurement of NIPTS produced by the intervening industrial noise exposure, the proposition that all the men in the test group received even approximately the same noise exposure in these studies is generally no more than a pious hope. Furthermore, in some instances the measured NIPTSs were so exceedingly small as to be insignificant; postulating on the basis of evidence such as this that individual differences in TTS are not predictors of PTS represents a curious use of logic indeed (Sataloff et al., 1965).

Since we cannot determine the relations between TTS and PTS in man, other experimental animals must be used in which exposures *can* be controlled, with the assumption that what is true for man is also true for the monkey, the dog, the guinea pig or the chinchilla. We have just completed a study in which 20 chinchillas were given a number of susceptibility tests involving short exposures to a moderate-intensity noise, and then were partially deafened by a 2-hr exposure to the same noise at a higher level. No statistically-significant correlation was observed between TTS and NIPTS (Ward and Nelson, 1968). Apparently the characteristics that are most important in determining whether or not an ear will get a relatively large amount of TTS are not also those that determine the degree of final loss from a particular exposure, even when the spectrum of the noise is constant.

Disappointing though this conclusion may be, it is perhaps not surprising, in view of the complexity of the hearing mechanism. So although one cannot completely rule out the possibility that *average* TTSs produced by various noises are highly correlated with average PTSs, the burden of proof is most assuredly on the affirmative, so that until such proof is forthcoming, we cannot conclude that because a certain relation holds among TTSs from certain noises, the same relations will be found for PTSs from these noises after long exposure. This is a pity, because it means that several of us have probably wasted more months than I like to remember deriving a set of damage-risk criteria based on the principle that noise exposures that produce equal values of TTS are equally hazardous (Kryter et al., 1966).

However, since the connection between TTS and PTS is tenuous at best, I shall spend only a few more moments on TTS, merely listing some of the characteristics of TTS that I find most interesting.

(1) The growth of TTS is nearly linear in the logarithm of time and so represents exponential processes that may be analogous to the photoreceptor processes in the retina that account for the phenomena of light-adaptation.

Moderate TTS also recovers exponentially in time, but when the initial TTS is 50 dB or more, the recovery may be linear in time.

(2) The maximum effect from a noise that has energy concentrated in a narrow frequency range will be found half an octave to an octave above that range.

(3) An intermittent noise is much less able to produce TTS than a steady one. A noise that is on only half the time (in bursts of a few minutes or less) can be tolerated for much more than twice the number of working hours that could be spent in the noise when continuous, in order to produce the same TTS.

(4) The histological correlates of moderate TTS seem to be swollen cells on the basilar membrane, both hair cells and supporting cells (pyknosis and karyorhexis).

(5) Neither the growth nor recovery of TTS is influenced by drugs, medications, time of day, hypnosis, good thoughts, or extrasensory perception. The locus of the physiological deficit thus seems to be extremely peripheral—at the hair cells themselves.

And that locus may be the only thing that TTS and PTS have in common (except that perhaps it may still be true, as we have always assumed, that if a noise does not produce *any* TTS, it will not produce PTS). Let us turn to the meager facts about PTS. Between the impossibility of studying it in man under controlled conditions and the vicissitudes of animal experiments, not many facts about TTS are based on bedrock. One could in fact argue that things have really not improved much since 1914, when Peyser summarized a 50-page review of occupational hearing loss with these words: "Über den wirklichen Umfang der gewerlelichen Höorstorung wissen wir aber bisher nichts." Peyser blamed faulty statistical procedures for this lack of knowledge, and urged a central repository for all industrial hearing-loss data. So, 54 years later, permit me to reiterate his blaming and his urging.

First of all, we must distinguish between two terms which in most studies and surveys dealing with the effects of industrial noise are hopelessly intermingled with NIPTS: presbycusis and sociocusis. *Presbycusis* is a loss of high-frequency hearing associated with the physiological aging process; presumably it would proceed at the same rate whether noise were present or not. Audiometric data involving workers over 65 or so will be "contaminated" by the process to some degree. *Sociocusis*, however, is not dependent on age *per se*. Rather, it is loss of hearing attributable to noxious influences other than the noise associated with the individual's employment. That is, PTS produced by outboard motors, chain saws, tractors, sporting arms, and blows to the head would be called sociocusis except when they occur in a northwoods guide, a forester, a farmer, a safari leader and a boxer, respectively—in those individuals it would be called NIPTS for purposes of compensation. PTS resulting from illness would be sociocusis for anyone.

The concept of sociocusis arose in connection with the analysis of average results of audiometric surveys. It was found that even in persons with no recallable history of exposure to high-intensity noise, gunfire, or head blows, the average hearing gradually decreased with age even before age 60 (i.e. before presbycusis could enter the picture). The hypothesis was therefore advanced that this average loss of hearing represented the toll exacted on a few individuals by the everyday noises of modern living.

This is not to say, however, that everyone gets a small amount of hearing loss from such noises, so that it is legitimate to subtract from an individual's hearing loss the sociocusis the average man (not exposed professionally to noise) would have had at his age. Although such a correction for sociocusis (plus perhaps one for presbycusis) can be justified over the long run on actuarial grounds, in the individual case it is as nonsensical as, for example, giving a guaranteed minimum salary to everyone—helping not only those who are willing to work, but also those who are unemployed because of laziness or cupidity. In the individual case, a hearing loss was either caused or aggravated by sociocusic influences or it was not. Of course, it is not always easy to determine this after the fact, hence sociocusis-plus-presbycusis "corrections" will no doubt continue to be made. However, the chief value of the concept of sociocusis, in my opinion, is that its recognizance keeps one from quickly attributing a given hearing loss to the worker's noise environment without probing deeply into possible sources of hearing loss in the man's extra-industrial past. The whole problem of whether or not to apply a sociocusis correction would be largely eliminated if all employers would require pre-employment audiograms

of each worker, together with regular follow-up tests every year. One would then not *always* need skill somewhat superior to that of Sherlock Holmes in order to estimate the probable cause of a given hearing loss. Again, however, most employers fear that institution of such procedures will "stir up trouble", so that they should "let sleeping dogs lie", etc. This can be called the "ostrich" or "head in sand" syndrome, in view of the fact that compensation boards almost invariably put the burden of proof on the employer: if a worker has a hearing loss, it is up to the employer to prove that his noise was not responsible. And this, it would be clear by now, is most difficult.

The only sure way to establish this, outside of showing that the employee entered the noise with the same hearing loss, is to be able to demonstrate that the noise produces no loss in anyone. In this case, average procedures *do* have value, because they allow us to make such a categorical statement with some confidence. Baughn (1966) has shown, in an analysis of 6835 audiograms, that when the level of the noise is below 80 dBA (80 dB on the "A" scale of the sound-level meter, a scale that, as Dr. Rudmose has indicated, discounts the effects of low frequencies, which are not quite as dangerous, decibel for decibel, as higher frequencies), the incidence of compensable hearing loss is no greater than in a non-noise-exposed population of the same age and general socio-economic status. (Compensable losses are those so severe as to cause an appreciable decrement in the ability to understand ordinary speech: at the moment, this dividing line is an average Hearing Level of 25 dB at 500, 1000, and 2000, cps, relative to the new ISO audiometric standard.) Botsford (1968) has gathered together such industrial data from several sources: these data imply that for relatively steady 8-hour daily exposure, appreciably greater NIPTS after years of exposure occurs only when the level is 95 dBA. There is, therefore, no ambiguity about exposures below 80 dBA or, if continuous, above 95 dBA: in the first instance, the probability is essentially zero that the noise caused the hearing loss; in the second, the probability is about 50%. Dr. Eldredge and Dr. Miller will discuss damage-risk criteria later this afternoon, a topic that, among other things, involves deciding what to do about the middle ground between these two values, and how to treat intermittent exposures.

In the time remaining, I cannot cover in detail all the facts or alleged facts about NIPTS. However, let me briefly mention some of the questions most commonly asked about NIPTS. For an up-to-date detailed review, the monographs by Lehnhardt (1965) and Lieroff (1963) are highly recommended.

(1) Are certain frequencies more sensitive than others to damage from noise? After long exposure to industrial noise, or for that matter, to gunfire, the frequencies showing first and most severe NIPTSs are those in the vicinity of 4000 cps, with neighboring frequencies affected later. The reason for this seems to be a combination of two factors, according to Lehnhardt (1966, 1967): (1) the middle ear transmits the frequencies between 1000 and 4000 cps most efficiently, so that more energy reaches the cochlea in this range; and (2) a given area of the basilar membrane is affected by a wide range of frequencies *below* its characteristic frequencies, but not by those above; therefore all of the most intense noise elements affect the 4000-cps receptors.

(2) How long must the ear be out of noise before it will have recovered all it is going to? Two weeks is mandatory (Atherley, 1964) but little further recovery occurs after a month, although occasionally, following trauma from a single incident (such as a firecracker exploding near the ear) slight additional recovery may occur in the second month. In Wisconsin a 6-month noise-free period is required, but this is a political, not a scientific, rule.

(3) Is NIPTS a progressive process, in the sense that once started, it continues even though the individual is removed from the noise? Although many people still suspect that this may be so, the evidence is always equivocal (e.g., Hahlbrock and Weyand, 1961; Herrmann, 1962; Baldus and Güttich, 1967.) When the hearing of a group of people who have been removed from noise is followed over a period of years, there are always a few who show slight additional losses. However, whether or not the amount of increase is greater than what would be expected in *any* group of individuals (i.e. whether or not the additional loss is merely sociocusis that occurs because the total acoustic environment of the ears during the intervening years cannot be controlled) is generally disregarded; in my opinion there is as yet no convincing proof that any progressive degenerative process is set in motion.

(4) But is the noise-damaged ear more susceptible to *further* injury than a normal ear? This is a good question (this is what one says when he hasn't really the foggiest notion). The difficulty in answering it arises from the diffi-

culty of *equating* injury to normal and to already-damaged ears. Is a 10-dB increase in PTS in an ear that already had a 40-dB loss smaller, equal, or greater than a 20-dB change in an ear that was initially "normal"? Numerically, it is smaller. But it represents a greater loss of *loudness* in a normal ear. So again all I can say is that I know of no evidence that would imply that an ear with some NIPTS is more susceptible than a normal ear, particularly if all temporary effects have completely disappeared.

(5) If permanent injury does not occur, does habitual exposure to a moderate noise render the ear more resistant to an occasional high-intensity exposure? That is, does the ear get "tougher"? I suppose this particular speculation developed from an analogy with callouses on the skin. However, there is no evidence that the basilar membrane will become more leathery, or that the middle-ear muscles, which presumably help to protect the inner ear, become stronger as time goes on. In fact, Chizuka (1965) recently found just the opposite: his 15–18-year-old boys allegedly showed more auditory fatigue after working in noise for several months than they did at the beginning of employment!

(6) Can one distinguish a hearing loss caused by noise from one caused by gunfire? The popular impression is that a noise-induced loss tends to be broader in area than a gunfire-induced one, with a more gradual slope. In regard to average data, there is some basis for this hypothesis, but in the individual case the slope is no sure indicator. Similarly, both noise-induced and gunfire-induced losses are invariably accompanied by recruitment, and occasionally by abnormal tone-decay (Ward, Fleer and Glorig, 1961). In view of the fact that in either case the important underlying physiological deficit is probably an area of missing hair cells, it is perhaps not surprising that the etiology cannot be determined after the fact.

(7) Are there any exacerbative agents—conditions that will enhance the PTS produced by a given noise? Experiments on lower organisms indicate that greater injury can result from noise exposure if given in combination with mycin therapy (Sato, 1958; Darrouzet and Sobrinho, 1963; Voldrich, 1963). However, there is little to support the notion that susceptibility to permanent damage is enhanced by a poor pneumatization of the mastoid (Kósa and Lampe, 1967), an unusual bodily position (Boenninghaus, 1959), or low-frequency vibration. An existing TTS may increase susceptibility, according to evidence on cochlear microphonics (Lawrence, 1958), but this evidence is most indirect.

(8) How about ameliorative agents? Unfortunately, there also seems to be little that one can do to inhibit the growth of PTS or to cure it. For a while, there was hope that massive doses of vitamin A might reduce NIPTS (Rüedi, 1954), but subsequent studies failed to confirm any action of vitamin A on either TTS (Ward and Glorig, 1960) or PTS (Dieroff, 1962). Biochemists in other countries, especially Japan, are studying the effect on TTS and PTS of a broad spectrum of agents including $NaHCO_3$ (Iwatsubo, 1961), adenosine di- and triphosphate (Faltinek, 1965), androgens and estrogens (Matsui et al., 1965), nicotinic acid, and vitamin B_1 (Chiba, 1965). It is safe to say that no clear effect has been demonstrated. Rather than admit that there is no possible therapy to heal an existing NIPTS, some physicians still recommend stellate blocking, novocaine, hydergin, vasodilators, and vitamins (e.g. Niemeyer, 1962), but placebos would doubtless do just as much good.

(9) Are people with middle-ear problems less susceptible to NIPTS than others? At first glance, one might think that in otosclerosis, for instance, less sound reaches the inner ear, so less damage is produced. But even this has yet to be shown unequivocally, and other types of middle-ear troubles seem to exert no consistent effect. The only clear case of protection by middle-ear damage is in regard to explosions: when the eardrum was ruptured by the blast, the NIPTS is generally found to be less than when the drum is unaffected (Akoyoshi et al., 1966).

(10) Can the most susceptible individuals be identified *before* they get a hearing loss? To this, I must answer "No, and not even *afterwards*, either". Our results with chinchillas imply that TTS and PTS are not closely related, so the only solution is monitoring audiometry, which will allow us to detect beginning NIPTS before it gets too severe; however, such a procedure, it must be realized, pulls out not only the most "susceptible", but also the most unlucky (i.e. those who happened to get a particularly severe exposure on a single occasion) or, perhaps, the most reckless in regard to his hearing outside the work situation.

(11) Finally, is it true that we are continually surrounded by ultrasound—

sound too high in frequency to be heard—and so as a result we are being deafened and maddened by this sound we cannot even hear, as some fanatics claim? I trust the answer to this is implicit in the way the question was phrased, but for assurance, read Parrack's (1966) review.

In summary, then, noises above 80 dBA are capable of producing some change in auditory threshold, and above 100 dBA they are almost sure to affect the normal unprotected ear. We cannot reduce NIPTS except by reducing the effective noise exposure, and there is no way to restore it. Furthermore, we cannot identify the noise-susceptible individual, so that pre-employment and monitoring audiometry, together with a program of ear protection, is the only solution now known.

ITEM 3. A DISCUSSION OF HEARING AID TRENDS BY S. F. LYBARGER*, EXECUTIVE VICE PRESIDENT, HEARING AID INDUSTRY CONFERENCE, INC.

*See pp. 68–97 for testimony.

Since the introduction of the wearable vacuum-tube hearing aid some twenty-seven or twenty-eight years ago, along with technical improvements of many kinds, there has been an underlying compulsion, in the highly competitive field of hearing aid design and manufacture, to constantly reduce the size of hearing aids. That the hearing aid industry throughout the world has been able effectively to do this is clearly seen in Figure 1.

This figure was prepared by weighing our own and competitive U. S. hearing aid models in our laboratory collection, with batteries, for some twenty five years back and by adding other figures from published information. Two definite trends are noted. First, weights of body hearing aids, with batteries, have been coming down in size at a very constant rate of about 11% per year. Looking at the data another way, the weight of body aids has been halved about every six years for the past twenty-five years or so. This weight reduction has been at a surprisingly uniform rate.

Looking now at the ear-level hearing-aid weights, it is apparent that the rate of size reduction, since the introduction of the eyeglass hearing aid in 1956, has been at a much faster rate. Since eyeglass, behind-the-ear and in-the-ear aids have all been plotted in obtaining a trend line, one naturally expects considerably more scatter than was seen for the body aids. However, a fairly well-defined drop in weight at the rate of about 20% per year is indicated, representing a halving of weight about every three and one-quarter years.

In the course of determining the weight data, the cubic volumes of the aids were also determined by weighing the sealed aids in air and again in water. Surprisingly, the **density** of hearing aids (including batteries) has remained almost constant over the years at about 1.6 grams per cubic centimeter. This means that the reduction in cubic volume of both body and ear-level hearing aids has paralleled the weight trend.

This compelling competitive challenge to reduce hearing aid size and weight, and thus to make hearing aids more acceptable to the hard of hearing public, has created many engineering and design problems, perhaps most of them. That the acoustical performance of hearing aids has been constantly improved or held good in the face of year-after-year size reduction is a tribute to the ingenuity of components and hearing aid designers the world over. This doesn't mean there isn't room for improvement, however.

Size reduction has been accomplished in many instances with no compromises. For example, the introduction of the junction transistor for hearing aid use in 1952, suddenly reduced the energy needed to operate a hearing

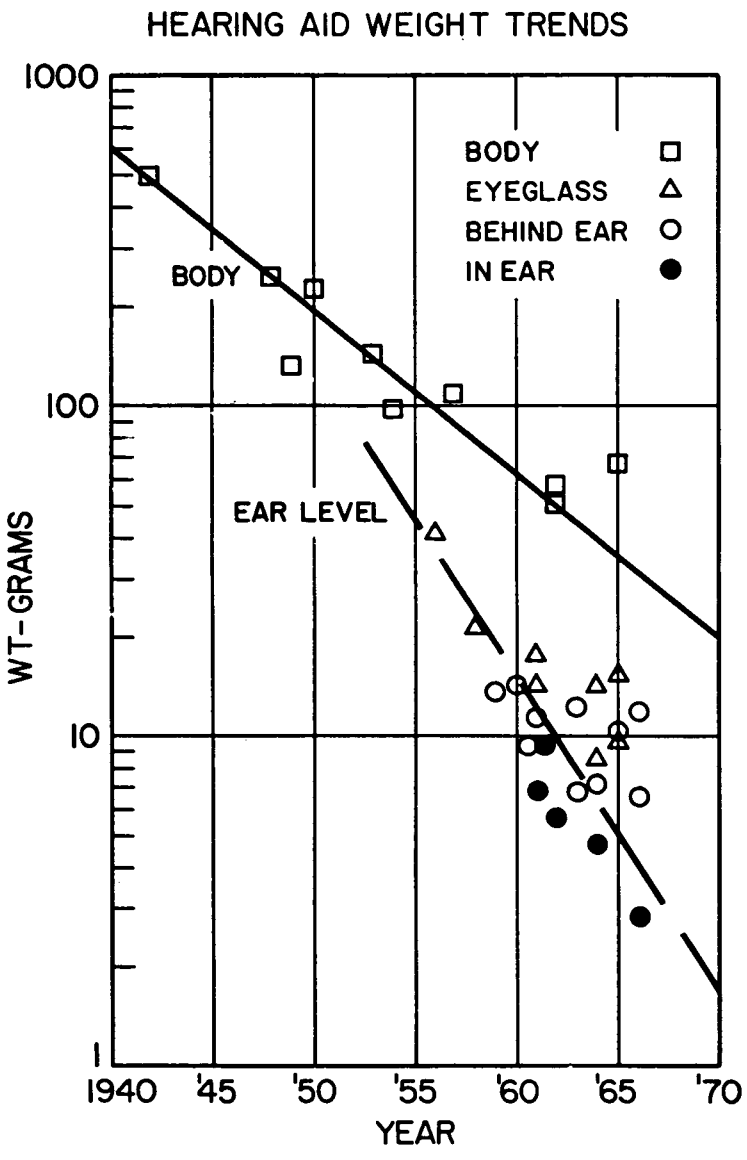

FIG. 1

aid from a typical 100 milliwatts to perhaps 10 milliwatts, permitting a large reduction in battery size. The introduction of the mercuric oxide battery and later the silver oxide battery, resulted in battery capacities on the order of 330 milliampere hours/cm^3 compared with 125 mah/cm^3 for typical carbon-zinc batteries. Improved transistor packaging has resulted in a

drop from a cubic volume of 0.5 cm^3 for the first hearing and transistor to sizes on the order of .001 cm^3 for present-day discrete transistors having much higher performance. The reduction of size without performance penalty has been true for most other components as well.

However, the hearing aid designer does have to make a number of compromises to achieve the small sizes of today's hearing aids, particularly the ear-level types.

A simple but important compromise involves battery size. As the size of a battery of a given system is reduced, the cost per milliampere-hour of operation is proportionately increased. This increased cost per milliampere-hour results from nearly constant labor cost as the cell size goes down and from the decreasing percentage of active material possible as the cells become very small.

Figure 2 shows that battery cost per milliampere-hour, based on 1966 retail prices in the United States, increases rapidly as the cubic volume of the battery drops, particularly in the very small sizes.

The designer's problem is to choose a battery that will provide some reasonable cost per hour of operation, perhaps in the vicinity of 0.5 to 1.0 cents per hour, and still achieve the cosmetic effect that the purchaser demands. Actually, if it weren't for the cosmetic problem, there is very little limit to possible reduction in hearing aid operating cost.

As size goes down, certain acoustical compromises must sometimes also be made. Generally speaking, and as applied to ear-level aids particularly,

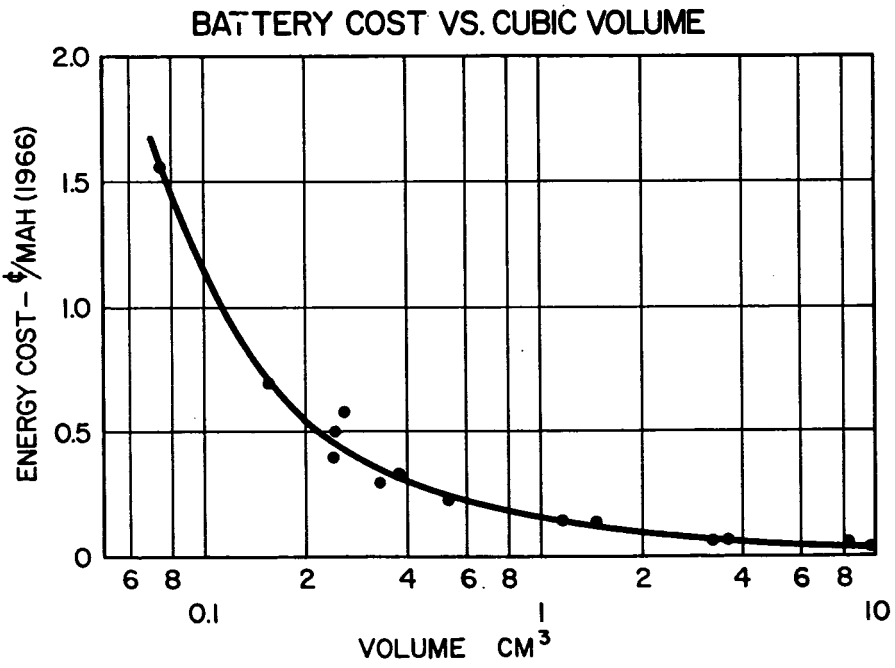

FIG. 2

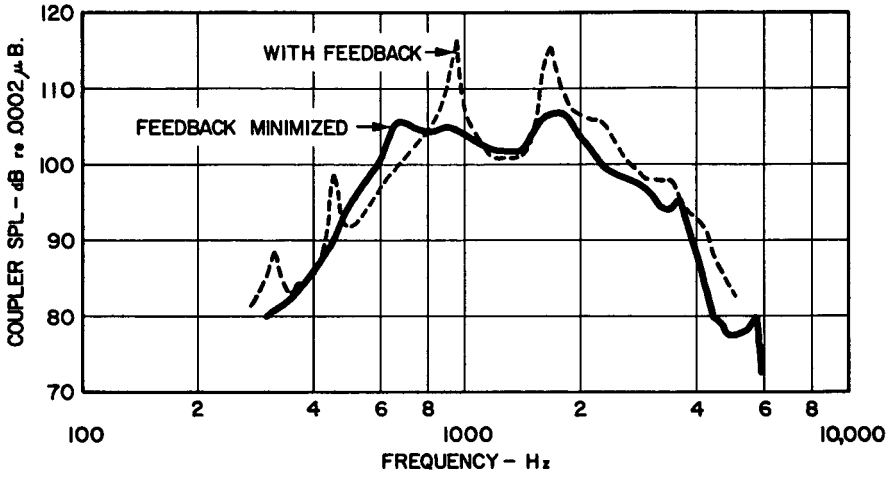

FIG. 3 – EFFECT OF FEEDBACK THROUGH TRANSDUCER MOUNTS

the smaller the aid, the lower the gain. This situation does not generally cause a serious problem to the wearer; it simply means that, at any point in time, the person with the milder hearing loss can wear a smaller aid.

Although there are other reasons, perhaps the prime reason for lowered gain as size is reduced is feedback - acoustical, mechanical and magnetic. When a microphone is placed close to a receiver, the designer has problems. Well-designed vibration isolating mounts are needed on both receiver and microphone to prevent mechanical feedback. Partitions and prevention of sound leakage are needed to stop acoustical feedback. Shielding is required to avoid magnetic feedback and is fortunately built into good transducers. Mounts and partitions take space and thus definitely influence size.

Proper feedback control is extremely important to hearing aid quality, even when the hearing aid is not "whistling". Figure 3 shows the effect of a too-stiff microphone mount in an experimental ear-level aid compared with a properly designed mount. Although not actually "whistling", the gain "spikes" caused by positive feedback would certainly not improve the transient response of the aid. The smooth curve is "normal".

Output of a hearing aid is related very closely to the battery voltage and current and thus to practical size.

With respect to frequency response, the downward trend in size has not had a particularly compromising effect in the body-aid category. In fact, body aids are available today with exceptionally good response characteristics. However, when the overall progression of body hearing aids on through ear-level aids over the years is considered, there has been somewhat of a trend.

This trend has been due largely to the constant reduction in hearing-aid microphone size. As microphones have come down in size, the low-frequency response in ear-level aids has, in general, dropped. Added to this is the drop in lows resulting from smaller capacitor sizes sometimes used in very tiny aids. This trend is illustrated in Figure 4, that shows several response curves with dates. (Curves made without "filters" that usually smooth response.) This trend toward less low-frequency response in ear-level aids has not

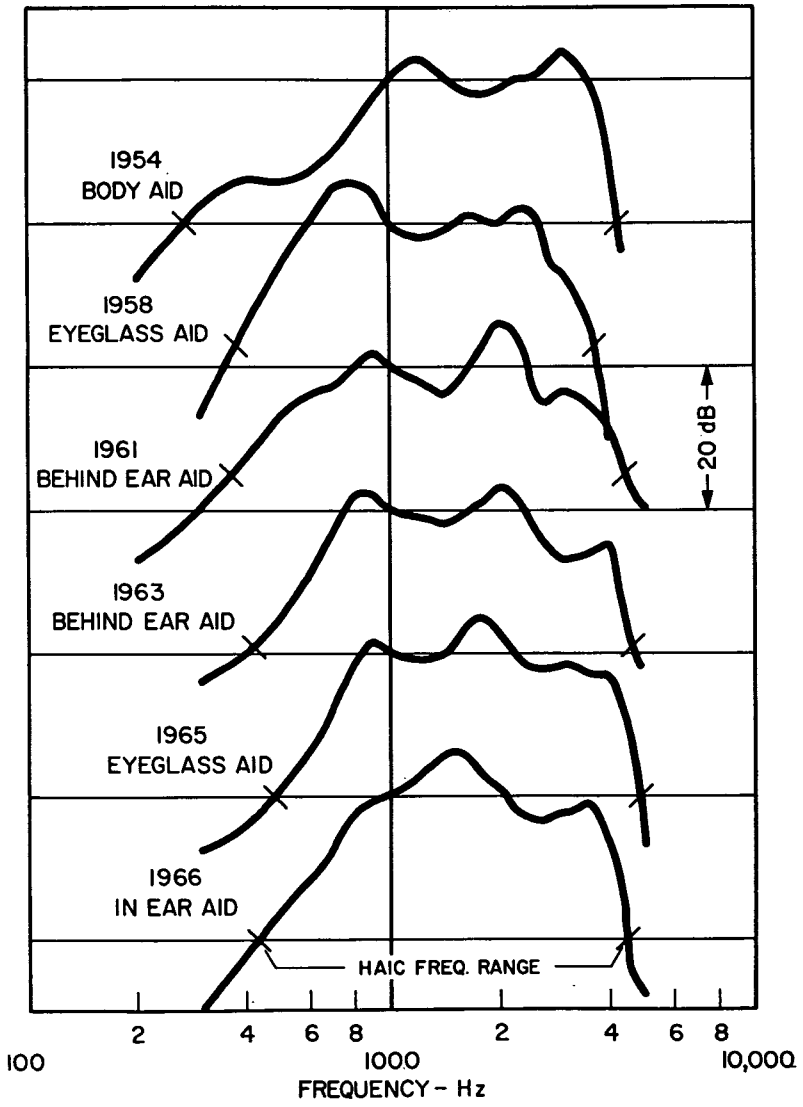

FIG. 4 RESPONSE TRENDS

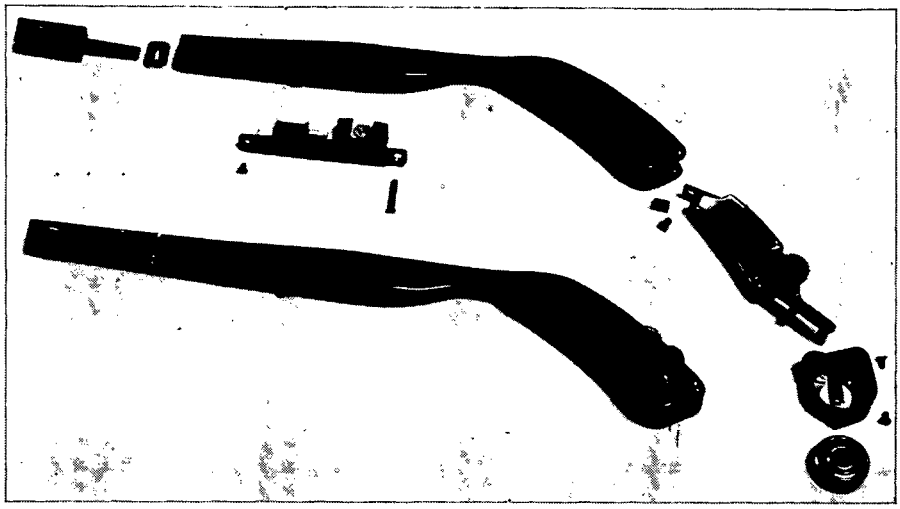

Figure 5. Eyeglass hearing aid with unitized elements for rapid servicing. Amplifier is sealed in stainless steel cartridge.

been particularly detrimental for two main reasons. First, hearing aids are now being primarily supplied for sensorineural losses, many of which exhibit an audiogram falling with frequency and so require less low-frequency amplification. Second, there has been a significant extension of the high-frequency range above 3 KHz, which contributes to discrimination for those with usable hearing there.

Have reliability and serviceability suffered as a result of the constant trend downward in size? It cannot be denied that there is a relationship between size and reliability in some areas. For example, one of the chief causes of hearing aid failure is excessive shock to the transducers. Dropping an aid on a hard floor can produce accelerations of 2000 to 4000 g's on the transducer. By allowing much more space around the transducers for shock mounts, the incidence of transducer failure can be made negligible. On small aids, a cosmetic compromise related to reliability must again be made.

Reliability of discrete components, such as capacitors, resistors and transistors have not been reduced because of size reduction. Volume controls have remained remarkably good. Reports on hearing aids using integrated or hybrid circuitry indicate high reliability.

Protection of the hearing aid from perspiration remains an important factor in reliability. The amplifiers of some recent aids have been built into sealed containers to greatly reduce this problem. One of these is shown in Figure 5, where the amplifier, removable for servicing, is contained in a stainless steel cartridge, while the microphone, also serviceable, is in a sealed plastic compartment ahead of the ear.

There is available today perhaps the widest selection of hearing aids ever available, smaller in size and cosmetically more attractive than ever before. In addition to "standard" body and ear-level aids, there are many special purpose hearing aids obtainable with such features as extended low-frequency

response, AVC, extremely reduced low-frequency response, and "CROS". One of the very successful hearing aid systems that size reduction has made possible is the binaural aid, now used extensively in the eyeglass, behind-ear and in-ear forms. In spite of this wide range of available aids, I can see no real bottlenecks that would limit future development. There are, however, some definite needs in future development. We need improved transient characteristics, and the smoother response curves that go with them. We need continued attention to low harmonic and other types of distortion in the design of aids, and we need all the reliability and serviceability that can be built into a hearing aid.

At least some of the trends of the future can be estimated from Figure 6, which shows the percentage of different **types** of hearing aids sold in the United States as reported by the Hearing Aid Industry Conference. Eyeglass and body aid percentages are still on a slight downtrend but nearly stable at 30% and 17% of the market, respectively. Behind-the-ear sales are still increasing slightly at 46%. The in-the-ear aid, dormant at a very small percentage of sales for years, doubled its position from 3 to nearly 6% in the first half of 1965 and may well rise to a very significant percentage of sales in a very few years.

About ten years ago, I defined a hearing aid as an ultra-small electro-acoustic device that is always too large, that has to faithfully amplify speech a million times without bringing in any noise, that has to work without failure - in a flood of perspiration or a cloud of talcum powder, or both, that one usually puts off buying for ten years after he needs it because he doesn't want anyone to know he is hard of hearing but which he can't do without for

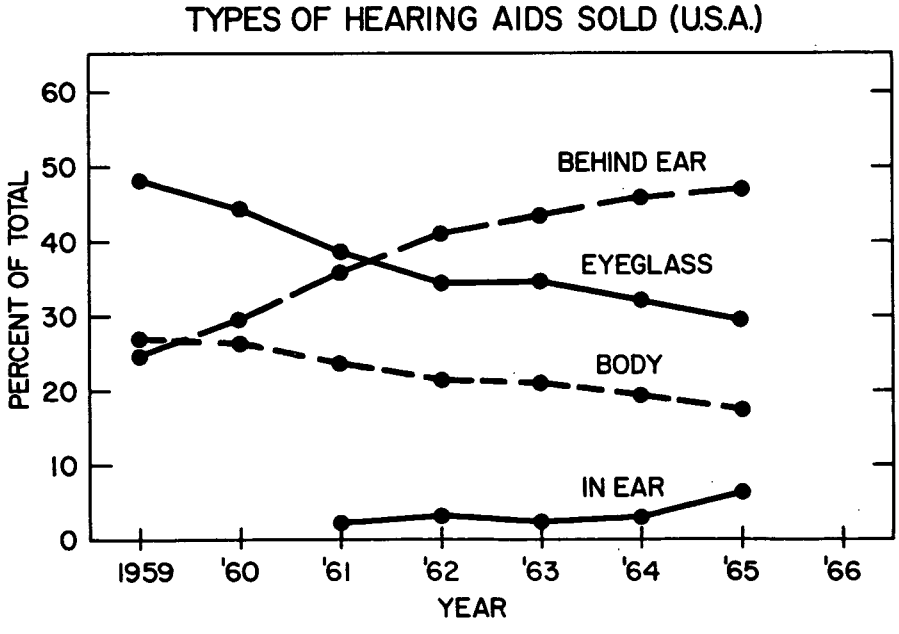

FIG. 6

thirty minutes when it needs serviced. To the flood of perspiration and the cloud of talcum powder, I would like to add, to include the in-ear aid, an avalanche of earwax!

ITEM 4. LETTER FROM JOHN J. KOJIS,[1] PAST PRESIDENT, HEARING AID INDUSTRY CONFERENCE, INC.

HEARING AID INDUSTRY CONFERENCE, INC.,
Minneapolis, Minn., October 11, 1967.

DEAR SENATOR WILLIAMS: Some years ago I had the pleasure of hearing an address you gave at the New Jersey Hearing Aid Dealers convention. In the discussion we had following your address, you indicated to me the concern you had about the problems of the elderly members of our country. I sincerely hope the answers we have to the questions raised in your letter of September 28 will be of help to you and your committee in solving the problems of the aged.

To answer your questions in the order they appear in your letter:

1. List the hearing aid manufacturers that are now members of the Hearing Aid Industry Conference.[2]

A list of hearing aid manufacturers now members of the Hearing Aid Industry Conference is attached.

2. Can you give a breakdown of the production of hearing aids by units and type, manufactured over the last five years?

We are attaching a table showing the HAIC statistical information on hearing aid sales over the past five years. These figures are not necessarily the number of units manufactured; they are rather the number sold as reported by HAIC members and estimated sold by non-HAIC members.

3. Are figures available on manufacturers' selling prices over the last five years? Where price increases are listed, if they are the result of wage and material cost increases, please specify.

HAIC makes no effort to get information on manufacturers' selling prices. This is strictly a matter of concern to the individual manufacturer and HAIC makes no efforts whatsoever to collect price information or to influence prices in any way.

4. List the overall earnings and profits records of the hearing aid industry for the last five years.

Information on overall earnings and profits records of the hearing aid industry is again a private matter for the individual manufacturer. HAIC makes no effort to gather any such information; it would be best secured from the individual firms.

5. Are figures available of the established manufacturer distributor relationship of HAIC members? If such a relationship does exist with a distributor-retailer, is it under an exclusive dealer franchise or on a non-exclusive basis?

Here again, the manufacturer-distributor relationship is an individual matter between a manufacturer and his own distributor organization. The type of relationship varies from manufacturer to manufacturer and is not considered a matter for HAIC study or concern.

6. Do any member firms of the HAIC submit their finished hearings aids to standards and evaluation tests by laboratories such as the National Bureau of Standards, or others? Whichever is applicable, please specify.

A great many member firms of HAIC submit their finished hearing aids to evaluation tests by the National Bureau of Standards under the Veterans Administration program. HAIC has been very active in the field of establishing standard test methods for hearing aids and many of their engineer members have served on committees of the USA Standards Institute to set up standard test methods. At the present time, there are two principal hearing aid test standards available from the USA Standards Institute. The first of these is USA Standards S3.3–1960, Methods of Measurement of the Electroacoustical Characteristics of Hearing Aids. The second is USA Standards S3.8, Standard Method of Expressing Hearing Aid Performance.

It should be pointed out that as a result of standardization of hearing aid test methods, it is possible for a great number of laboratories in the United States and elsewhere, to measure hearing aid performance in a consistent manner. Practically every hearing aid manufacturer has accurate equipment for this purpose and almost all manufacturers make performance information available in detail for anyone who is interested.

7. What percentage of member firms of the HAIC are now participating in the Veterans Administration evaluation tests program?

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[1] See pp. 68–97 for testimony.
[2] In committee files.

No survey has ever been made of HAIC member firms in terms of whether they participate in the Veterans Administration evaluation test program. This again is matter of individual choice as far as the manufacturer is concerned. A guess would be that the majority, possibly the large majority, of HAIC member firms do participate in the Veterans Administration test program. The only source of this information, we believe, would be the Veterans Administration.

8. What is the current status, in broad terms, of the technological developments in the hearing aid industry?

The technological developments in the hearing aid industry have been both rapid and of importance. The hearing aid industry is taking advantage of many new developments in the semiconductor field and is making available an extremely wide range of types and performances in hearing aids currently available. Some idea of the trends and accomplishments of the industry may be obtained from the attached reprint from the International Journal of Audiology. The industry is not only producing the smallest hearing aids ever made, but it is also producing hearing aids having the highest acoustical and electrical performance characteristics ever available. There has never been a time in history when the total range of hearing aid types available for specific hearing aid impairments has been so great.

9. You also asked if we could provide further information on the operation, goals, research and prospects of the hearing aid industry.

With respect to the goals of the hearing aid industry as represented by HAIC, I would say that our primary goal is to see that the public is well served. If this goal is attained, the success of our industry is assured. HAIC has, in cooperation with the hearing aid dealers organization, developed a code of ethics for the hearing aid industry that was adopted first in 1953 and then later revised in 1965 by the Federal Trade Commission as the Fair Trade Practice Rules for the industry. The industry was instrumental in increasing educational opportunities for hearing aid dealers until this work was taken over by the National Hearing Aid Society, a dealer group. We have, as was mentioned previously, been very active in the field of measurement standardization. We have been collecting statistical information on hearing aid sales as an important function of the association.

As far as the prospects for the industry are concerned, the statistics show that growth is at a very slow rate, but there does seem to be a fairly steady growth in recent years. We believe that the dedication of the people in the industry to solving the problems of those hard-of-hearing people who need hearing aids is such that the outstanding technical achievements of the past many years will continue and that we will see greater public acceptance of hearing devices during the next several years.

Very truly yours,

JOHN J. KOJIS, *President.*

EXHIBIT A. TYPES OF HEARING AIDS SOLD IN UNITED STATES PLUS U.S. EXPORTS (HAIC DATA), 1962–66

	Body	Eyeglass	Behind the ear	In ear	Total
1962 (first 6 months)	36,461	57,166	64,641	6,732	165,000
1962 (second 6 months)	37,296	60,850	77,227	4,058	179,431
Total	73,757	118,016	141,868	10,790	344,431
Percent	21.4	34.3	41.1	3.1	
1963 (first 6 months)	33,925	60,358	76,443	2,873	173,599
1963 (second 6 months)	38,945	64,875	80,962	4,998	189,780
Total	72,870	125,233	157,405	7,871	363,379
Percent	30.1	34.6	43.4	2.2	
1964 (first 6 months)	33,839	63,734	84,189	4,993	186,755
Percent				2.67	
1964 (second 6 months)	41,067	60,722	92,808	6,097	200,694
Total	74,906	124,456	176,997	11,090	387,449
Percent	19.3	32.1	45.6	2.9	
1965 (first 6 months)	34,755	59,952	92,274	11,168	198,149
Percent				5.64	
1965 (second 6 months)	33,196	56,273	92,305	13,608	195,382
Percent				6.9	
Total	67,951	116,225	184,579	24,776	393,531
Percent	17.3	29.5	46.9	6.3	
1966 (first 6 months)	29,484	50,036	97,041	21,238	197,799
Percent	14.9	25.3	49	10.8	100
1966 (second 6 months)	31,458	49,284	104,678	17,088	202,508
Percent	15.5	24.3	51.7	8.5	100
Total	60,942	99,320	201,719	38,326	400,307

EXHIBIT B. HEARING AID INDUSTRY FACT SHEET FROM DANIEL J. EDELMAN, INC., CHICAGO, ILL.

PROBLEMS OF THE HARD OF HEARING IN THE UNITED STATES [1]

The Extent of the Hearing Problem

One out of ten Americans, nearly 20 million, has some degree of hearing loss. Yet only 1.5% of this number are totally deaf.

The Hearing Aid Industry Conference reports that an estimated five million people have a hearing loss of sufficient degree to require help by medical, surgical or electronic means.

According to the Conference, several millions suffer a loss sufficient to require a hearing aid but do not avail themselves of this help. The major reasons for this are vanity, misconceptions about deafness and prejudices which date back to the time when modern, efficient and inconspicuous hearing aids were not available.

The average person with correctable hearing loss will generally wait several years before taking action. This waiting period represents a major loss to the productive economy of the U.S.

One out of four job applicants in industry has some degree of hearing loss, according to figures compiled at an industrial noise conference in New York.

Hearing Problems in Children

Incidence of hearing loss in children of school age has been variously estimated at from three to five per cent of the total school enrollment. Probably one per cent will have permanent hearing loss of a handicapping nature. The education of the deaf in the United States remains a dual system.

About 30 years ago, in recognition of the educational lag of the deaf child, the age of school entry was lowered to three years. Thus, the nursery school for the deaf, or the pre-school program for the deaf, began to be established in

[1] Authority for the following is the Hearing Aid Industry Conference.

connection with the city school programs for the deaf. The residential school on the other hand, usually enrolls its pupils at the age of five or six years when health habits are self-established and separation from homes might be less traumatic.

Amplified sound has been used for many years in many schools for the deaf, in the form of group hearing aids. The use of individual hearing aids for deaf children, however, has been meager.

A number of erroneous ideas still exist which can actually impede assistance to the hard-of-hearing child:

Supposition: A precise threshold audiogram is a prerequisite for the "fitting" of an aid, and a child must wait until his lack of speech (usually 12 to 24 months old) indicates a hearing problem.

Fact: The hard-of-hearing or deaf child can be identified long before he is one year old, and an aid can be fitted at that time to help him develop early speech patterns.

Supposition: The aid recommended for a child is chosen on the same basis as one chosen for an adult with an equivalent hearing loss.

Fact: A child's hearing loss and his resulting requirements are distinctly different from an adult with an equivalent loss. All assistance, including a hearing aid recommendation, is determined with this in mind.

Supposition: The use of one aid (unilateral) is sufficient and as beneficial as the use of two (binaural) aids.

Fact: Some hard-of-hearing children suffer such a significant loss in both ears, that the single hearing aid in the weaker ear provides only token improvement in the child's ability to distinguish meaningful sounds. In such cases only a binaural aid will give real help.

The Loneliest of Losses

Helen Keller once said in an interview with a New York Times reporter: "Deafness is even more isolating than blindness." This from one who has lived her whole life with neither sight nor hearing.

Though temporary blindness can be experienced by merely closing the eyes, it is impossible to exclude all sound—external and internal—from normal ears. It is because of this that a person with full hearing cannot understand the loneliness and isolation experienced by a person with a serious hearing loss.

Because a deafened person cannot hear all that is going on, the first reaction, in a gradual hearing loss, is that people are not talking loudly enough, or that they are mumbling. Often the sufferer begins to suspect that others are talking about or ignoring him.

Actually, people to tend to avoid a person who has trouble hearing. Constant requests for repetition and frequent irrelevant answers tire and annoy many people. Friends, co-workers, even members of the family, avoid or ignore him, thereby confirming suspicions and the sense of isolation.

Feelings of frustration, loss of self-confidence, sense of social isolation and fears of losing one's mind are all common emotional side effects of neglected hearing loss.

These naturally cause behavior which is "different" such as withdrawal from active social and family life, and thereby confirm common beliefs that deaf people are "peculiar."

Complete or partial restoration of hearing, usually through the use of a hearing aid, will result in this restoration of normal personality and ability to function. The actual physical loss may still remain, just as it does with impaired vision corrected by eyeglasses, but the simple electronic correction largely eliminates any physical or emotional handicap.

Indications of a Hearing Loss

Only a medical hearing specialist or audiologist can tell the extent and kind of a hearing loss one might have. But if a person:

prefers the television turned up a little louder than anyone else in the room,
complains that people are slurring their words or mumbling more than they used to,
habitually turns one side of his head toward a speaker,
unduly concentrates on the speaker's face, changes his speech pattern,
tends to misinterpret,
continually asks people to repeat words or phrases,
is bothered by a "ringing" in the ears or other head noises,

has trouble hearing at the movies, at church or at other public gatherings, finds it difficult at times to locate the source of a sound

it may be that he has some kind of hearing loss. He should have his hearing examined by a physician or tested by an accredited audiologist.

How Do We Hear?

The hearing mechanism is made up of four parts: The external ear, the middle ear, the inner ear and the nerve pathways to the brain—part of all body systems.

External Ear.—This consists of the auricle (the only part on the outside of the body) and the external ear canal. The auricle collects sound waves and transmits them through the canal to the ear drum.

Middle Ear.—Bounded externally by the ear drum, the middle ear consists of three little bones; the hammer, anvil and the stirrup (malleus, incus and stpes), which transmit sound vibrations to the inner ear. (Interestingly, these are the only bones of the body that are fully developed at birth). The eustachian tube, connecting the middle ear to the throat, equalizes the pressure between the middle ear and the outside air. With changing pressures, a fullness or "popping" sensation indicates that the pressure is not even. Swallowing or yawning opens the eustachian tube and pressure is equalized.

Inner Ear.—This consists of two sections separated from the middle ear by a round window and an oval window. In one section, the semicircular canals, filled with fluid, act as the body's chief balance mechanism. The other section consists of the cochlea, which by means of 25,000 to 30,000 nerve cells with fine hair-like endings, converts vibrations to nerve impulses and enables us to distinguish pitch and a third of a million pure tones. Sound vibrations are converted to nerve impulses which are transmitted by the nerves.

Nerve Pathways to the Brain.—Minute nerves merge to form the auditory nerve, which carries impulses to the brain. It is here that these impulses are perceived.

Types of Hearing Impairment

There are two principal types of impairment; conductive and sensorineural (sometimes called perceptive). If the hearing loss occurs in the external canal, the ear drum or the middle ear, it is described as conductive. If the trouble lies in the inner ear or in the nerve pathways, there is a sensorineural-type loss. When both the inner and middle regions are invloved, a mixed-type hearing impairment is present.

Causes of a Hearing Loss

Some of the major causes of impairment of hearing are continuous colds, heredity, severe diseases which affect the acoustic nerve, allergies, loud noises, swimming in polluted water, obstructions, violent nose blowing, old age, a blow to the ear, some drugs and high fevers.

External Ear.—The most common condition of the outer ear that might lead to hearing impairment is impacted wax. This can cause a mild temporary conductive loss and may lead to a permanent loss, if neglected. In the early stages, a simple flushing by a physician is all that is required for correction.

Ear Drum.—The ear drum can be harmed in a number of ways: Explosions, a blow to the ear (even by a big wave at the beach), abscesses and infections, diving too deeply, cleaning with a sharp instrument.

Middle Ear.—Hearing trouble may arise out of an inability of the three little bones (hammer, anvil and stirrup) to vibrate due to infection, arthritic disease, dislocation or presence of fluid, Chronic Otitis Media.

The most common type of middle ear trouble, otosclerosis, is caused by a bony tissue growing around these bones. (In some cases this will yield to surgical treatment—as described in the next section.)

A common cause of trouble among children is enlarged adenoids and tonsils which plug the eustachian tube and cause a slight conductive hearing loss. If not alleviated, this condition might lead to infection and permanent hearing loss.

Inner Ear.—A sensorineural or perceptive-type loss, caused by difficulties in the inner ear, is considerably more serious than a conductive hearing loss, as it usually involves a higher degree of impairment and is not as easily corrected. It is in this area that an "old age" loss usually occurs. Nerve endings and fibres gradually atrophy and cannot respond to stimulation. With a hearing loss (in contrast to deafness) not all of the nerve endings have atrophied.

A series of very intense noises, or loud sustained noise, may also permanently injure these fibres. Occupational deafness, such as that experienced by boilermakers, riveters, and soldiers, exemplifies this type of hearing impairment. Many metropolitan taxi drivers suffer a loss of hearing in their left ear due to the constant noise of traffic.

Other causes of loss in this portion of the ear include congenital defects, infections, drug sensitivities, (alcohol, quinine, streptomycin) and injuries such as skull fractures. Recently, lack of certain vitamins have been listed as a cause.

Corrections of Hearing Losses

Medical.—Tremendous strides have been made in the past decade in the surgical treatment of several types of deafness. Operations that were once considered too delicate and were largely abandoned are now fairly common, due to increased knowledge and technical advances. Recovery from ear operations is usually rapid, and restored hearing is often the result.

A few years ago the Fenestration or "window" operation and the Stapes Mobilization operation for otosclerosis cases received much publicity.

In the Fenestration operation, a new opening is made in the inner ear. Sound vibrations then bypass the immobilized stapes area and utilize the cochlea and the balance organ for stimulation and transport of the hearing impulse.

The Stapes Mobilization operation involves opening the ear drum to expose the fixed stapes. The doctor then "jiggles" the stapes until it becomes movable.

Recently, however, the Shea operation and its many variants is the almost exclusive operation for otosclerosis. The basic technique is the removal of the stapes, the opening of a fenestra or window at the footplate of the stapes, and the application of a graft (usually a vein graft) at the fenestra.

A polyethylene, stainless steel or teflon plastic strut is used to effectively "replace" the removed stapes.

Two other operations, Tympanoplastics and Myringoplastics have also been developed in recent years. Tympanoplastic operations are a series of operations for the correction of middle ear problems other than otosclerosis. The Myringoplastic operation is for the grafting of a perforated tympanic membrane.

Some very severe losses which formerly could not be helped by a hearing aid are now correctable by surgery to the point where the patient *can* use a hearing aid. There are now a great number of people, once profoundly deaf, who have been helped in this fashion.

Electronic.—The use of a hearing aid will help in most nerve-type losses and will help in all cases of conductive loss.

A person needs a hearing aid if his hearing loss in the speech range is 30 decibels or greater in his better ear. However, there are also instances of need for amplification in unilateral losses and for losses worse than 20 decibels.

In many cases, particularly if there has been a progressive loss of sound, a period of readjustment is necessary for the individual to become accustomed to the wearing of an aid.

The return of all the noises constantly surrounding us—sounds the hard-of-hearing person has forgotten—is often a confusing experience.

A person with newly regained hearing often finds it quite difficult at first to separate the important from the unimportant sounds. This is somewhat like the wearing of glasses for the first time. One is hesitant about driving—or even walking—until he becomes accustomed to his increased visual acuity.

Children, particularly those who suffered hearing impairment before they were old enough to talk and to recognize meanings of sound, need highly specialized training and education, frequently in special schools, as well as sympathetic assistance to adjust to hearing. It is often wise for the new user to wear his hearing aid for only short periods at the beginning, and then gradually build up to complete use.

What Hearing Aids Can and Cannot Do

Hearing aids cannot cure deafness, any more than eyeglasses can cure blindness. The damaged areas of the hearing centers cannot be restored through the use of a hearing aid. An aid, though, can compensate for the hearing loss, and can restore to the hard-of-hearing the social and business advantages that were lost. It can also rectify personality maladjustments brought about through a hearing loss.

There is no need to fear wearing a hearing aid constantly. Through use, the hearing aid wearer becomes so adjusted to his aid that he comes to depend on it.

This is the ideal situation. People are dependent on glasses, but everyone prefers this dependency to poor eyesight.

Hearing Aid Age

The close identification of a hearing loss with aging is a widely held fallacy. Hearing, like every other faculty, tends to deteriorate with advanced age. But hearing impairment knows no age limits; it can occur at any age for a variety of causes. Age-related hearing loss is usually gradual and may tend to be the most neglected . . . therefore the most obvious to other people.

Perhaps because of this undue association with the aging process, many people subconsciously equate poor hearing with a loss of sex appeal and virility. This, of course, is groundless.

A generation ago, Dorothy Parker wrote, "Men seldom make passes at girls who wear glasses." It took a good many years to accept glasses—another mechanical sensory aid—as commonplace.

Slowly, but with gathering momentum, hearing aids are finding similar casual acceptance. People are learning that tense, strained facial expression are far more "aging" than is the wearing of an aid, and irrelevant answers to questions are far more labeling. Today, in fact, men are finding that modern hearing aids, particularly the sturdy eye glass types, can add "stature."

Special Training for the Hard of Hearing

Auditory Training.—This is one of the most important fields for assisting the hard of hearing. If one has had a hearing loss for some time, certain high frequency sounds may be forgotten. For example, the word "biking" may sound like "buying," and there's a good chance that one has been tending to pronounce it that way.

Hearing with an aid for the first time will place the person in an unfamiliar world—because the language seems unfamiliar. The more gradually the hearing has been lost the more shocking will be its return. However, with the assistance of specialized speech therapy, return of correct speech will come rapidly after hearing has been restored.

Special classes frequently exist in public schools so that children with hearing problems can receive special instruction. Individual hearing aids permit these children to learn faster and to later take their place in a regular classroom.

Lip Reading.—This, too, is helpful to everyone who has a hearing problem. All of us practice lip reading to a certain extent whenever we face someone who is speaking. The higher development of this skill in those with a hearing deficiency makes it possible to fill in the gaps the ears miss. Where hearing ability is not likely to improve, it is wise to prepare for an eventual heavy loss. Lip reading classes are available in most large cities.

What is a Hearing Aid

A hearing aid is any device which channels sound into the ear. The most primitive form of hearing aid, and one that is still used unconsciously, is simply the hand cupped around the ear. Palm leaves—extensions of the hand—were often used in primitive times, and from these evolved the ear trumpet, now relegated to the status of a period prop.

The earliest electrical hearing aid was a huge device larger than many present day console television sets. It actually weighed more than the person using it. Even so, it was a vast improvement over the ear trumpet.

The Modern Hearing Aid

The modern hearing aid is basically a sound amplifier; a miniature communication system which picks up, amplifies and transmits sounds to the ear. Using electrical energy supplied by batteries, it converts sound waves into electrical signals, "steps up" these signals many thousands of times, and then converts them into amplified sound.

Hearing aids of reasonable dimensions using vacuum tubes (and effective enough to help nerve-type hearing losses) made their debut shortly before 1940. Early aids often measured five by seven inches, despite the fact that batteries were in a separate housing. The unit was bulky, and expensive in terms of battery replacement. However, it was still a substantial benefit to those who previously could not hear.

In 1953, the germanium transistor was developed for the hearing aid industry. Today, practically all hearing aids employ the new silicon-type transistor, either singly or in integrated circuits. These transistors are almost unaffected by moisture or temperature and require fewer circuit components.

Transistors have an average life of almost 100,000 hours, or about 17 years' aid use, and that is another reason why they have completely replaced vacuum tubes in hearing aids.

As a result of the development of transistors and increasing progress in general component miniaturization, operating costs of some hearing aids have been reduced more than 90 per cent, and general efficiency increased by more than 300 per cent, during the last 10 years.

In the last few years the introduction of the eyeglass type, has brought the aid right up to ear level. Subminiature components are incorporated into the frame (or frames, for binaural hearing), which are just slightly heavier than those of regular glasses. Bows and their extensions are purchased from the hearing aid dealer, and front frame and lenses are fitted by the optometrist or optician. A large selection of styles are available, many of them very stylish.

Another relatively new aid is the behind-the-ear model, with only a little plastic tube leading into the ear mold.

Several aids are designed so they can be covered by a woman's hairdo. Others are built into little barrettes, jeweled brooches, or even tie clasps (for men). For those with mild hearing losses, there are aids that fit completely in the ear (see recent developments section).

Hearing aids have become progressively lighter and smaller as they have been improved. Body hearing aids with batteries, have been coming down in size at a very constant rate. Eyeglass, behind-the-ear and in-the-ear aids, are dropping in weight each year.

Modern hearing aids further insure that no activities are curtailed for the hard-of-hearing. New models are designed to fit so snugly and be so rugged that all but the roughest sports can be indulged in with complete freedom.

Most Recent Development in Hearing Aids

The introduction of the monolithic integrated semiconductor circuit has made it possible to reduce the size of hearing aids, and in general, increase the economy of use of a hearing aid.

Monolithic circuits, or integrated circuits, have also increased the reliability of hearing aids, while service problems have decreased considerably. One hundred or two hundred hours on a $0.33 battery is not uncommon. In general, a saving of 50% in battery life has taken place.

The all-in-the-ear aid has now made it possible for people to have an aid which is quite inconspicuous. Many hearing losses can be corrected with the all-in-the-ear aid. This recent development in hearing aids is a far cry from the large bulky units used in the 1930's and 1940's.

In 1966, the front-facing microphone, as used in the behind-the-ear and eyeglass hearing aids, was formally accepted and is an improvement over the microphone placement that was used previously. Persons can now hear sound that is originating in front of them, both clearer and better.

Technological improvements have been made in automatic volume control during the past few years. This has meant a great improvement for persons who have ears sensitive to loud sounds. It protects them from loud bursts of sounds and makes a hearing aid more comfortable and easier to use.

The top facing microphone used in body aids has been an improvement also—it has eliminated some clothing noise and has made it much simpler for people to use pocket worn aids.

"CROS" hearing aids have recently been introduced to pick up sound on one side of the head and conduct it through a small plastic tube into the entrance of the open ear canal of the opposite normal or slightly impaired ear. This results in a vast hearing improvement when the speaker is on the "dead ear" side, particularly in noisy environments. It has brought back nearly normal hearing to those with unilateral hearing loss who were previously considered unaidable with a hearing aid. Both eyeglass and behind-the-ear "cros" models are available.

Code of Ethical Trade Practices

A Code of Ethical Trade Practices has been prepared and is subscribed to by manufacturers of hearing aids and components and by hearing aid dealers. It is a voluntary effort that signifies their intent to provide the best possible service to those who are hard of hearing as well as to the general public.

The Code states that all advertising and public announcements covering hearing aids and other industry products relating to performance, appearance, benefits, elements and use will state only the true facts and will not, in any way, attempt to misrepresent products or mislead the consumer.

Industry members engaged in dispensing hearing aids are to provide thorough and ethical consulting services, including appropriate testing and proper fitting of a hearing aid most suitable for the particular type of loss.

The members of the hearing aid industry are pledged at all times to provide the best possible service to the hard-of-hearing, offering counsel, understanding, and technical assistance contributing toward their deriving the maximum benefit from their hearing aids.

In addition, the members of the hearing aid industry have agreed to constantly engage in independent and combined research, cooperating whenever possible with medical and other professional individuals and societies to employ the maximum accumulation of scientific knowledge and technical skills in the manufacturing, distribution and fitting of hearing aids.

What is HAIC?

The Hearing Aid Industry Conference is the national association of manufacturers and distributors of hearing aids and components, working together to establish and maintain ethical standards in the industry, promote public understanding, encourage scientific study of hearing and hearing disorders, promote the exchange of information in the field of hearing and extend assistance to organizations or individuals with the same objectives.

ITEM 5. MEDICARE AND MEDICAID CONSIDERATIONS, BY ROY F. SULLIVAN,* NEW YORK STATE SPEECH AND HEARING ASSOCIATION

DEAR SENATOR CHURCH:

* * * * * * *

One of the themes of the two days' testimony seemed to stress the importance of the role of the hearing aid dealer in the face of a relative dearth of Professional Audiologists. However, my testimony indicated that certain strictures within Title XVIII and Title XIX prevent the aged hard-of-hearing patient from availing himself of the Professional Audiologist's services even when they are geographically convenient to him. The situation I described as existing in New York City is such a case in point.

The specific inclusion under both the Medicare and Medicaid programs of the following services performed by the Professional Audiologist:

(1) audiological diagnostic testing,
(2) hearing aid evaluation, and
(3) hearing rehabilitation (including speech therapy where needed)

will be a key step in making these valuable services available to this most worthy segment of our hearing-handicapped population. In addition, it will provide the impetus for more hospitals to expand their scope of treatment to include Audiology, thereby encouraging more persons to enter this highly specialized profession.

* * * * * * *

Yours very truly,

ROY F. SULLIVAN.

EXHIBIT A. THE REVISED SOCIAL SECURITY REGULATION

6104.3—Otologic Evaluations. Diagnostic testing performed by a qualified audiologist is covered as "other diagnostic tests" when a physician orders such testing for the purpose of obtaining additional information necessary for an evaluation of the need for and/or appropriate type of medical or surgical treatment for a hearing deficit or related medical problem. (Medical or surgical treatment means treatment by other than a hearing aid.) Thus, for example, diagnostic services performed by a qualified audiologist to measure a hearing deficit or to identify the factors responsible for the deficit would be covered where such services are necessary to enable the physician to determine whether otologic surgery is indicated. *However, where the medical factors relating to an evaluation of appropriate medical or surgical treatment are already known by the*

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*See pp. 97–117 for testimony.

physician and the diagnostic services are performed only for the purpose of determining the need for and/or the appropriate type or specifications of a hearing aid, the services would be excluded whether performed by a physician or nonphysician (section 6120.7). Where the exact purpose of audiologic diagnostic services cannot be determined from the audiologist's or physician's bill (or other available information), this information should be obtained from the physician ordering the examination (whose name must always be shown) so that the Carrier may make the necessary coverage decisions.

EXHIBIT B. CONSUMER REPORTS,* MAY 1966

LETTERS FROM CU'S READERS

HEARING-AID DEALERS

I have read with much interest your article and recommendations on hearing aids in the January issue. But I am greatly disappointed at your somewhat biased elimination of some 15,000 to 25,000 people who take care of some 90% of the Nation's hard-of-hearing and have been doing this beginning in 1902.

I am a hard-of-hearing person myself, and a hearing-aid dealer. It seems to me that it is about time that you recognize hearing-aid men for what they are—no more honest or dishonest than any other group, but in fact highly trained people skilled in fitting and servicing hearing aids, but most important versed in the psychology of the hard-of-hearing and providing the only answer as to their intense emotional and psychological problems.

M. M., New Orleans, La.

We have no doubt that there are a great many hearing-aid dealers who are all this reader says. But we still feel that the prescription should come from a Certified Clinical Audiologist, whose code of ethics precludes even a question of conflict of interest by clearly stating that he will not profit from the product he prescribes. We aren't, after all, steering business away from the hearing-aid dealers: where else would the patient buy his aid? We are also sure that the good dealer's understanding and sympathy won't be any less welcome to the hard-of-hearing person because he has obtained his prescription from a Clinical Audiologist instead of from a Hearing Aid Audiologist, the title used by some dealer members of the National Hearing Aid Society.

[From the New York Post, Thursday, Feb. 15, 1968]

EXHIBIT C. CITY MEDICAID CUTS HEARING TESTS

(By Joseph Kahn)

City Medicaid administrators have eliminated examinations by audiologists to determine whether an adult needs a hearing aid, the New York Post learned today.

Audiologists are the only specialists in the field of speech and hearing who are qualified and equipped to make hearing tests and prescribe a specific type of aid for a particular hearing problem.

In the past, Medicaid patients of all ages in need of hearing help were required to go to a ear, nose and throat doctor and then to an audiologist who would send him on to a hearing aid dealer with a prescription.

Now, only a doctor is required to examine a patient to ascertain whether an aid might help his condition. From the doctor, the patient goes directly to a dealer, skipping the audiologist.

The city's new policy has brought a storm of protests from audiologists and other speech and hearing experts.

"It is obvious the new ruling opens up the way for all sorts of abuses," said Roy Sullivan, chief of the Division of Audiology at Long Island College Hospital. "Dealers are not qualified to make hearing tests and there is no provision for follow-up and therapy.

"Most of the patients are older people. They are not getting 25-year-old ears at 75 years of age. They have to be taught how to use the aids, sometimes they need to learn lip-reading. Dealers are not going to give them this kind of help."

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*"Hearing Aids" reprint of an article originally published in 1966 issue of Consumer Reports, submitted by Dr. Sullivan, appears on p. 235.

Donald Rubin, secretary of the Committee For Medicaid, said the hearing tests should not be left to an "untrained" dealer to perform.

"I also would recommend the city sell the aids directly to the patients through hospitals and hearing clinics, eliminating the middleman whose markups are usually about 300 per cent."

Many experts told The Post the city was persuaded to continue the examination by audiologist for young people under the age of 21. "There is no reason older persons shouldn't get this service. They need it as much as children, often more," said one doctor connected with the city's health services.

Dr. Lowell Bellin, executive director of the city's Medicaid program, was asked why an audiologist is no longer required.

"We found that there were long waiting lists at speech and hearing centers for audiologists' examination," he said. "So I said to myself, why should someone wait a year for a hearing aid?

"I called in the best people in the field to get their views. Needless to say, the audiologists were against any change, and for obvious reasons the dealers felt differently.

"We finally kept the old rules for those under 21 years of age and if the ear, nose and throat man feels an adult should go to an audiologist, he is allowed to send him."

In practice, however, The Post has been told, the doctors have been sending patients to dealers merely with instructions to be fitted for an aid, leaving it up to the dealers to make the final decisions.

DEPARTMENT OF HEALTH, MEDICAID,
City of New York, February 6, 1968.

DEAR DOCTOR: Effective 2/1/68 Board Certified and Board Eligible Otolaryngologists may request hearing aids for Medicaid patients using Form W–401 "Medical Service Order" form. The patient may bring the completed Form W–401 directly to an authorized vendor. For homebound patients, the physician should send Form W–401 to the vendor who can arrange for fitting and delivery.

Except for children under 21 years of age, referral to an approved Hearing and Speech Center is no longer required. However, you may continue to refer adult patients to Hearing and Speech Centers if in your judgment the patient needs this additional service.

This change supplements Health Services Bulletin (10–1).

Thank you for your cooperation.

Very truly yours,

LOWELL E. BELLIN, M.D.,
Executive Medical Director,
National Assistance Program.

[From the New York Post, Mar. 13, 1968]

EXHIBIT D. LETTERS TO THE EDITOR

FOR THE RECORD

The New York Hearing Aid Dealers Guild, in reply to a recent article which stated that city Medicaid administrators have eliminated tests for a hearing aid, would like to say that the previous system using Speech and Hearing Centers was expensive, time-consuming and detrimental to the best interests of the hard-of-hearing public. However, the new ruling which calls for examination by an ear specialist, including whatever tests he deems necessary, the supplying of a hearing aid appliance by an authorized vendor and the specialists' follow-up examination to determine if, in fact, the appliance is satisfactorily benefiting his patient and any additional therapy that may be necessary, is the finest quality care ever.

The average adult, who has a simple hearing problem, so *diagnosed* by the *ear specialist*, can go directly to a hearing aid dealer and be quite capably fitted in a matter of a week. In the cold light of fact it is the dealer (hearing aid appliance vendor) who is the most qualified person to fit, adjust, service and teach the individual how to operate the hearing aids he supplies.

DOMINICK PORCELLI,
President, N.Y. Hearing Aid Dealers Guild.

[From the New York Post, Mar. 25, 1968]

EXHIBIT E. LETTERS TO THE EDITOR

A QUESTION OF HEARING

I take issue with a letter from the N. Y. Hearing Aid Dealers of March 13. It would be costly for Medicaid and the unwary hard-of-hearing public if the system using Hearing and Speech Centers were placed in the hands of the average hearing aid dealer.

Hearing and Speech Centers are qualified because of the testing facilities and professional personnel having required educational background and competence. In comparison, I found the average hearing-aid dealer competitive, and primarily motivated by self-serving financial gain, the interests of the patient being only second, if considered at all.

These conclusions are the result of personal experience when my father, 83, was wrongly diagnosed by a hearing aid dealer—no notice taken of wax packed in both ears—prescribed two overpowering hearing aids that distorted sound—to the tune of $700—immediately signed to a binding contract upon first examination—with no trial period or recourse for justified grievances.

Only after subsequent consultation with an ear specialist and a work-up by a Hearing and Speech Center, and because of their efforts and intercession, my father was helped.

MRS. CLARA GOLDBERG.

EXHIBIT F. NEWS ROUNDUP

CLINICAL TRENDS IN OPHTHALMOLOGY, OTOLARYNGOLOGY, AND ALLERGY, VOL. 6, NO. 7, MARCH 1968

Otolaryngology.—In a surprise move, New York City Medicaid administrators have ruled that adults no longer need a prescription from an audiologist to obtain hearing aids.

Until mid-February, to qualify for Medicaid, patients of all ages seeking hearing aids were required to see an otolaryngologist, then obtain a prescription from an audiologist, which was filled by a hearing aid dealer. Now adults may go directly from an otolaryngologist to the dealer, skipping the audiologist.

The reason for switching procedures, claims Dr. Lowell Bellin, executive director of the city's Medicaid program, "is the long waiting lists at speech and hearing centers for audiologists' examination.

"I wondered why someone should wait a year for a hearing aid, so we called in the best people in the field to get their views. Needless to say, the audiologists were against any change, and for obvious reasons, the dealers felt differently."

FOR ADULTS ONLY

"We finally kept the old rules for those under 21 years of age; and, even with the new ruling, if an otolaryngologist feels an adult should get to an audiologist, he is allowed to send him."

The city's new policy has brought a storm of protests. In the opinion of Roy Sullivan, chief of the division of audiology at Long Island College Hospital, "the new ruling will result in hardship for the patient with hearing loss, particularly the elderly with presbycusis.

"Dealers are simply not qualified to provide the kind of testing and rehabilitation training these patients must have in order to get practical use from hearing aids. And with the new ruling, there is no provision for the required follow-up and therapy."

EXHIBIT G. NEW YORK HEARING AID DEALERS GUILD, INC.

DR. WILBUR J. GOULD,
New York, N.Y.

DEAR DR. GOULD: Should you the Otologist or Otolaryngologist be relegated to the background in the vital discussion as to whether *your* patient requires a hearing aid?

Until recently the City Health Department required Otolaryngologists to refer

all municipal Hearing Aid cases to a Speech and Hearing Center for the decision on amplifications.

This practice has been stopped by a recent decision of the Department of Health which enables the Otolaryngologist to make the complete diagnostic decision of what is best for his patient.

However, this directive by Lowell E. Bellin, M.D., which is enclosed, is under attack by those who want the previous system reinstated as witnessed by the newspaper article also enclosed. Dr. Bellin has resisted this pressure.

If you agree with Dr. Bellin, we hope you will support him by mailing the enclosed card along with your RX Form. This will be effective if done immediately.

Sincerely,

THE NEW YORK HEARING AID DEALERS GUILD, INC.

[From the New York News, Apr. 21, 1968]

EXHIBIT H. COLOROTO MAGAZINE SECTION

LOUD BATTLE ON HEARING AIDS—EXPERTS DISAGREE ON SENIORS' NEED FOR AUDIOLOGICAL SERVICES

(By Jack Leahy)

SENIORS WHO NEED hearing aids are being short-circuited by Medicaid, says Roy F. Sullivan, chairman of the New York State Speech and Hearing Association (NYSSHA) Committee for Hearing Care Under Medicaid.

Not so, argues Dr. Lowell E. Bellin, executive director of New York City's Medicaid program.

Here are the facts in the controversy. Decide for yourself who is right.

In order to get financial assistance for a hearing aid prior to Feb. 1 of this year, an individual who qualified for Medicaid was required to go first to an ear, nose and throat doctor for examination. If this physician deemed a hearing aid was necessary, the patient went on to a hearing and speech (audiological) center which prescribed an aid suited to his needs. Then, a dealer would fill the prescription.

After all this, the patient would have to retrace his steps to make sure he was properly fitted. He would go back to the audiological center for evaluation of his aid and training in the use of it. Finally, another checkup would be made by his doctor.

"This procedure involved some very serious problems, particularly with regard to elderly people," claims Dr. Bellin. "First of all, there are only 10 approved audiological centers in New York City. Staten Island has none and the Bronx only one, Jacobi Hospital, where the waiting period for an appointment was 14 months.

"I could have lived with the situation in Manhattan where there were six centers and the waiting period averaged a couple of weeks. But it was obvious that under this system, hundreds of New Yorkers were being denied any help at all with their hearing."

To speed things up, Dr. Bellin decided to eliminate the middle man in some cases. He decreed that the services of the audiological centers were no longer required for Medicaid patients who were over 21 years of age. Instead, the adult patient was to go directly from his doctor to a dealer for a hearing aid.

"I got in touch with all of the groups concerned," explains Dr. Bellin. "The audiologists were 100% for keeping things as they were and too bad about the Bronx. Predictably, the dealers were for relaxing standards. They felt that it wasn't necessary to have an audiologist in for every kind of hearing aid. Obviously, there was self-interest on the part of both groups.

"The otologists (ear specialists) were unanimous in their opinion that all people under 21 should go to an audiological center. They were mixed in their opinion about those who were over 21. There were excellent men who favored the old procedure and equally competnt physicians who felt the centers were not indispensable for adults.

"After hearing both sides, we made our decision. But we didn't deny doctors the right to send adults to audiological centers. If the doctor wants a patient to go, we'll pay for it. We just eliminated this step as a requirement for all."

Roy Sullivan, who heads the Audiology Division of Long Island College Hospital, feels that Dr. Bellin has discarded "the baby with the bath water." He cites the following among the reasons for his stand:

"First, older patients have as much, and often more, difficulty in adjusting to the use of a hearing aid than children for whom the requirement of audiological evaluation remains mandatory.

"Second, the otologist typically does not possess the facilities to perform the necessary speech audiometry (hearing measurement) . . .

"Third, a dealer will test the patient and generally fit the aid the patient desires rather than (that which) he objectively requires. Cosmetic factors (usually) motivate the unsophisticated hard-of-hearing patient to select the smallest rather than the most appropriate aid . . .

"Fourth, the geriatric patient, with all of his concomitant problems of adjustment, gets short shrift by this arrangement. He is entitled to every bit of professional service which is available. This must include evaluation and rehabilitation by the certified professional audiologist, an individual who possesses a minimum of a Masters Degree and often a Doctorate in hearing evaluation and rehabilitation."

Sullivan's solution to the waiting-list problem is to open more audiological centers. He claims that such centers already exist at universities and hospitals throughout the city and that they could be made available if they were approved for medicaid patients. He suggests that the required mechanism of approval be a committee of certified audiologists and otologists who could inspect and judge the qualifications of these facilities. But Sullivan also admits there is an obstacle to his plan.

"These potentially qualified professional audiological centers would be willing to serve Medicaid patients," he insists. "But justifiably, they do not wish to accrete a financial deficit in the process. As yet, there is no established fee schedule, as with medical laboratories, for services of the certified audiologist."

Dr. Bellin, an articulate, dedicated administrator, says he has no objection to discussing any plan whatsoever to relieve the situation.

"My decision on audiological centers has been criticized as being expedient," he complains. "Well of course it was. In the public health field, our ambitions are limitless but our resources are limited. All of our decisions must be made on the basis of expediency. We can't be on cloud nine when it's a matter of people being well or sick or dead.

"When I read of a little old lady being knocked down by a car on the Grand Concourse because she didn't hear the traffic, when I read of people being seriously burned in an apartment fire because they didn't hear the pounding of rescuers on their door. I can't wait 14 months for something to happen. I have to act.

"Right now, there is a shortage of ear, nose and throat men in New York City. There is a shortage of private audiologists as well as hearing and speech centers. As long as these services are in short supply, I believe kids should get first crack at them.

"If, because of protests over my decision, public pressure is brought to bear for additional health services, so much the better. But people will still want hearing help today, not promises of help six or 12 months from now."

EXHIBIT I. DEPARTMENT OF OTORHINOLARYNGOLOGY, DIVISION OF AUDIOLOGY

SERVICES OFFERED BY THE AUDIOLOGY LABORATORY

1. *Diagnostic Evaluation*

(*a*) Information is made available to the Ear, Nose & Throat Specialist to aid in determining the nature and extent of any impairment of hearing.

(*b*) Information is provided to the Neuro-Otologist, Neurologist and/or Neurosurgeon concerning the possible presence and site of a suspected tumor or other pathology affecting the auditory neural pathways of the brain.

2. *Audiosurgical Prognosis*

The otologic surgeon is provided with information concerning the extent of hearing restoration which may be anticipated from a successful audiosurgical procedure.

3. *Amplification Prognosis*

In cases where hearing impairment is not amenable to surgical or chemotherapeutic intervention, an appropriate form of prosthetic amplification, or hearing aid, is recommended. The Audiology Laboratory of The Long Island College Hospital is the only Brooklyn Voluntary hospital facility approved for the recommendation of hearing aids under the *Medicaid* program.

4. *Auditory Therapy*

Each hearing impaired patient using prosthetic amplification is administered individualized auditory training, lip reading instruction and hearing aid orientation in order to assure derivation of maximum utility from the instrument.

5. *Clinical Research*

The Audiology Research Laboratory is constantly carrying out research on improved audiological techniques. Two projects under current investigation are:

(*a*) A procedure for assessing the effectiveness of hearing aids in the profoundly deaf patient.

(*b*) A technique for the detection of tumors or other pathology affecting the higher neural pathways of the brain which subserve hearing.

GENERAL

The Audiology Laboratory presently processes more than 200 complete visits per month, recommending more than 50 hearing aids in that same span of time. Our patients typically range in age from 3 years to 93 years. It has been estimated that there are some 200,000 individuals with hearing impaired to some degree, residing in the Borough of Brooklyn.

ITEM 6. ADDITIONAL REPORTS FROM COLSTON E. WARNE,* PRESIDENT, CONSUMERS UNION

EXHIBIT A. REPRINT FROM CONSUMER REPORTS, SEPTEMBER 1950 AND JANUARY 1951

DEAFNESS AND HEARING AIDS

On one point, the makers of expensive hearing aids are in substantial agreement. *Acousticon* states the point in these words:

"Hearing defects are as varied . . . as visual defects. Both instruments and methods of fitting . . . must be as precisely controlled as those employed by the professional oculist."

Maico adds:

"If your present aid sounds unnatural to you, chances are it was not fitted to *your individual* hearing loss . . . An aid that fails to take this vital medical fact into account is like a pair of glasses purchased at a dime store."

Audivox, Beltone, Sonotone, and many other brands have found other phrases for substantially the same point, while *Otarion* adds a dental comparison. *Otarion* aids, it is alleged, are fitted "much as dentures and spectacles are fitted. . . ."

The makers of a few relatively inexpensive aids stress an opposite principle. *Zenith,* for example, advertises:

". . . You need not suffer the unnecessary annoyance, expense, and inconvenience of the so-called 'fitting' procedure . . . Because the *Zenith* Miniature requires no 'fitting,' this expensive, time-consuming procedures is eliminated."

ON WHICH SIDE DOES THE TRUTH LIE?

So much nonsense has been spread about hearing aids and their selection or "fitting"—most of it spread deliberately, in the advertisements of expensive hearing aids—that it is necessary first to clear away some of the underbrush.

Fortunately, some excellent basic research necessary for an understanding of the subject is readily available. During the war and early postwar period, the Federal Government financed an extensive program of hearing-aid research, conducted under the general supervision of Dr. Hallowell Davis, at the Harvard University Psycho-Acoustic and Electro-Acoustic Laboratories. Dr. Davis and his

*See pp. 119–139 for testimony.

associates published their joint findings in 1947, in a technical volume which has come to be known as the "Harvard Report." * For lay readers, an excellent book on hearing edited by Dr. Davis is also available.**

HOW A HEARING AID WORKS

Regardless of the claims made for it, every hearing aid is in fact simply an amplifier of sound. The sounds are picked up by a small microphone located in the hearing-aid case, amplified by means of vacuum-tube circuits powered by dry-cell batteries, and delivered to the ear at a louder level by means of an earphone (called a "receiver" in the trade).

An aid should meet several simple requirements with respect to performance. Extraneous noise should be held to a minimum. The aid should distort sounds as little as possible. It should have effective tone and gain (volume) controls. In addition to these obvious requirements, a group of three performance characteristics requires special discussion. These three are frequency response, gain, and maximum loudness.

Frequency response is discussed on the next two pages, gain and maximum loudness on the two pages following.

MUST A HEARING AID BE "FITTED" TO YOUR EAR?

Audible sounds vary in frequency from deep bass rumbles (about 20 cycles per second) to high treble overtones (up to about 20,000 cycles per second).

It is not too difficult to build a high-fidelity amplifying system which will cover this entire frequency range. Moreover, such an amplifying system can be made relatively "flat"—that is, it can amplify all frequencies within this broad range to nearly the same extent.

With a *wearable* hearing aid, however, the small size of both the aid and the earphone makes it impossible to amplify over so wide a range, or to secure equal amplification (a flat response) even over a quite limited range.

In the early 1930's the Sonotone Corporation adopted a principle of hearing aid "fitting" based on these defects. In advertising and sales campaigns Sonotone stressed the need for "selective amplification" and for careful fitting of the hearing aid's frequency response to the frequency response of the ear with which it was to be worn. Other hearing-aid companies followed suit, and soon "personalized fitting" because a sort of fetish.

The fitting theory was based upon the fact that a hard-of-hearing ear is also likely to have "peaks" and "valleys" of hearing rather than a "flat" response to all tones from bass to treble. In general, the peaks and valleys in the hearing response of the ear were supposed to determine the valleys and peaks of the hearing aid which should be fitted to it. An ear which was especially insensitive to high-frequency tones should be fitted with an aid which amplified those tones more than others, and so on.

This theory was rammed home in hearing-aid advertisements, and white-coated "consultants" armed with audiometers for measuring the frequency-response curves of hard-of-hearing ears were widely employed in hearing-aid stores. But even a decade ago, several difficulties could be noted in the "personalized fitting" or "selective amplification" theory.

There were those who said, for example: Why waste effort trying to overamplify the tones you *don't* hear? Instead, try to make the most of the tones you hear best by amplifying *them.* Thus it was possible to argue that either of two diametrically opposed hearing aids "fitted" a particular ear.

Again, an "audiogram"—that is, the curve showing relative loss of hearing at various frequencies—is drawn by determining the *least loud sound* of a particular pitch that you can hear. This is the "threshold of audibility." But research has shown that a threshold audiogram may be a wholly misleading guide to the way you hear sounds louder than threshold sounds. Since the earphone delivers sounds well above threshold levels, fitting a hearing aid to your threshold audiogram was a wholly illogical procedure.

The whole elaborate theory of "selective amplification" was finally disposed of in 1947, when Dr. Hallowell Davis and his associates published their findings.

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*"Hearing Aids: An Experimental Study of Design Objectives," by Davis, Stevens, Nichols, Hudgins, Marquis, Peterson and Ross. Harvard University Press, Cambridge, Mass., $3.

**"Hearing and Deafness: A Guide for Laymen," edited by Hallowell Davis, M.D., Murray Hill Books (Rinehart & Co.), New York, $5.

They had started their Federal research project at Harvard with the usual "personalized fitting" theory, and had constructed a "master hearing aid" which could be set for a wide range of frequency response curves. They then tried various curves on a group of trained hard-of-hearing listeners, and gauged the results by means of carefully designed tests of speech intelligibility. Their finding was that two types of curves were suitable to practically all of the hard-of-hearing subjects tested.

"The net result," says the Harvard Report, "is a questioning of certain dogmas, chiefly the notion that hearing aids, like eyeglasses, must be 'fitted' to the detailed idiosyncrasies of the individual impairment. The simple fact now seems to be that the electro-acoustic properties best suited to one type of hearing loss are those best suited to all. Regardless of the nature of their particular defect, most patients hear best with an instrument which amplifies all frequencies uniformly, or with moderate emphasis of the higher frequencies."

HOW THE HARD-OF-HEARING HEAR

Further research, both here and in England, appears to confirm this finding. The overwhelming majority of hard-of-hearing ears, we now know, hear well both with hearing aids which are flat and with aids which emphasize the higher frequencies. Some of the few people who hear a little better with high-frequency emphasis nevertheless prefer an aid with a flat response from the point of view of pleasantness.

The "ideal aid" proposed in the Harvard Report would amplify only the range from about 300 to about 4000 cycles, the frequencies important for the understanding of ordinary English conversation. Frequencies below 300 and above 4000 cycles would be deliberately cut off, in part to minimize extraneous noises. But later research indicates that even a close approximation of the ideal may not be necessary in an aid which will be generally suitable without any special fitting.

The "selective amplification" theory is still being pushed by some companies, but CU believes that it is on its last legs. It has outlived its usefulness even to those companies which have profited most from it over the past two decades. Yet the old views die hard. One recent article, for example, first tries to discredit the "universal type of hearing aid" as compared with the personally fitted *Acousticon*, and then adds this warning:

"If the patient persists in wearing a hearing aid which is misfitted in this way, he will eventually become a nervous wreck, and the strain on the nervous system, in turn, is likely to produce various more-or-less serious physical disabilities."

CU's consultants report that such alarming statements are totally unwarranted. Most of the hearing aids which are now on the market have been shown to be quite satisfactory in actual clinical experience, and you can certainly choose one or another without fear of incurring physical disability.

This view of CU's consultants is in accordance with further research carried on by Dr. Davis and associates at the Central Institute for the Deaf, in St. Louis, since the Harvard Report was published. The St. Louis group has subjected to comparisons the majority of the hearing aids marketed over the past three years. Dr. Davis' conclusion:

"The 30 or more models of hearing aids that we have tested during the last three years * * * have not shown any significant differences in performance that we could correlate with their frequency responses. All of the articulation scores were so high that they approached the best that our hard-of-hearing listeners could do even with no hearing aid at all, that is, with only high-fidelity amplification. In other words, the performance of all of the hearing aids is so good that our best tool, the recorded word lists, is not good enough to distinguish reliably between them in any brief test. The scores are nearly as good as they can possibly be with our present methods of testing."

GAIN AND MAXIMUM LOUDNESS

Frequency response can thus be eliminated as a critical performance characteristic of hearing aids requiring careful fitting. This leaves two other important performance characteristics to be considered—*gain* and *maximum loudness*. They are discussed on the two pages which follow.

HOW "LOUD" SHOULD A HEARING AID BE?

Another area of mystification adequately cleared of underbrush by Dr. Davis and his Harvard associates (see preceding pages) is bounded by the potentially ambiguous terms "gain," "loudness," "volume," "power," "strength," "output." Let's forget "volume," "power," "strength," and "output" for the moment, since these are most likely to give rise to ambiguity, and get a clear understanding of two basic terms, "gain" and "maximum loudness."

"Gain" is the amount by which a hearing aid amplifies a given sound. It is adjusted by turning the gain control ("volume control") up or down.

Loudness and gain are both measured in terms of decibels. A 10-decibel sound is very soft, 60 decibels is about the loudness with which ordinary conversation reaches the ear, while a sound of 130 or 140 decibels can be described as "ear-splitting." A hearing aid set for low gain—for example, 30 decibels—will amplify a 10-decibel sound to a loudness of 40 decibels and a 60-decibel sound to a loudness of 90 decibels. If the gain control is turned up to produce a 50-decibel gain, the aid will then deliver the 10-decibel and 60-decibel sounds with a loudness of 60 and 110 decibels.

The amount of gain you need is dependent, of course, on the severity of your hearing loss; but as a practical matter you can get the right amount of gain with almost any aid simply by turning the gain control up or down. What appears to be "insufficient gain" is in fact likely to be something very different—namely, "insufficient maximum loudness."

MAXIMUM LOUDNESS

Because a certain setting of the gain control amplifies a 10-decible sound to a loudness of 60 decibles and a 60-decible sound to a loudness of 110 decibles, it should not be inferred that the same setting will amplify a 100-decible sound, such as a loud shout a few feet away, to the 150-decible level. This is prevented by the fact that every hearing aid has a "maximum loudness" above which it will not deliver sound to the ear *regardless of how loud a sound is picked up by the micropohone.* Thus a hearing aid with a maximum loudness output of 110 decibles will deliver only 110 decibles to your ear even if the gain control is turned up and the microphone picks up a 100-decible sound. Indeed, in some cases a hearing aid will act as a "de-amplifier" rather than as an amplifier—that is, it will actually reduce the loudness of a 130-decible or 140-decible sound.

It is this limitation on maximum loudness which makes it possible for people to wear hearing aids at all. For very loud sounds may be actually uncomfortable, or even painful. For most ears—hard of hearing or not—the "threshold of discomfort is around 120 decibles. By choosing an aid with the appropriate maximum loudness, it is possible to prevent even the loudest external sound from being amplified to an uncomfortable or painful level.

The gain requirement and the maximum loudness requirement of a particular ear are quite independent. Thus one hard-of-hearing ear may be so impaired as to require a very high gain. Yet it may be "tender"—that is, it may have a relatively low threshold of discomfort. Such an ear will use high gain but must have an aid with low maximum loudness. Another ear may require only moderate gain, and at the same time be "tough" enough to tolerate a high maximum loudness without discomfort.

The confusion which may result from the misuse of such terms as "volume" or "strength" should now be evident. When a hearing-aid salesman tells you that you need "a stronger aid," or "a more powerful aid," does he mean that you need more *gain,* or that you need a higher *maximum loudness?* You don't know, and he probably doesn't either. Similarly, when you complain that your aid delivers some sounds to your ear with uncomfortable loudness, and the hearing-aid store offers to "cut down the volume," does it proceed to reduce the maximum loudness, as it should, or does it instead cut down the gain?

HIGH OR LOW?

As we have seen, there is no need to fit an aid on the basis of its frequency response. There is no need to fit it for gain, which is simply adjusted by the gain control. However, fitting for maximum loudness cannot be cast aside quite so easily.

There are good reasons for not wearing an aid whose maximum loudness is too high. On the other hand, there are good reasons for not wearing an aid whose

maximum loudness is too low. If the maximum loudness of the aid is too high for your ear, loud sounds will prove uncomfortable or even painful. Some ears are tender and have a low threshold of discomfort; others are tough and have a higher threshold.

You can, it is true, train your ear to accept somewhat louder sounds without discomfort or pain, but in the present stage of hearing research this may not be advisable. There is at least a possibility that repeated exposure to very loud sounds *may* do some harm. So long as this possibility exists, a safe rule is not to wear an aid whose maximum loudness is too high for comfort.

But an aid with maximum loudness which is too low will unnecessarily restrict the "dynamic range" of the sounds which reach your ear. The average or "normal" ear has a very wide audible range. It can hear sounds of 10 decibles or so, and it can accept sounds up to 120 decibles or so without discomfort. The hard-of-hearing ear, in contrast, always has a much more restricted dynamic range, since hearing of soft sounds is lost and tolerance for loud sounds is not increased. It is obviously undesirable to restrict this range still further by wearing an aid with a lower maximum loudness than comfort permits.

Beyond this, sounds are distorted when the inherent loudness-limiting action of the aid comes into play. The lower the maximum loudness the more often the aid will be overloaded by loud incoming sounds, with consequent distortion of these sounds. (It is possible to design an aid which minimizes distortion due to overloading, through the use of a technque known as "compression amplification." At least one company has marketed such an aid, and according to trade sources several companies are at work on new models which will embody such a feature.)

Finally, the maximum loudness which an aid will deliver to your ear tends to drop as B-battery voltage drops. Thus an aid which is adequate with fresh batteries is likely to fall to too low a maximum loudness after a week's use.

The maximum loudness of various aids can be adjusted in various ways. With some models the power output tube must be changed; with others a B-battery of different voltage is installed, or separate models with different maximum loudness levels may be available. One maker provides users with three different "pain pads" which are inserted between the case of the aid and the cord to the earphone, so that the user can select the maximum loudness himself. CU strongly recommends to other manufacturers either the same arrangement, or some other arrangement enabling the user to adjust maximum loudness himself from time to time, instead of having to bring his aid to a service station.

OTHER REQUIREMENTS OF A GOOD AID

In addition to such performance factors as frequency response, gain, and maximum loudness, there are simple physical requirements and convenience features of more or less importance. Men and women who wear hearing aids want them small and light in weight. Size and weight, in turn, are related to maximum loudness and to price—and price is a separate story by itself. On the two pages which follow CU takes a look at the economics of the hearing aid industry and notes some pitfalls to avoid.

AIDS COSTING $20 TO BUILD COST UP TO $200 TO BUY

As an example of some basic principles of hearing-aid economics, let's take the strange case of the *Accuratone.* It's a story which most strikingly illustrates, among other things, the need for impartial consumer testing.

Several years ago the Telex Corporation introduced a new model, the $189 *Telex* 97. It was a good aid, but in the hearing-aid industry as in women's clothes, automobiles, and many other lines, a new model can't be allowed to last too long. So the *Telex* 97 was superseded by newer *Telex* models.

But the $189 *Telex* 97 was not, it seems, discontinued. A *Telex* aid, which careful examination shows to be essentially the same as the 97 model, is currently being sold as the *Accuratone*, and at a price of only $79.

Some *Telex* advertisements feature the $79 *Accuratone;* but when a CU shopper went to buy one, the local agency assured her that it was a very low-powered aid, not likely to give satisfaction, and recommended instead a new $200 model. When the shopper insisted, she was sold the cheaper aid, with the assurance that she could trade it in on the $200 model and get her full $79 as a trade-in allowance.

Back in CU laboratories the *Accuratone* was checked and the salesman's statement proved true. It *was* a very low-powered aid, not likely to prove satisfactory, and almost certain to be traded in by the unwary consumer for the $200 model. Examination of the interior circuits showed why.

As compared to the $189 *Telex* 97, the $79 *Accuratone* has not been cheapened at all. Rather, it has two extra components—two resistors which effectively cut down the aid's performance!

Fortunately, it is relatively easy for a radio repair man to disconnect one of the two added resistors and by-pass the other (see illustration, page 393), after which the *Accuratone* becomes a good hearing aid, as the *Telex* 97 was before it.

To understand the why and wherefore of this and similar subterfuges, let's take a look at the history of the hearing-aid industry.

The old-fashioned ear trumpet was followed, at the turn of the century, by the first electrical "carbon aids," based on the carbon microphone and receiver and lacking vacuum tubes. Carbon aids are no longer being manufactured, though a few are still in use. "Electronic" or vacuum-tube aids became theoretically feasible at least as early as 1920, when the use of vacuum tubes as amplifiers was widely introduced in radio receivers. The first vacuum-tube hearing aids, indeed, were simply small radio amplifiers, using radio tubes and other components, and much too large to wear. Many years elapsed before anybody got around to applying well-known scientific principles in order to produce the first *wearable* vacuum-tube aid, in the 1930s.

These first aids had few advantages over the best carbon-type aids. But they gradually improved, and their popularity increased by leaps and bounds with the appearance of the Sonotone Corporation upon the scene after 1930.

The Sonotone approach was simple. Comparatively few people were wearing hearing aids, the firm apparently concluded, because prices were not high enough, and therefore did not allow adequate margins for intensive selling. Sonotone, accordingly, marketed aids which were very expensive—for that period. It allowed large sums for selling and for advertising expenses. It opened dressy offices in scores of cities, staffed with "experts" or "consultants." Other companies followed suit, so that by 1942 an unpublished OPA study could say:

"The hearing aid industry is characterized by a distribution cost which exceeds five or six times the actual cost of manufacture. A typical aid costs from $15 to $20 to manufacture and sells at retail from $150 to $185. . . ."

The industry frankly told OPA, and has insisted in other contexts, that its very high prices were necessary because hearing aids have to be intensively sold, and high selling costs were accordingly warranted.

Battery sales also were brought within the scope of the high-price philosophy. Batteries are necessarily a costly item. Over a period of five years they are likely to add up to several times the initial cost of the hearing aid. The hearing-aid manufacturers, or many of them, managed to capitalize on this continuing drain on the consumer's purse by designing the aids in such a way that only the maker's own batteries would fit the aids. Regardless of price, the consumer had to buy the batteries put out by the company which sold him his aid. The companies during this period had little incentive, of course, to devise aids which were more economical of battery power.

The battery racket, it is pleasant to report, was cleaned up by the War Production Board in World War II. As a conservation measure, all hearing-aid companies were ordered to standardize the battery requirements of their aids, adapters were made available, and the number of hearing-aid battery types was reduced from more than a hundred to a handful—with a resultant enormous saving to consumers. (Some very new models, scheduled for production this fall, appear to be reviving the old "custom-built" battery racket.)

After some years of the high-price, high-sales-cost philosophy pioneered by Sonotone and adopted by others, many came to believe that the whole theory was topsy-turvy. In their view, hearing aids weren't high-priced because they were hard to sell; they were hard to sell because they were priced so high. In 1943 this issue was really decided, by the appearance on the market of the first *Zenith* aid—priced at $40.

ZENITH'S REVOLUTION

According to the Zenith Radio Corporation, this introduction of the first low-cost wearable vacuum-tube hearing aid resulted from the fact that Commander Eugene F. McDonald, Jr., president of the company, was himself hard-of-hearing, and was outraged when he opened his own aid and compared its high list price

with the obviously low cost of components and manufacture. His company concluded that "there is not a hearing aid on the market . . . regardless of what it is selling for, that represents more in prime costs than $20. . . ." Commander McDonald resolved to market a low-priced aid.

No doubt other factors were also involved. Zenith's radio manufacturing had been chopped off short by wartime civilian production restrictions. Hearing aids were one of the few alternatives open to radio companies which offered postwar as well as wartime possibilities. In any event the new aid was brought forth.

Despite its somewhat low gain, it outsold during its first year on the market all other aids put together. According to the company, "78% of the purchasers of the *Zenith* hearing aid never owned hearing aids before, because they couldn't afford them."

Zenith's competition was met by its competitors in several ways. Charges of unfair competition were filed, for example, with the Department of Justice and the Federal Trade Commission. According to one story, Zenith met these charges by laying on the table its detailed cost sheets, and challenging other manufacturers to do likewise. That ended the unfair competition case.

But the chief weapon against the *Zenith* was the old sales talk about "personalized fitting" and "selective amplification." If you had to wear a cheap bargain aid, this argument went, the *Zenith* might be all right; but if you wanted an aid fitted to your needs as glasses are ground to fit your eyes, you'd have to pay $150 and up. That argument, as we have seen, is wholly fallacious.

Actually, the *Zenith's* cost of production was little if any lower than that of most higher-priced aids. The sales argument worked, nevertheless. Despite or possibly *because* of Zenith's very large sales, the other companies' business also increased.

But by now, CU believes, the hearing aid industry is due for more change. Small, light, economical hearing aids can and should be produced for low-price sales. There is no sound reason in technology or economics why this cannot be done. And there is every reason for doing it. For even with Zenith's "revolution," the hearing-aid industry has failed to reach with low-priced, efficient aids an estimated 2,000,000 people who need them and could benefit from them. It is a serious shortcoming for an industry which is selling, as its ads are fond of proclaiming, something more than merchandise. To a man or woman who needs one, a hearing aid can make the difference between leading a normal life and being cut off from friends and associates.

If you are influenced by the advertisements, the first thing you will probably do when you suspect you may need a hearing aid is to visit the nearest *Acousticon* (or *Maico*, or *Sonotone*, or *Telex*) sales room. What happens next depends, of course, upon the particular dealer to whose store you go. Some dealers, no doubt, will follow the policy laid down by one large company in its confidential instructions to hearing aid salesmen:

"It is important that you understand clearly the psychology of the hard-of-hearing person who is a non-user. From all outward signs they may appear to be irritable, impatient, and even short-tempered and suspicious. Psychologically, however, they are handicapped by their hearing loss and are therefore more timid and can be dominated and forced into decisions because of the timidity that is generated by their handicap. . . .

"Some hearing-aid companies . . . have taken conscienceless advantage of these psychological facts. . . . However, in all good conscience . . . there is no sound reason why you should not at least dominate him to the extent of getting a commitment that if you can help him he will do something to help himself."

To be sure, not all hearing aid stores will take this approach. But even so, their resources for assisting you are likely to be limited. What you need is disinterested professional guidance. Accordingly, CU suggests that a visit to a hearing-aid store be the last step rather than the first, or that you avoid it altogether and buy your hearing aid by mail after obtaining professional guidance.

AUDIOLOGY CLINICS

The ideal first step for any hard-of-hearing person is to seek the services of a good "audiology clinic." Such clinics—not to be confused with the more limited "hearing clinics" operated by various hearing societies, and discussed more fully below—are generally associated with large hospitals, medical schools or university speech and hearing departments. They offer more or less complete service to the hard-of-hearing, including medical and psychological examinations, hearing-aid selection services, training in the use of a hearing aid, in

speech reading, in voice control, etc. Because they bring together all of these services in one professionally oriented center, their standards are likely to be high. Some outstanding audiology clinics are listed on page 231.

Not everyone who needs help can get the services of such a clinic, unfortunately. There are far too few audiology clinics, and even the best of them are understaffed to meet the demands for their services. Even if there is one in your locality, or you can afford the time and money to visit one at a distance, you may find that it is booked far ahead.

Few would argue that every hard-of-hearing person is not entitled to the services of a good audiology clinic. But good clinics will become more generally available only when the demand for them becomes insistent enough. Pressure on the state legislatures, and on hospital boards and others concerned with medical policy, can result in the establishment of more good clinics and in more adequate financial support for those which exist.

HEARING CLINICS

Somewhat more modest in the services they offer are "hearing clinics," most of them established by leagues for the hard of hearing. These vary from small local offices staffed by only a few part-time or volunteer workers, on up to large, well-staffed organizations which offer a considerable range of services. Few of them have medical ear specialists (otologists) on their staffs.

Despite any limitations, however, even the smallest hearing clinic offers one very important service—impartial advice on the problems which confront you, often by people who are hard-of-hearing themselves. Almost all of them will also offer you an opportunity to become acquainted with hearing aids of various brands and models, in one place, without a hearing-aid salesman at your elbow. If you don't have access to a full-fledged audiology clinic of the type described above, a hearing clinic is certainly your next best alternative.

CU'S CONSULTANTS ADVISE ON THE STEPS TO TAKE BEFORE YOU BUY AN AID, AND DISCUSS SIZE, PRICE, BATTERY COSTS, AND SERVICE

A 1950 directory of both audiology clinics and hearing clinics, with a checklist of services available at each, can be procured by sending a postcard to The Audiology Foundation, 1104 S. Wabash Avenue, Chicago 5, Illinois.

The Veterans' Administration in New York City and the Army Audiology and Speech Correction Center, Walter Reed Hospital, in Washington, D.C., maintain excellent audiology clinics for veterans with service-connected hearing disability. The service is free, and hearing aids and batteries are also supplied without charge. Unfortunately, similar service is not available in all parts of the country (though free aids and batteries are).

MEDICAL EXAMINATIONS

If you go to an audiology clinic, a careful examination by an otologist will be one of the first steps in the clinical routine.

If you don't go to an audiology clinic, by all means have an examination made by an otologist in private practice.

Not all otologists specialize in hearing-aid problems. A local hearing clinic, or your own physician, or a nearby hospital, will no doubt be able to give you the name of an otologist who does. The American Speech and Hearing Association has in preparation, a plan for certifying experts competent to advise on hearing problems, but as yet this certification procedure is not in operation.

The otologist will first of all ascertain whether your hearing difficulty is of a type which can be cured. He will make sure, for example, that it is not caused by a plug of wax in the ear canal, and that there is no infection of the ear requiring immediate treatment.

He will probably test your hearing with an audiometer to determine the approximate severity of the hearing loss in each ear, and the type of loss. On the basis of tests he will be able to advise whether you are one of the relatively few people who should wear a "bone-conduction" aid, or whether you should wear the usual "air-conduction" type. Bone conduction has the obvious advantage that you wear the earphone behind the ear rather than in the ear where it is more conspicuous. But the great majority of users hear better with air conduction.

Finally, the otologist will advise you in which ear to wear your aid. The general rule is that people with mild impairment wear an aid in the poorer ear,

in order to maintain as much two-ear hearing as possible, while people with more severe impairment wear an aid in the better ear to get satisfactory results. But there are exceptions to this rule which an otologist can identify.

SOME OUTSTANDING AUDIOLOGY CLINICS

Presbyterian Hospital, Section for Audiology and Phonology, New York, N.Y.
Syracuse University, Conservation of Hearing Center, Syracuse, N.Y.
Johns Hopkins University and Hospital, Hearing and Speech Center, Baltimore, Md.
Medical School of Pittsburgh, Department of Audiology, Eye and Ear Hospital, Pittsburgh, Pa.
Cleveland Hearing and Speech Center, Cleveland, Ohio.
Ohio State University, Speech and Hearing Clinic, Columbus, Ohio.
Northwestern University, School of Speech, Evanston, Ill.
University of Illinois, Speech and Hearing Rehabilitation Clinic, Chicago, Ill.
Illinois Eye and Ear Infirmary, Speech and Hearing Rehabilitation Clinic, Chicago, Ill.
Central Institute for the Deaf, St. Louis, Mo.
State University of Iowa, Speech Clinic and Dept. of Oral Surgery and Otolaryngology, Iowa City, Iowa.
University of Southern California, Speech and Hearing Clinic, Los Angeles, Calif.

THE EAR INSERT

Once the otological examination is completed, the next step is usually to have an ear insert made (unless you are advised to use bone conduction). Ear inserts are molded to the conformation of your ear to provide a tight fit and at the same time to be comfortable. A poorly fitted ear insert may permit some sound from the earphone to leak back to the microphone, and this in turn may cause the hearing aid to squeal when the gain control is turned up. Your otologist may make a mold of your ear and have the insert made for you, or else tell you where you can have one made. Also, he will no doubt clean out the ear canal and cut away any hairs, so that your ear will not be injured in the course of making the mold. Ear inserts usually cost $5 or $10, though some companies charge $15. A few hearing-aid companies include the cost of the ear insert in the cost of the aid, but CU advises that you have your ear insert made *before* you decide which hearing aid you are going to buy. The same ear insert can be worn with any aid.

CU's consultants advise against a type of insert currently being promoted as less conspicuous than regular ear inserts—namely, ear inserts with a plastic tube leading from the ear to the earphone, which is tucked way out of sight. Such devices reduce the efficiency of the hearing aid.

TRYING OUT AIDS

Once these preliminaries have been completed, you can, if you wish, safely buy by mail an aid such as the *Sears* or *Zenith*, and give it a home trial—returning it if you are not satisfied.

You will probably prefer, however, to get acquainted with several aids before selecting a model. Here CU's consultants offer several suggestions. The ideal "tryout" is to take several aids home with you, and try them out for several days.

Hearing-aid dealers who offer comparative home tests of several brands are, unfortunately, exceedingly few and far between. Many manufacturers refuse to sell to a dealer who also handles another brand of hearing aid; this insistence on "exclusive" contracts is currently up for consideration before the Federal Trade Commission.

In general, therefore, the only place where you can try out a number of different brands, with disinterested advice rather than high-pressure salesmanship, is a clinic. Trying out aids in succession at different stores is not likely to be a rewarding experience.

Don't expect, when trying out several aids, even in a good clinic, to find one model which somehow miraculously restores normal hearing. And don't place too much emphasis on the minor differences you will hear among aids. Several factors combine to make personal judgments somewhat unreliable.

The one you like best today may not be your favorite tomorrow. The aid that sounds "pleasantest" may not give any better intelligibility than the others. One

aid may seem best in a quiet testing room, another on a noisy street. You may very well not like the first aid you try; to be fair to it, try it again after you have tried out two or three others. The differences in tone among supposedly identical samples of a particular model may be as great as the differences among different models. Fortunately, as CU pointed out last month, these differences are in general very small, so that no matter how unreliable your judgment may be, it isn't likely to lead you far astray.

HOW ABOUT MAXIMUM LOUDNESS?

There is one aspect of hearing aid "fitting" which is important—namely, selection of a hearing aid with an appropriate degree of "maximum loudness."

Consumer Reports for September 1950 discussed the concept of maximum loudness, and what maximum loudness is desirable for persons with different hearing losses.

However, there remains to be considered this question:

Can the wearing of a hearing aid actually injure your ear, and impair or destroy whatever hearing you have left? It was primarily to seek a fuller answer to this question that the present article, originally scheduled for October 1950 Consumer Reports, was delayed until this month.

CU has searched the literature on possible injury from loud noises, or loud hearing aids, and has consulted specialists in this field.

Some kinds of alleged evidence for hearing impairment due to wearing an aid can first be dismissed. Dr. E. P. Fowler, Jr., clears away this underbrush quite effectively in "Hearing and Deafness: A Guide for Laymen," edited by Dr. Hallowell Davis. Says Dr. Fowler:

"Simply because some users of hearing aids have continued to lose hearing does not mean that the instrument is responsible. A patient may forget how deaf he really is until he takes off his hearing aid, and he may blame the instrument for what he thinks is an increase in his deafness. The progressive hearing loss of old age becomes worse whether an instrument is used or not."

Other evidence, however, cannot be so lightly dismissed. It is known, for example, that very loud sounds may cause temporary hearing fatigue even in normal ears; and there is always the possibility that repeated or continued exposure to such sounds—including such sounds delivered by a hearing aid—may cause permanent nerve impairment.

INJURY FROM WEARING A HEARING AID

Some hard-of-hearing people have what might be called "built-in protection" against hearing (nerve) injury due to excessive loudness from a hearing aid. These are the patients who have "conduction deafness"—that is, from some defect in their physical pathway along which sounds travel to the inner ear. Such a defect acts very much like an ear plug, protecting the nerve endings against too loud sounds. Those with conduction deafness can therefore safely wear as loud an aid as they can tolerate. And, as noted in Consumer Reports, September 1950, they will get improved performance if they do wear a "high-maximum loudness" aid provided it does not produce pain on loud sounds.

The same is generally true of those who suffer from "mixed deafness"—that is, from a combination of the conduction deafness described above and nerve deafness. Even with only slight conduction loss (as shown by an audiogram), protection is likely to be complete. As Dr. Fowler points out:

"Thirty decibels of conductive hearing loss . . . represents a protection nearly as great as that offered by the best ear plugs. Thirty decibels of protection will reduce the maximum output of the most powerful instrument below any reasonable danger limit."

One reason why you should consult an otologist before you buy a hearing aid is to determine whether your hearing loss is of the type which offers this "built-in-protection."

This leaves to be considered those people who suffer from "pure nerve deafness" and those with mixed deafness in which the amount of conduction loss is not great enough to provide adequate protection. Even within this group there are some who should wear the loudest aid they can tolerate without discomfort. These are the people whose hearing loss is so severe that even a "high maximum-loudness aid" will not fully overcome it. Such people are totally or almost totally deaf without an aid. To counsel them against the only aids which will really assist them may constitute "conservative cruelty."

There remain to be considered those with slight or moderate nerve deafness. For such people there *may be* a risk of permanent injury from wearing "too loud" a hearing aid. Accordingly, a safe rule for them is to wear the aid with the lowest maximum loudness which will enable them to understand speech tolerably well. Note that turning down the gain control on a high-maximum-loudness aid is *not* the same as wearing a low-maximum-loudness aid, for even though the gain control is turned down, very loud sounds will still come through too loud.

A competent otologist, not a hearing aid salesman, can best advise you into which group you fall, and how loud an aid you can safely wear.

The above views, it should be stressed, are based on the best evidence currently available—and that evidence is woefully slim. The lack of a large body of sound experimental work in this field constitutes a serious gap in contemporary medical and physiological research. Organizations for the hard of hearing and others concerned with hearing problems, should band together to demand that both public and private funds be allocated for a further exploration of this and other problems.

TESTING FOR MAXIMUM LOUDNESS

Regardless of the kind and degree of your hearing loss, there is a straightforward test for maximum loudness which you can perform for yourself, and which you should perform before buying an aid. Just put on the aid, turn down the gain control, and have someone speak into the microphone in a good loud voice. As he talks turn the gain control up gradually. If the sound you hear becomes painful to your ear at any setting of the gain control that aid has too high a maximum loudness.

Usually (but not universally), maximum loudness is proportionate to B-battery voltage. Thus an aid with a 30-volt B-battery generally has high maximum loudness; 22½ volts, medium; 15 volts, low. Similarly, a fresh B-battery permits a higher maximum loudness than an already used one.

CU'S LISTING

CU's listing of hearing aids is based on the opinion of CU's consultants, who have had many years of clinical experience with hearing aids. The division of the aids into three groups with respect to maximum loudness is also based on their clinical experience. It is their opinion that, in addition to maximum loudness, the buyer should consider such factors as price, battery cost, durability, size, weight, and convenience.

The listings are based solely on air-conduction performance. If you are one of the relatively few people who should use bone conduction, you will almost certainly need an aid with high maximum loudness. *Sonotone* is a leading exponent of bone conduction, and its salesmen are likely to try to sell a bone-conduction aid. If you require a bone conduction receiver, however, any dealer can provide one for the aid you select.

Some models—notably the *Paravox* XTS and YC are not included in CU's list because they have crystal rather than magnetic receivers; in the opinion of CU's consultants, crystal receivers are inferior because of their "peaked" response and poor durability. A few models have been excluded because of general inferiority in clinical experience. However, some models are not on the list because CU's consultants have not had sufficient experience with them to give them a listing. Hence absence of an aid from the list does not necessarily mean that the aid is not worth consideration.

In the listings, defects which CU's consultants noted in each model are set forth, particularly defects which may affect the durability of the aid. In all of the aids listed, earphones and earphone cords are the plug-in type, and can be replaced by the user; tubes are plug-in but must generally be replaced by the dealer. Some models have plug-in microphones and gain controls, which make it easier for the serviceman to make repairs or replacements.

A few of the models listed lack tone controls; this is a handicap, but it may not be serious enough to warrant rejection of an otherwise good instrument, in the opinion of CU's consultants.

PRICES AND COSTS

The hearing aids listed in this report range in list price from $75 for the *Zenith* and $79 (including ear insert) for the *Telex Accuratone* to over $200 for the *Telex* Model 200. As CU pointed out last month, this wide range of prices is not,

in the main, due to any difference in the hearing aids themselves. Rather it is due largely to differences in distribution.

However, the aid with the lowest list price is not necessarily a Best Buy, for the original cost of an aid is only a portion of its total cost in use over a period of time.

To make possible a cost comparison in terms of the actual costs of using an aid, the listing includes estimated five-year battery costs for each aid. These estimates are relative only. They are based on the list prices and claimed capacities of the batteries used, on typical battery drain figures for the tubes used, and on the assumption that an aid is operated for a full 16 hours every day. Hearing aid costs thus calculated, as the listings show, cover an amazing range. On the basis of the assumptions noted above, the $173 *Maico* UE has an estimated five-year battery cost of about $250, while the comparable figure for the $70 *Otarion* E–4 would run in the neighborhood of $500. The most economical of the aids, on this basis, is the *Paravox* VHMG, with a list price of $100 and a five-year battery cost estimated at $200. The most expensive is the *Microtone* T6–45, a $199 aid with an estimated five-year battery cost of $800.

SIZE AND WEIGHT

Hearing aid users quite understandably prefer small, light instruments, and the industry has gone a long way to meet this preference. The illustrations of various tube sizes and battery sizes on page 15 show how, over the past decade or so, size and weight have been reduced. What CU describes today as a "very large" aid would have been unbelievably small not so many years ago.

For those who can use an aid with low maximum loudness, it is possible to select a small aid with a comparatively low five-year cost—the *Sears* P–15, at $94.50 plus shipping charge, with an estimated five-year battery cost of $300. None of the aids listed combines high-maximum loudness with small size; nor is there a small aid among them that combines even a medium maximum loudness with low battery cost. If you insist on a small aid from among the models listed, you must sacrifice either maximum loudness or economy or both.

In recent months a number of companies have brought out new aids which are even smaller than the aids described as "small" in these listings. Some of these new aids, moreover, appear to have high maximum loudness. Clinical experience with them is not yet sufficient to warrant detailed comment. An unfortunate feature of several of them is the use of non-standard battery sizes—a development which may leave the user at the mercy of the manufacturer in buying battery replacements, especially if battery shortages develop hereafter.

BATTERIES

Some of the aids are designed to use "mercury cell" A-batteries rather than the usual zinc cells. Also, some aids designed for the so-called "Penlite" zinc batteries are large enough to accommodate the new mercury cells. The mercury batteries are more expensive per battery, but the batteries have a much longer life and probably a somewhat lower cost per hour.

Comparable to mercury cells in economy and capacity are the rather new "air cell" batteries, which can be used on hearing aids designed for the so-called "double Penlite" zinc A-batteries. If you have an aid of this type, by all means switch over to the *Eveready* "air cells." These can be used for about three times as long as similar zinc cells before a new one must be inserted. They eliminate the necessity for "rotating" the A-batteries, and their use may reduce A-battery costs. A shortcoming of the air cells is their relative vulnerability to cold; hence it is advisable to go back to the usual zinc A-batteries if you wear your aid outdoors in winter. If you store a spare air-cell battery in the refrigerator—a good idea—let it warm up to room temperature before using it.

In some aids, the space allowed for B-batteries is not large enough to allow for the normal variation in B-battery size. In these cases, it may be necessary to take your aid with you when buying new batteries.

The use of even a good present-day tester is not recommended with the new, small B-batteries since the very act of testing, even for short periods will significantly shorten the life of the battery.

Rotating your zinc A-batteries (not mercury or air cells and not B-batteries) on a one-day's-use, six-days'-rest basis will enable you to get many more hours' use out of each battery. Keeping zinc batteries dry and cool will also lengthen their lives. Refrigeration during storage helps.

CU's battery cost calculations are based on list price of batteries. Many stores sell them at a discount.

SERVICE

One argument often given for buying an expensive aid rather than a cheap one, and for buying from a local store rather than by mail, is the ready availability of service. *Sonotone*, for instance, is said to have over 360 dealers.

In general you are likely to have to pay for any service you get. In some cases you pay far more than the service is worth. Moreover mail-order service also has its advantages—especially since you can buy two *Zenith* or *Sears* aids for less than the price of one expensive aid, and keep the second in reserve for use when the first must be repaired.

As you get to know your aid you will gradually learn for yourself how to tell whether you need a new A-battery, a new B-battery, a new cord, or a repair job. An excellent checklist of things which go wrong with a hearing aid, with simple tests for determining what is wrong, is given in "Hearing and Deafness," edited by Dr. Hallowell Davis.

AFTER YOU'VE BOUGHT . . .

Even after you've made your purchase and have begun wearing your hearing aid, there's the problem of learning to use it most effectively.

Many audiology and hearing clinics offer courses in "auditory rehabilitation" where you can learn to make the most of your hearing with or without an aid, and where you can get help in making a psychological adjustment. There are also "short courses" for those whose time or money is limited. Some hearing-aid dealers also offer "follow-up" service, and such service is frequently cited as a justification for the high cost of many aids. CU believes that such service is, in most situations, a function more properly performed by non-commercial clinics, especially since good psychological adjustment is important in enabling the novice to make the best use of his aid.

You may also want to consider courses in speech reading (often called lip reading). Contrary to popular belief, speech reading is not an alternative to a hearing aid; on the contrary many people with serious hearing impairment can follow conversations very well by using the two in combination, though neither by itself is completely satisfactory for them.

Finally, many clinics offer voice training and vocational guidance, operate job-placement services, and arrange special assistance for deaf and hard-of-hearing children and classes for their parents.

EXHIBIT B. REPRINT OF AN ARTICLE ORIGINALLY PUBLISHED IN THE JANUARY 1966 ISSUE OF CONSUMER REPORTS

HEARING AIDS

The models of hearing aids rated in this report were still available at the time of publication of this reprint. In time, manufacturers will replace some of these models with new ones, not rated here. In view of this, and in view of the fact that it was possible to include only a small percentage of the total number of aids available, the absence of a particular brand or model from these Ratings should not automatically exclude it from consideration.

Why do so few of the estimated 6 to 15 million Americans with significant hearing loss use hearing aids? Eleanor Roosevelt, herself a hearing aid user, pointed to two reasons: "People who need a hearing aid are sometimes not just awed by the cost, which is very high, but would like not to acknowledge that they really do not hear as clearly as they once did."

Even if someone overcomes his shyness about acknowledging a hearing loss, however, and decides to spend whatever it takes to try to overcome his handicap, he still may have no clear idea how to proceed. Some 300 to 400 different hearing aids are presently offered for sale, and all sorts of professionals an quasi-professionals, ranging from physicians certified as ear specialists to high-pressure salesmen, are ready to advise the hard-of-hearing in their choice. Nor is the confusion eased by accounts of new operations that cure deafness or by the mystique of "fitting" procedures perpetuated by many hearing aid dealers.

Actually, the problem of getting a hearing aid needn't be all that worrisome.

Moreover, not all aids are exorbitantly expensive. CU tested 40 representative models of the kind suitable for most people who can use an aid at all. Even though the few-sales, high-price philosophy of hearing aid retailing has kept the prices of most of these models in the $250-to-$350 range, CU did find severel acceptable models well below these prices; and two of them, likely to be suitable for many wearers, are Best Buys at well below $100.

With a few exceptions, which gave less of a boost to the sound level than they promised, the tested aids did pretty well at providing what their manufacturers' specifications said they would in the way of amplifying sound. Some, though, did better in certain respects than others, and the details of these differences are reflected in the Rating table on pages 245–247.

WHERE TO START

Whether one of these aids—or indeed any hearing aid—will help to overcome a specific hearing problem is not a simple question to answer. There are many diverse medical problems that may cause hearing loss. The outer ear canal may simply be blocked by wax, or by a growth or infection. Or the hearing may have been seriously damaged by a sharp blow to the head or by very loud sounds.

Hereditary hearing defects may be present at birth or show up—sometimes with startling rapidity—much later in life. Some illnesses of the mother early in pregnancy, such as German measles and some forms of flu, can damage a child's hearing. Otosclerosis, Ménière's disease, certain middle-ear infections, enlarged adenoids in children, and some other diseases may cause temporary or permanent hearing loss. Also, certain drugs damage the hearing nerves in some people, so that physicians must weigh the possibility of hearing damage against the possible consequence of not using these drugs.

Another condition, alone or superimposed on other causes of deafness, is presbycusis, the deterioration of the hearing nerves that comes on most people surreptitiously with age, restricting significantly the hearing of 30% to 50% of those over the age of 65 in this country.

This abundance of medical reasons for hearing loss makes it clear why, if you think you need a hearing aid, your first consultation should be with a physician. He may be your own family doctor. If the diagnosis is something as simple as wax in the ear, he will usually be able to handle the problem himself. If serious diagnostic problems arise, he may refer you to an otologist or otolaryngologist, or possibly send you to a hearing clinic that has full diagnostic services as well as staff and facilities for measuring hearing loss and fitting hearing aids. Such clinics may be found at a number of medical schools and teaching hospitals. If you can become a patient at one of them, your total cost for professional services will probably be less than private practitioners would charge. Next best is a diagnostic clinic that doesn't provide the addiitonal hearing aid services. But clinics may take more time and patience, for you must go through their required routines.

Your trouble may prove to be something amenable to medical or surgical treatment. In fact, most patients with what is called conductive hearing loss—that caused by failure of sound waves to get through the ear canal and middle ear—can be helped to the point where they will not need a hearing aid. An example of such treatment is the stapes-bone operation, which is being performed with success on many people with serious hearing loss caused by the fact that bony growth has immobilized the stapes bone in the middle ear. Surgeons have now mastered the delicate art of cutting the stapes free, or of replacing it with a small plastic part that will transmit sound vibrations to the inner ear. But only a minority of the hard-of-hearing have conductive loss.

If surgical or medical treatment will not overcome your hearing problem the otologist can tell you whether you should explore the possibility of wearing a hearing aid. Otologists differ in the extent to which they carry the examination further. Many confine themselves to a detailed study of the medical aspects of the impairment and a rough determination of the seriousness of the loss. But a more precise pinpointing of the degree of the hearing loss ought to precede the prescribing of a hearing aid, and for it the otologist may advise you to go to an audiologist, who specializes in measuring hearing characteristics.

FINDING YOUR AUDIOLOGIST

If you are already the patient of an all-services hearing clinic the next step is easy. The audiologist's tests will be supervised by the clinic's professional staff. But finding a competent private audiologist is not easy. Fully trained audiologists are in short supply, and a lot of poorly trained practitioners are offering to do the audiologist's job for you. Your problem is to tell the difference.

For example, nearly every seller of hearing aids provides measuring services (something like 80% of hearing aids are now sold on no other advice than a dealer's). Ownership of audiometric equipment is practically universal; so is the maintenance of a "white-coat" atmosphere with "testing" or "consulting" rooms. Thus, though only a qualified physician is competent to ascertain the medical causes of hearing loss, nearly all dealers play to the hilt the role of the professional who can diagnose your trouble and specify the right hearing aid for you.

Except in Oregon, where there is a law requiring a minimal state examination and certification, no one makes the dealer give any indication of his competence simply in *measuring* hearing. Hence, you have no way of distinguishing the dealers who may be skilled audiologists from those who are not. But even if every dealer were skilled, CU believes he should be disqualified as your audiologist because of the conflict of interest created by the strong economic pressure on him to sell the models he handles.

Audiologists other than dealers also may vary markedly in training and skill, but here there is one guide you can go by. The American Speech and Hearing Association will issue a Certificate of Clinical Competence to any audiologist who can meet its fairly strict educational, clinical-training, and ethical standards (which include a ban on doing clinical work for hearing aid dealers). Refusing to use any but an ASHA-listed audiologist might, of course, make you by-pass a competent man who hasn't bothered to seek certification, but you have no way to tell him from a half-trained, self-styled "professional."

The ASHA publishes a list of Certified Audiologists in its annual Directory. (In the 1965 Directory this list still appears under the now-obsolete heading of Advanced Hearing certification.) It can easily be cross-checked against a geographical listing of ASHA members elsewhere in the Directory to provide a list of Certified Audiologists in your area. If the ASHA Directory is not available at your library, ask for it at your local society for the hard-of-hearing, the speech and hearing clinic of a nearby university or college, or an ear, nose, and throat clinic of a local hospital. Any one of these organizations, by the way, may have its own audiology service competently guided by an otologist or a Certified Audiologist.

THE TESTS AND WHAT THEY MEAN

The audiology examination determines not only how well you understand speech but also what the specific dimensions of your hearing loss are. From his tests, the audiologist can tell you what your chances are for success with a hearing aid and what other steps, if any, might still be necessary to help you compensate for hearing loss.

The two dimensions of hearing that bear most directly on the choice of a hearing aid are the "threshold of hearing," which defines the softest sound the person can hear, and the "threshold of discomfort," the loudest sound the person can hear without distress (often associated with a tickling sensation in the ear). These two thresholds are, respectively, the "bottom" and "top" of a person's hearing. The range of comfortable loudness between these limits is the "dynamic range." A little above the threshold of discomfort is the "threshold of pain." Sounds at or higher than this threshold make the ears hurt.

All the thresholds are specified in decibels (dB), the number of decibels being the ratio of the specified sound intensity to the intensity of the weakest sound the average normal ear can hear. If a person's threshold of hearing is elevated 40 dB, sound must be 40 dB more intense than the normal hearing level barely to register in his ear; the audiologist calls this a "40-dB Hearing Level." What happens to the threshold of discomfort when hearing is impaired? With a conductive loss, the "top" of the hearing range may simply rise a bit so that discomfort or pain comes only with a louder sound than would distress a normal ear. But in sensorineural hearing loss (that traced to damage in the inner ear, the hearing nerve, or the brain) the threshold of discomfort may actually fall. The sufferer is then made uncomfortable by a *lower* level of sound than is a person with normal hearing (a condition called "recruitment"). When the top and

bottom of the hearing range are thus brought much closer together than normal, the person may often ask others to speak up and then, when they raise their voices moderately, complain that they are shouting. With the dynamic hearing range reduced by recruitment, the hearing aid has a narrower area to aim at in producing a sound neither too soft nor too loud for the ear.

The table below classifies the severity of hearing loss according to the decibel displacement of the threshold of hearing, and it gives a rough idea of just how badly off the person will be in each class of loss. (There may be a significant departure from these figures in the case of certain sensorineural losses.)

Threshold shift (dr)	Characterization	Effect
0 to 15 (in the worse ear)	Normal	No difficulties.
15 to 30 (in the better ear)	Near normal	Difficulty with faint speech.
30 to 45 (in the better ear)	Mild impairment	Difficulty with normal speech.
45 to 60 (in the better ear)	Serious impairment	Difficulty with loud speech.
60 yo 90 (in the better ear)	Severe impairment	Can hear only amplified speech.
90 or more (in the better ear)	Profound impairment	Cannot understand even amplified speech.

The threshold of hearing may vary over the range of tones from low bass to high treble. In severe sensorineural loss there is often a nearly total deafness for treble sounds. But there are many other possible variations—"holes" (relatively low sensitivity) in narrow sections of the tonal spectrum, for example.

This variability is at the base of one of the most controversial questions in hearing aid technology; should the aid try to give the user a tonally even sound by amplifying most strongly those tones he hears most poorly? Why not, for instance, try to fill in those "holes" by differential amplification—i.e., selective emphasis—of the particular sections of the tonal spectrum?

The idea seems plausible. And most hearing aid manufacturers have brought out a variety of models emphasizing different parts of the tonal range. Many hearing aid dealers, in turn, will go to great lengths trying to find the particular aid that most nearly offsets the buyer's hearing variation.

But the best research so far done on this question indicates that differential amplification does not, in most cases of hearing loss, bring the full benefits that it seems to promise. In a comprehensive study at Harvard in 1945, people with a wide variety of loss characteristics understood speech just about as well with a hearing aid having either a "flat" (unemphasized) characteristic or a moderate emphasis in the treble as they did with any of a great variety of aids with different emphases. There are good reasons whiy this might be so. Matching a hearing aid to a person's threshold of hearing may be ineffective because his hearing may be quite different when he is listening to louder sounds. Furthermore, the ear and the hearing aid both tend to "adjust" all tones to pretty much the same loudness when the sound gets very loud and approaches the threshold of discomfort. Finally, very strong emphasis on the treble, to offset the heavy treble loss in many sensorineural cases, often fails because the nerves that normally respond to treble tones are so far gone that no vibration, however strong, will register.

On the other hand, there are exceptional cases of deafness where differential amplification is needed. If you have placed yourself in the hands of a competent audiologist, follow his advice in this matter.

Whatever the approach to frequency compensation, there are difficulties in the "fitting" itself. Dealers often use a "Hear better now?" trial-and-error process. The aid is selected or adjusted according to the user's report as to what sounds "better" or "worse." This method is extremely crude. A hard-of-hearing person is not accustomed to discriminating sharply among the various sounds of speech. His brain, in a sense, must relearn the handling of speech. At this early stage, only an audiologist can determine how much the aid will improve ability to understand speech.

When the audiologist's diagnostic tests are finished, he will prescribe a hearing aid for you. Some audiologists specify several models from which you can choose. Others give you specifications of what the hearing aid should accomplish and leave it to the dealer you select to match a model to your requirements. Here is where CU's Ratings can be of the greatest help to you.

WHAT CU TESTED

In keeping with the evidence on differential amplification, we tested only hearing aids that claim either a relatively even handling of tones over the whole frequency range, or a mild treble boost. We also confined the test models to the air conduction kind, which puts the strengthened sound directly into your ear canal. The much-less-used bone conduction type feeds the sound, as vibrations, into the mastoid, usually at a point behind the ear whence the vibrations travel to the inner ear. This is much less efficient than air conduction at getting the vibrations to the inner ear. It is rarely used unless some medical condition, such as a chronic infection, makes it undesirable to put an earpiece into the ear canal.

* * * * * * *

If the audiologist prescribes an aid of the kind tested, there will be three specifications that you can compare with columns in CU's Ratings table: the gain (amplification), the maximum output, and the range of frequency response.

The first two relate to the threshold of hearing and the threshold of discomfort, which he will have measured. If the loss of hearing is mild, an aid with relatively low gain will be prescribed. The desirable relationship between the actual gain in decibels and the user's Hearing Level measured in decibels may, however, vary greatly from person to person depending on the proportion and type of sensorineural involvement in his hearing impairment and the extent of his recruitment. But the shopper with a prescription need not worry about this, since the audiologist will already have taken these and other factors into account.

In listing the aids for gain, CU used two methods, one specified by a standard of the Hearing Aid Industry Conference and one developed by CU. The results of both are given in the table. The HAIC figures are derived by averaging the gain measured at just three frequencies. CU believes that a better measure of usable gain comes from a careful integration of the entire useful frequency spectrum.

The HAIC figures are given in the Ratings so that you can compare the actual measured gain of an aid with the manufacturer's claims. In most instances, CU's measurements are within 4 dB of the claim—acceptably close. The second gain column is the one to use in checking the Ratings against your audiologist's prescription.

In the maximum output prescrpition, as in the gain prescription, the audiologist will have made allowances. The maximum output is the aid's "ceiling," the top intensity of sound the aid can produce, no matter what sound it receives. Take, for instance, an aid with a gain of 60 dB and a maximum output of 120 dB. When it receives a moderately loud sound of, say, 70 dB, it won't jolt the wearer's ear with the 130 dB that the 60 dB gain might cause, but supply only the 120 dB of its maximum output. Such a ceiling is essential to avoid discomfort, or even pain, when a loud sound comes along too suddenly for the volume control to be turned down. In fact, the audiologist will prescribe a ceiling somewhat below the wearer's threshold of discomfort—but not too much below. If it were, the wearer would lose a useful part of his dynamic range, which in most instances, is already narrower than normal because of his impairment. In addition, the aid would have to be used constantly at its ceiling, with attendent harshness and perhaps increased battery drain.

One of the aids tested, the *Sonotone 25*, incorporated an automatic volume control (AVC). This reduces the gain of the aid as the loudness of the sound goes up and the aid approaches its ceiling. Thus it has less tendency actually to hit its ceiling, but crouches, so to speak, as the ceiling is approached. This feature did seem to reduce the aid's harshness of sound near ceiling levels, but CU knows of no studies whose results link such a reduction to improvement in intelligibility of speech.

The gain and maximum output figures did not enter into the actual rating of the aids, since there are factors only in matching the aid to a person's hearing loss. They served instead to divide the aids into the Ratings groups.

THE RATINGS FACTORS

One of the main factors that did play a role in CU's quality judgments was frequency response. Here again, as in measuring gain, CU modified HAIC methods to provide information judged more meaningful to hearing aid users. The result in most cases is a narrower range of frequency response than manufacturers will claim for their aids. This discrepancy doesn't necessarily imply something bad. What is wanted is a range of tones, from bass to treble, wide enough to make speech intelligible, but not too much more. CU considers 600 to 4000 cycles per

second (cps) sufficient. The full range of normal hearing goes from about 20 cps to about 20,000 cps. But in normal hearing we unconsciously block out background noises and concentrate on the sound we want to hear, whereas a hearing aid wearer would be unable to sort out all the background noise being fed into his ear with anything like that kind of response. Since his dynamic range is narrower than the normal one, and since he will often use his aid at near-maximum output, speech tends to be held down closer to the level of the accompanying noise than speech would be in a normal ear, so the noise then tends to blot out, or "mask," the speech, making it less intelligible.

Thus the aid should pass on to the user only the tones that are essential to understanding speech. It should filter out as much noise as possible, but not greatly reduce treble for lack of treble is likely to reduce intelligibility. As the Ratings table shows, aids with considerably different response were judged at least adequate to both these jobs. Only the Not Acceptable *Toshiba* was judged inadequate in frequency response.

Any aid's range is too narrow to give a natural sound. It takes something very close to the full range of normal hearing, say 90 cps to 10,000 cps, to give speech or most other sounds a reasonably accurate timbre. But though this unnaturalness must be accepted from a hearing aid, other irritants should be at a minimum. For example, very sharp differences in the handling of different tones within the frequency range covered, called "rough frequency response," can make the sound objectionably harsh and very tiring for the user over a long period of listening. Even the best of the aids tested had noticeable roughness in frequency response. The judgments in the "Smoothness" column of the Ratings are based on what can reasonably be expected in a device of this kind.

Harshness of a somewhat different kind may come from distortion of sounds by the aid, and this harshness gets worse as the sound gets louder. It, too, can be very tiring in long listening. The difficulties of hearing aid design seem to make at least moderate distortion of soft sounds inevitable, and the distortion is at its peak when the aid is working at or near its ceiling. The fact is, you will hear somewhat harsh sound a good part of the time with any hearing aid. But there are degrees.

CU measured two kinds of distortion: total *harmonic distortion*, the spurious overtones produced when a single pure tone is fed to the aid (measured at several frequencies and several decibel levels); and *intermodulation distortion*, which is caused by the interaction of several tones reaching the aid at the same time. These technical measurements were then interpreted to provide the more practical judgments given in the table. A favorable rating in low level distortion is especially important because the conversational sounds you hear will take place at low levels. However, a poor showing at high levels might make a hearing aid very annoying where loud talk or clattering dishes and such must be endured. In any case, you should select an aid with the lowest possible distortion.

CONTROLS AND SPECIAL FEATURES

All the aids had volume controls judged adequate in range (at least 30 dB). There were, however, significant differences in how easy the controls were to manipulate, and these are noted in the Ratings table. Since most hearing aid candidates are older people whose fingers may not be agile, an easily turned control is important.

The tone controls on some models were considered nice, but not essential. They are useful primarily in tuning out low-pitched background noises. A separate on-off switch also seems a good idea because it encourages turning off the aid when it isn't needed, conserving the batteries. Especially for those who use the phone a lot or in noisy surroundings, a telephone pickup coil is very useful. And we liked, too, battery holders that are not removable, because removable clips have a way of getting lost. These features, too, are noted in the table of Ratings on pages 38 and 39.

SOME GENERAL CONCLUSIONS

Hearing aid advertising often borrows glamor from "advanced science" or "the latest electronic wizardry." So far as performance affecting speech intelligibility is concerned, however, the models tested for this report are no better than hearing aids CU tested in the pre-transistor days of 1951. The big difference, of course, is in size, weight, and battery consumption. If, however, you have somehow got the impression from enthusiastic hearing aid advertising that

any hearing aid wearer can use one of the tiniest in-the-ear models, you have been misled. All of the in-the-ear models tested were suitable only for mildly impaired or near-normal ears. Hearing aid manufacturers do not yet pack the parts needed for high gain into the very small space in this type. Moreover, the in-the-ear aids are among the more expensive models, and they are not really very inconspicuous; a behind-the-ear model, CU judges, would generally be less noticeable. Finally, the industry has yet to lick entirely the problem of "feedback," the squeal caused when sound from the receiver (the part that delivers the sound to the ear) goes back into the microphone. This problem is minimized in the slightly larger behind-the-ear type because of the greater distance between the receiver and the microphone.

People with hearing impairment classified as severe are particularly limited in their choice of types. The only aids tested capable of helping them understand speech were of the body type. Of these, the *Beltone Super Triumph 6* had especially low distortion and smooth frequency response for its very high gain. This aid may be worn as either a tie clasp or a barrette, hence its microphone does not pick up clothing noises, nor are sounds muffled by clothing.

A conventional body-type aid suffers more or less from pick-up of clothing noise and from obstruction of the sound by the clothes, so that most people with less than severe impairment may wish to consider the behind-the-ear or eyeglass type. These aids are usually more expensive, however. The $75 Best Buy *Zenith Award* is by far the least expensive model powerful enough for use with serious hearing impairment. And its body-type rivals, at $130 to $135, are still bargains next to any of the nonbody-type units with equivalent power. Since the volume controls have adequate downward range, these comparatively low-priced body aids might also be considered by someone with mild hearing loss.

People with mild hearing loss also have available the Best Buy *Sears 8013*. Although Sears advertisers it as a second or spare hearing aid, we see no reason why it should not be considered for use as your regular one.

DEALING WITH THE RETAILER

A spokesman for Sears has informed CU that any of its hearing aids can be returned for a full refund if it does not work properly for you; so, if the *Sears* aid fits your prescription need, you can buy by mail-order, though trying the aid in a Sears store is a better idea.

You may not be able to get a money-back agreement from other hearing aid dealers; they may agree only to an exchange privilege. However, if the aid is not quite right for you, a slightly different model from the same manufacturer (selected by your audiologist) would overcome the trouble in most instances, and should run about the same price. If a dealer does agree to a money-back arrangement, ask him to put it in writing.

When you purchase your aid, it is important to get a molded earpiece that fits your ear precisely to reduce the chance of "feedback" and to insure long-term comfort. The hearing aid dealer can take an impression of your ear and get the earpiece molded; he may charge around $10. Many audiology clinics and societies for the hard-of-hearing will perform this service too, possibly for even less.

Some dealers may urge you, either when you buy your aid or later, to make it a more expensive binaural system—in effect, two aids, one for each ear. In people with normal hearing, the two ears work as a team to give the sense of what direction a sound comes from, allowing the hearer to "focus" better on a wanted sound. One ear acting alone cannot do these things, or does them very poorly.

If it actually restored to you the special capabilities of two-eared hearing, a binaural system would, of course, be worth considerably more than a monaural aid. But experience so far indicates that only some uers reap the benefits of a binaural system right away. Others can achieve them after some training, but certain wearers apparently never can. The doubled cost is probably worthwhile only if the desired results are apparent when you try a binaural system at the dealer, or if the audiologist recommends one.

Some dealers will make a big point of the fact that the microphone on their aids "faces forward"—the better to "catch" the sound, it is implied. Actually, the microphone used in a hearing aid picks up sound about equally well from all directions; so it makes no difference which way it faces. What does matter is an obstruction, such as the wearer's head or body, between microphone and

sound. The treble tones, but not those in the mid-range or lower, will be reduced in strength when the sound comes from a direction that "shadows" the microphone with the head or body.

GET STARTED RIGHT

The first thing to do after you buy your aid is to return to the audiologist to make certain it is the right one for you. He will put you through more testing to be sure.

Don't expect too much right off. Many hearing aid users must go through a period of training before they can get the best use from their aid. Either the audiologist or the dealer can show you some of the tricks of adjusting volume and tone controls to meet different situations. And the audiologist can probably recommend a hearing clinic for further training to help you with lip reading and other skills that will improve your comprehension of imperfectly heard speech. No hearing aid, of course, will ever perfectly restore the whole world of sound. But if in the end you can understand what other people say without too much harshness and irritation, your hearing aid is a great success. In fact, for anyone whose hearing loss is very severe, an aid may be considered a success if it merely lets him hear enough to know that a car is approaching him from behind or that the doorbell is ringing.

MAINTAINING YOUR HEARING AID

The following simple rules of maintenance will help you keep your hearing aid in top operating condition:

Clean the ear mold to remove wax (and have a doctor clean wax from your ear canal) from time to time.

Take the battery out whenever you will not use the aid for any considerable period—overnight, for example.

Keep the aid dry. Store it at night or during any long period of non-use in a closed container with silica gel or some other material that absorbs moisture. Following this rule is especially important in humid weather.

Avoid sharp blows to your hearing aid—treat it gently, and don't drop it.

THE HIGH COST OF HEARING

Why do many hearing aids cost well over $300 and only a very few less than $100? CU's engineers took apart the Best Buy *Sears* model and a sampling of some of the more expensive aids. The *Sears* is not made in a conspicuously less expensive way than the others. There is a strong similarity among them all in general design and in the kinds of parts used. Nor did the assembly techniques of the expensive aids exhibit especially high and costly precision. The answer, then, is not in the aids, but rather in their distribution.

Hearing aids are sold in different kinds of establishment, including the shops of opticians, who often carry several brands of aids. However, the preponderant volume of sales is through shops devoted to retailing hearing aids only, and one brand only. These "hearing aid centers" in some cases are owned by the manufacturer, but most often they are privately owned businesses franchised by the manufacturer.

These shops generally make no gestures at all toward price competition. Their proprietors argue that low sales volume justifies high prices and that hearing aids just cannot be sold "over the counter." The price, it is said, includes some charge for the "professional services" of the dealer. However, as the accompanying report shows, the dealer cannot provide needed medical services.

In buying the aid itself (provided you are unable to use one of CU's two Best Buys), you may be able to save money if you belong to a group that will work to set up a buying program. But the group must negotiate with a manufacturer or dealer, and it may not be easy to find one willing to cooperate.

If you are a veteran, you may be eligible to get a hearing aid at no cost to you. The Veterans Administration provides hearing aids for veterans who qualify, but since the rules that govern qualification are subject to interpretation, we suggest that any hard-of-hearing veteran check first at his nearest VA office.

Most buyers, however, will have to pay the prevailing retail prices for their hearing aids. And there is no sign that these generally high prices will change.

MORE FINANCIAL HELP FOR HEARING AID BUYERS

People who cannot afford the high price of most hearing aids may be eligible for help from a few sources in addition to those cited in our recent Ratings report on these devices (CONSUMER REPORTS, January 1966). There are two Federal grant programs administered by the states that hard-of-hearing people might investigate.

One is the Vocational Rehabilitation Administration's program for those at or near working age whose hearing defect is a handicap to employment. (Homemaking is generally viewed as an eligible form of employment.) The administering state agencies apply tests of economic necessity in deciding who is deserving of financial assistance. If the qualifications are met, the assistance may go as high as 100% of the cost of diagnosis, fitting, and the hearing aid itself.

Interested persons may go to the nearest office of their state division of vocational rehabilitation. It should be listed in their phone book. Or they can inquire at a nearby audiology center—or write to Commissioner Mary E. Switzer, Vocational Rehabilitation Administration, Department of Health, Education and Welfare, Washington, D.C. 20201.

The second program, financed in part by the Children's Bureau of HEW and administered by state health departments, provides diagnositic services for children. These services and the hearing aid may be provided free or at a reduced price, depending on the family's financial circumstances. A family needn't be indigent to qualify.

For more information consult your doctor, an audiology center, or the local or state health department.

Unfortunately, there is no Federal assistance program to help retired people acquire hearing aids; these devices are not covered by Medicare or its supplementary insurance plan.

But one manufacturer of hearing aids, Dahlberg Electronics, Inc., has informed CU that its dealers offer certain "pension" models at reduced price to people deemed by local dealers to qualify. According to this company, the *Dahlberg Clarifier I*—Pension is identical with the *Dahlberg Clarifier I* eyeglass-type hearing aid rated by CU, except that the "pension" model is priced at $229.50, which is $100 less than the regular price. The Dahlberg Magic Ear Mark IV N (not tested by CU) also is said to be available in a "pension" model at the same discount.

CHOOSING AND USING BATTERIES

The batteries specified for the aids tested are either the mercury type (preceded by "M" in the Ratings and price tables), which have long been standard for hearing aids, or the newer and more expensive silver-oxide type (preceded by "S"). A new mercury battery puts out about 1.4 volts, but this voltage drops quickly at first, then more slowly, until a very sharp drop signals the end of the battery's life. Meanwhile the gain of the hearing aid also goes down. Silver-oxide batteries start at 1.5 volts and maintain this voltage quite firmly to the end of their operating life, when a sudden, sharp drop takes place.

A number of the aids tested will operate on either type of battery: whenever the M–675 mercury battery is listed, the aid will run on an S–76 silver-oxide battery too, and the reverse is true. CU tested the aids with both types of battery (see Ratings table) only when the manufacturer specifically recommended both, but we can see no reason why the interchange cannot be made on other models using the S–76 or the M–675. The gain of most hearing aids can be increased about 3 to 5 dB by substituting a silver-oxide battery for a mercury battery. And the higher gain stays high throughout the battery's life.

But the higher voltage of the silver-oxide battery drives more current through the aid, so the battery wears out faster than a mercury battery would in the same aid. Therefore, you choose either extra, very stable gain or lower operating cost with reduced nuisance from battery replacement. Despite the gradual drop in voltage, the performance with the mercury battery may be perfectly satisfactory; to help make certain it is, be sure that your aid provides at least a 3 to 5 dB margin to offset the loss over the battery's life. An audiologist will probably allow for this in prescribing your aid. You can also reduce the problem by choosing an aid rated high in battery regulation—the ability of the aid to maintain gain despite voltage drop (see Ratings table).

Whichever battery you use, you can lengthen battery life by turning down volume or turning the aid off whenever you can. Another way to save money is to buy replacement batteries by mail-order. The dealer prices listed below

are those quoted to CU shoppers by the dealers who sold us test samples; they are likely to be representative of dealer prices elsewhere. The mail-order prices are from the catalogs of the sellers specified; other mail-order sources may also have similar lower prices. You can often buy for still less if you order batteries in larger quantity. To reduce the slow loss of power that occurs even when a battery is not in use, keep your supply in the refrigerator in a moisture-proof bag.

Battery type	Dealer price	Mail-order prices (all plus shipping)	
S-76	40 cents	Sears	6 for $2.05.
		Allied	30 cents.
S-41	6 for $2.10	do	27 cents.
S-13	6 for $2.10		
M-675	6 for $2.25	Sears	6 for $1.99.
		Lafayette	32 cents.
		Allied	6 for $1.92.
M-625	4 for $2.00	Sears	4 for $1.59.
		Lafayette	53 cents.
		Allied	2 for 84 cents.
M-575	6 for $1.80	do	2 for 48 cents.
M-502	2 for $1.90	Lafayette	87 cents.
		Allied	2 for $1.74.
M-401	2 for $1.10	Sears	4 for $1.84.
		Lafayette	44 cents.
		Allied	2 for 88 cents.
M-312	6 for $2.25	Sears	6 for $1.49.
		Lafayette	24 cents.
		Allied	2 for 48 cents.
M-152	2 for $2.10	do	2 for $1.74.
M-133	2 for $1.10	do	2 for $2.34.

RATINGS OF HEARING AIDS

Within types, listed by groups according to the degree of amplification provided and, within groups, in order of estimated overall quality on the basis of laboratory tests and engineering evaluations. Differences in overall quality between adjacent models were small. When a model was available in optional forms, the option tested is indicated in parentheses directly following the model name and number.

ACCEPTABLE

	Price	Weight with battery (oz.)	Dimensions [1] (in.)	Battery regulation	Battery type	Average 10-hr. operating cost (¢)	Estimated average battery life (hr.)	Gain [2] Measured HAIC (dB)	Gain [2] Usable (dB)	Gain [2] Saturated output HAIC (dB)	Frequency response Range [3] (cps)	Frequency response Smoothness	Distortion Low level	Distortion High level	Telephone pickup coil	Separate on-off switch	Fixed battery holder	Tone control	Ease of operating volume control
BEHIND-THE-EAR TYPE																			
High Amplification																			
Telex 39	$339.50	.50	9/16	VG	S-76	16.0	35	51	53	125	700–4500	VG	E	E	Yes	Yes	Yes	Yes	G
					M-675	10.5	25	45	47										
Zenith Arcadia	295.00	.30	1/2	VG	S-41	5.9	59	41	46	118	700–4100	VG	E	E	Yes	Yes	Yes	No	G
Sonotone Mighty Wisp Model 25	349.00	.35	1/2	G	M-575	6.0	50	47	48	123	600–3300	VG	VG	E	Yes	Yes	No	No	G
Dahlberg Magic Ear MK IV H	349.50	.35	9/16	VG	S-76	4.2	65	47	50	120	500–4000	VG	E	VG	No	Yes	Yes	No	G
Noreico KL6710	289.50	.35	7/16	E	M-675	5.8	95	50	51	120	530–4000	VG	E	G	Yes	Yes	Yes	Yes	G
					S-76	6.2	65	53	54										
Maico Selectronic 11-BJ (Red Tone Selector)	332.50	.35	7/16	VG	S-41	4.5	78	47	51	121	800–4000	VG	G	E	Yes	Yes	Yes	No	F-to-G
Audivox Comet 93 (Red Dot)	341.00	.30	7/16	E	S-41	4.7	75	46	45	117	500–4600	VG	E	F	No	Yes	Yes	No	G
Beltone Serenade (Yellow Dot)	335.00	.25	7/16	E	S-13	7.6	46	42	45	112	600–4000	G	VG	VG	No	Yes	Yes	No	G
Audiotone Model 5 Power Ear	339.00	.50	1/2	VG	M-675	4.2	90	49	52	123	520–3700	VG	F-to-G	E	Yes	Yes	Yes	No	G
					S-76	6.2	65	56	59										
Qualitone Power Hidden Ear	324.00	.40	1/2	G	S-76	13.0	31	59	62	131	600–3000	VG	VG	VG	No	Yes	No	No	F-to-G
Otarion Listener Whisperwate-X	319.00	.40	1/2	F	M-675	5.8	65	44	45	120	520–4000	G	G	VG	No	Yes	Yes	No	G
Aurex M-307 Telemite (Red Dot)	285.00	.30	13/32	VG	S-76	8.0	50	44	45	122	550–3900	F-to-G	F-to-G	G	Yes	Yes	No	No	F-to-G
Audiotone Model 6	238.50	.40	9/6	G	M-675	5.0	75	44	44	120	500–3800	G	F	VG	No	Yes	Yes	No	G
Moderate amplification																			
Zenith Trophy	195.00	.45	5/8	VG	M-675	5.8	65	39	43	116	600–3600	E	E	VG	No	Yes	Yes	No	G
Sears, Cat. No. 8013—A Best Buy	[4] 79.95	.35	5/8	VG	M-675	4.2	90	40	42	121	500–4300	VG	E	E	No	Yes	No	No	G
Radioear 900F	309.00	.25	7/16	E	S-41	5.1	68	39	40	118	550–4500	G	E	VG	No	Yes	No	Yes	G
Micronic Concord Model 32	245.00	.25	7/16	VG	S-41	4.7	75	39	35	120	380–4000	G	E	VG	No	Yes	Yes	No	G
Acousticon A-630	279.50	.40	5/8	VG	M-675	5.4	70	40	40	121	500–3800	G	E	VG	No	Yes	Yes	No	G
Qualitone Thrift Ear	219.50	.40	5/8	VG	M-675	4.2	90	39	41	117	450–4200	VG	VG	G	No	Yes	No	No	G
Acousticon A-665 (Standard)	334.50	.40	9/16	VG	S-76	4.0	120	41	42	118	700–4400	F-to-G	E	G	Yes	Yes	Yes	No	F-to-G
					M-657	3.8	100	36	37										
Maico Model AP	235.00	.45	1/2	G	M-675	5.5	68	39	39	120	480–3900	G	G	VG	No	Yes	Yes	No	F-to-G

See footnotes at end of table.

ACCEPTABLE

	Price	Weight with battery (oz.)	Dimensions [1] (in.)	Battery regulation	Battery type	Average 10-hr. operating cost (¢)	Estimated average battery life (hr.)	Gain [2]			Frequency response		Distortion		Telephone pickup coil	Separate on-off switch	Fixed battery holder	Tone control	Ease of operating volume control
								Measured HAIC (dB)	Usable (dB)	Saturated output HAIC (dB)	Range [3] (cps)	Smoothness	Low level	High level					
Low amplification																			
Telex 37	179.95	.25	7/16	VG	M-675	5.0	75	29	31	121	560–4000	G	E	E	No	Yes	Yes	No	F-to-G
IN-THE-EAR TYPE																			
Moderate Amplification																			
Maico Starlite Model AZ [5]	335.00	.15	7/16	VG	M-312	7.5	50	33	35	115	500–4500	VG	E	E	No	No	No	No	G
Low Amplification																			
Dahlberg Miracle Ear V	349.50	.10	7/16	VG	M-312	11.0	35	19	24	112	800–4100	G	E	E	No	No	Yes	No	F-to-G
Zenith Solitaire	325.00	.25	3/4	VG	M-312	5.3	65	24	31	113	900–2300	G	E	VG	No	Yes	Yes	No	F
Beltone Utopian	335.00	.40	5/8	VG	M-312	7.5	50	24	26	111	470–4200	F-to-G	E	E	No	Yes	Yes	No	G
EYEGLASS TYPE																			
High Amplification																			
Otarion Listener Super 9	349.00	.70	3/8	VG	S-76	10.0	40	44	46	128	650–3200	VG	E	E	Yes	Yes	Yes	Yes	G
					M-675	5.4	70	37	39										
Dahlberg Clarifier I	329.50	.45	9/32	E	M-675	5.0	75	41	44	123	700–3900	G	E	E	No	Yes	Yes	Yes	G
					S-76	5.7	70	43	46										
Audivox Slimline Super Model 86 (Red Dot)	349.00	.80	7/16	G	M-625	5.1	97	51	51	129	460–2400	VG	E	VG	No	Yes	Yes	No	G
Telex 47	375.00	.50	11/32	VG	M-675	4.2	90	41	44	126	600–4000	G	VG	E	Yes	No	Yes	Yes	G
					S-76	7.1	56	50	53										
Beltone Chorale (Yellow Dot)	335.00	.50	15/32	E	S-41	4.7	75	42	46	114	600–4900	VG	G	F	No	Yes	Yes	No	G
Moderate Amplification																			
Sonotone Thinline Model 75	349.00	.35	9/32	F	M-312	10.0	37	38	42	121	750–3600	VG	E	E	No	Yes	No	No	G

BODY TYPE																			
Very High Amplification																			
Beltone Super Triumph 6	335.00	2.1	3⅜×1⅝₁₆×1⅛	G	M-152	75.0	14	82	80	135	350-3200	E	E	VG	Yes	Yes	Yes	Yes	F-to-G
Norelco KL6530 (PH6)	289.00	5.0	2⅞×1¾×⅝	G	M-502	8.0	120	64	65	124	400-4500	E	VG	F	Yes	Yes	Yes	Yes	TG
Acousticon A-760 (CF1) (Red Dot)	389.50	3.0	1⅞×2½×1⅝₁₆	F	M-133	8.0	69	66	67	135	420-4000	E	F	VG	Yes	No	Yes	Yes	VG
Zenith Royal Regent (Y-5R)	235.00	2.8	2¾×1⅞×⅝	G	M-401	22.0	50	68	67	136	340-3700	VG	F	F	Yes	Yes	Yes	Yes	VG
High Amplification																			
Zenith Award—A Best Buy	75.00	2.4	2⅞×1⅞×¾	VG	M-401	2.7	200	54	55	124	340-3500	VG	E	E	No	No	Yes	Yes	VG
Acousticon Monarch Coronet M-20 (U6)	129.50	2.3	2⅞×1⅛₁₆×1₁₁₆	VG	M-401	1.5	370	49	55	116	800-3000	E	VG	G	No	No	Yes	No	VG
Maico Model AX (2779)	135.00	1.8	2¼×1⅛₁₆×⅝₁₆	VG	M-401	2.0	280	52	54	124	440-3800	VG	G	G	Yes	No	Yes	Yes	VG

[1] The dimension given for each behind-the-ear and eyeglass aid is the thickness in the direction perpendicular to the head; that for each in-the-ear type is the distance it protrudes from the level of the ear. The dimensions given for each body type are the height, width, and depth, in that order

[2] The Hearing Aid Industry Conference (HAIC) has specified a method for measuring gain (figure in the first column). CU also measured gain by another method that it regards as somewhat more relevant to the user's need (figures in the second column).

[3] This is the usable frequency response that CU found in its tests.

[4] Plus shipping.

[5] Usable also as a behind-the-ear type.

Note: Not Acceptable: Behind-the-ear Type, Toshiba Tha-1004, price $89.95. Frequency response 1600–3200 cps judged inadequate for satisfactory speech intelligibility.

DIRECTORY OF SPECIALIZED HEARING SERVICES, COMPILED BY AMERICAN HEARING SOCIETY

Specialized Hearing Services, such as hearing tests, help in selection of a hearing aid, lipreading instruction, speech correction, and auditory training are available at some agencies of the American Hearing Society and at certain universities, hospitals, and other centers. In most places, services are conducted on a fee-for-service basis, and appointments are necessary.

Alabama

Speech and Hearing Clinic, Auburn University, Auburn
Speech and Hearing Center, South Highland School, 2030 Magnolia Ave., S., Birmingham 5
Speech and Hearing Center, Florence State College, Florence
Alabama College Speech and Hearing Clinic, Montevallo
Speech and Hearing Clinic, University of Alabama, Tuscaloosa

Alaska

Alaska Crippled Children's Treatment Center, 1020 1 Street, Anchorage

Arizona

Audiology Clinic, Samuel Gompers Memorial Rehabilitation Center, Phoenix

Arkansas

Speech and Hearing Clinic, Arkansas State Teachers College, Conway
Speech Clinic, University of Arkansas, 2nd Floor, Old Main, Fayetteville
Hearing and Speech Center, 801 Battery St., Little Rock

California

Crippled Children's Service, P.O. Box 997, Bakersfield
Speech and Hearing Services, East Bay Rehabilitation Center, Herrick Memorial Hospital, 2001 Dwight Way, Berkeley
Speech and Hearing Clinic, Chico State College, Chico
Speech and Hearing Clinic, Fresno State College, Fresno 26
Speech and Hearing Clinic, Rancho Los Amigos Hospital, Hondo
Audiology and Speech Pathology Service, V.A. Outpatient Clinic, Los Angeles 15
Audiology Clinic, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33
Hearing Aid Evaluation Center, 1815 W. 6th St., Los Angeles 57
Hearing and Speech Clinic, Childrens Hospital, Los Angeles
Hearing Center of Metropolitan Los Angeles, 215 West Fifth Street, Los Angeles 13
Speech and Hearing Clinic, University of Southern California, 930 W. 37th St., Los Angeles 7
Pomona Valley Hearing Society, 135 E. Pearl St., Pomona
San Diego Hearing Society, 3843 Herbert St., San Diego 3
Audiology and Speech Clinic, University of California Medical Center, 3rd and Parnassus Sts., San Francisco
Audiology Speech Pathology Clinic, Veterans Administration Hospital, 42nd Ave. and Clement St., San Francisco 21 (For eligible beneficiaries of V.A. only)
San Francisco Hearing and Speech Center, 1609 Scott St., San Francisco
San Francisco Hearing Society, 1428 Bush St., San Francisco
Speech and Hearing Clinic, San Francisco State College, San Francisco
Speech and Hearing Center, San Jose State College, San Jose
Stanford Speech and Hearing Clinic, Division of Speech Pathology and Audiology, Stanford University, School of Medicine, Palo Alto
Speech and Hearing Clinic, University of the Pacific, Stockton
Speech and Hearing Clinic, Whittier College, Whittier

Colorado

Speech and Hearing Clinic, University of Colorado, Boulder
Colorado Hearing Society, Inc., 1556 Emerson St., Denver
Hearing Center, University of Denver, Denver 10
Hearing Clinic, Colorado State University, Fort Collins
Speech and Hearing Clinic, Colorado State College, Greeley
Speech and Hearing Services, Curative Work Shop Society, 10th and West Streets, Pueblo

Connecticut

Speech and Hearing Clinic, 85 Park Avenue, Bridgeport 5
Hearing and Speech Center, The Greenwich Hospital, Perryridge Rd., Greenwich
Hartford Hearing League, Inc., 10 Allyn Street, Hartford 3
Hearing and Speech Center, Yale-New Haven Medical Center, 789 Howard Ave., New Haven
Speech and Hearing Therapy Department, Newington Hospital for Crippled Children, Newington
Speech and Hearing Clinic, University of Connecticut, Storrs

Delaware

Audiology and Speech Center, Delaware Hospital, 501 W. 14th St., Wilmington

District of Columbia

Army Audiology and Speech Center, Forest Glen Section, Walter Reed General Hospital, Walter Reed Army Medical Center, Washington 12, D.C. (Armed Forces and Dependents)
Berlinsky, Stanley L., Ph.D., 1532 16th St. N.W., Washington 6
Hearing and Speech Department, Children's Hospital, 2125 13th St., N.W., Washington
Leroy L. Sawyer Hearing and Speech Center, Washington Hospital Center, 110 Irving St., N.W., Washington
Speech Clinic, Catholic University, Fourth St. at Michigan Ave., N.W., Washington 17
Washington Hearing Society, 1934 Calvert St., N.W., Washington 9
Hearing and Speech Center, Gallaudet College, Florida Ave., and 7th St., N.E., Washington 2

Florida

Speech and Hearing Clinic, University of Miami, Coral Gables
Speech and Hearing Clinic, 321 Tigert Hall, University of Florida, Gainesville
Hearing & Speech Center of Florida, 1540 W. Flagler St., Miami 35
Veterans Administration Audiology and Speech Pathology Service, V.A. Regional Office, St. Petersburg Beach
Junior Service League Speech and Hearing Clinic, P.O. Box 244, St. Augustine
Speech and Hearing Clinic, Florida State University, Tallahassee

Georgia

Speech and Hearing Clinic, University of Georgia, Athens
Audiology and Speech Pathology Service, VARO Outpatient Medical Clinic, 441 W. Peachtree St., N.E., Atlanta (Veterans with service connected speech, hearing, and language disorders; widows and orphans of veterans; servicemen and dependents when facilities not available locally.)
Speech and Hearing Center, University Hospital, Augusta

Hawaii

Speech and Hearing Center, University of Hawaii, Honolulu

Idaho

Speech and Hearing Clinic, Lemhi Hall, Idaho State College, Pocatello

Illinois

Speech and Hearing Clinic, Southern Illinois University, Carbondale
Speech and Hearing Clinic, Eastern Illinois University, Charleston
Audiology and Speech Correction Clinic, West Side Veterans Hospital, 820 S. Damen Ave., Chicago (Veterans only)
Chicago Hearing Society, 30 W. Washington St., Chicago
Dr. Robert Henner Hearing and Speech Center, Michael Reese Hospital and Medical Center, 29th St. and Ellis, Chicago 16
Hearing Clinic, Northwestern University, 303 E. Chicago Ave., Chicago
Speech and Hearing Center, Eye and Ear Infirmary, University of Illinois, 904 W. Adams St., Chicago
Speech and Hearing Clinic, University of Chicago, 950 E. 59th St., Chicago 37
Speech and Hearing Clinic, Presbyterian—St. Luke's Hospital, 1753 W. Congress Parkway, Chicago 12
Speech and Hearing Clinic, Northern Illinois University, DeKalb
Hearing Clinic, Northwestern University, Evanston
Speech Clinic, College of St. Francis, Taylor and Wilcox, Joliet

Hearing Laboratory, Illinois State Normal, University, Normal
Speech Clinic, Bradley University, 815 N. Glenwood, Peoria
Speech Clinic, Rockford College, Rockford
University Hearing Center, University of Illinois, 322 Illini Hall, Urbana

Indiana

Speech and Hearing Clinic, Indiana University, Bloomington
Muscatatuck State School, Butlerville
Community Coordinating Center for Rehabilitation & Health Services, 227 East Washington St., Fort Wayne
Audiology and Speech Clinic, Indiana University Medical Center, 1100 W. Michigan St., Indianapolis 7
Indianapolis Speech and Hearing Center, 615 N. Alabama St., Indianapolis 4
Speech and Hearing Clinic, Purdue University, Lafayette
Ball State Speech and Hearing Clinic, Muncie
Hearing and Speech Center of St. Joseph Co., 511 W. Colfax Ave., South Bend
Special Education Clinic, Indiana State College, Terre Haute

Iowa

Speech and Hearing Clinic, State College of Iowa, Cedar Falls
Des Moines Hearing and Speech Center, 700 Sixth Ave., Des Moines
Speech and Hearing Service, Iowa Methodist Hospital, 1200 Pleasant St., Des Moines
Grinnell College Speech Clinic, Grinnell College, Grinnell
Department of Otolaryngology and Maxillofacial Surgery, University Hospitals, Iowa City
Exceptional Persons, Inc., 1028 Headford, Box 690, Waterloo

Kansas

Hearing and Speech Department, University of Kansas Medical Center, 39th and Rainbow, Kansas City
Speech and Hearing Clinic, University of Kansas, 4 Bailey Hall, Lawrence
Institute of Logopedics, 2400 Jardine Dr., Wichita 14

Kentucky

Audiology Clinic, Department of Psychology, University of Kentucky, 620 S. Limestone St., Lexington
Louisville Hearing and Speech Center, 233 E. Broadway, Louisville 2

Louisiana

Special Education Clinic, Southeastern Louisiana College, Hammond
Speech and Hearing Clinic, University of Southwestern Louisiana, Lafayette
Department of Speech and Hearing Therapy, Carolyn Rose Strauss Rehabilitation Center, 1209 Oliver Road, Monroe
New Orleans Speech and Hearing Center, 145 Elk Place, New Orleans 12
Speech Therapy Department, Crippled Children's Hospital, 200 Henry Clay Ave., New Orleans
Tulane Speech and Hearing Center, Tulane Medical School, 1430 Tulane Ave., New Orleans 12

Maine

Northeast Hearing and Speech Center, Inc., 723a Congress St., Portland

Maryland

Baltimore Hearing Society, Inc., 928 N. Charles St., Baltimore 1
Department of Otolaryngology, University of Maryland, University Hospital, Baltimore 1
Hearing and Speech Center, Johns Hopkins School of Medicine and Hospital, 601 N. Broadway, Baltimore 5

Massachusetts

Boston Guild for the Hard of Hearing, 283 Commonwealth Ave., Boston 15
Hearing and Speech Clinic, Children's Medical Center, 300 Longwood Ave., Boston
Samuel D. Robbins Speech and Hearing Clinic of Emerson College, 168 Beacon St., Boston
Speech and Hearing Section, Rehabilitation Clinics, Boston Univ.—Mass. Memorial Hospital Medical Center, Stoughton St., Boston

Veterans Administration Audiology Unit, 17 Court St., Boston (For eligible beneficiaries of VA only)
Winthrop Foundation, Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston
Speech and Hearing Clinic, St. Luke's Hospital, New Bedford
Springfield Hearing League, 1694 Main St., Room 209, Springfield 3
Worcester County Hearing and Speech Center, Inc., 306 Main St., Worcester 8

Michigan

Speech and Hearing Clinic, University of Michigan, Ann Arbor
Audiology and Speech Clinic, Henry Ford Hospital, Detroit 2
Detroit Hearing Center, 1401 Ash St., Detroit 8
Rehabilitation Institute, Inc., 261 Brady, Detroit 1
Speech and Hearing Clinic, Wayne State University, 656 W. Warren, Detroit 2
Hearing and Speech Center of Grand Rapids, 1230 Madison Ave., S.E., Grand Rapids
Speech and Hearing Clinic, Western Michigan University, Kalamazoo
Constance Brown Society for Better Hearing, 301 W. Cedar, Kalamazoo
Lansing Hearing and Speech Center, 482 Hollister Bldg., Lansing 8
Hearing Conservation Section, Division of Maternal and Child Health, Michigan Department of Health, Lansing 4
Hearing & Speech Department, Ingham Co. Rehabilitation Medical Center, Edward W. Sparrow Hospital, Lansing
Mobile Testing Unit, Michigan Association for Better Hearing, 408 Hollister Building, Lansing 8
Horace H. Rackham School of Special Education, Eastern Michigan University, Ypsilanti
Hearing Clinic, Central Michigan University, Mount Pleasant

Minnesota

Speech and Hearing Clinic, University of Minnesota, Duluth 5
Audiology Clinic, University of Minnesota, Hospital, Minneapolis 14
Minneapolis Hearing Society, 2100 Stevens Ave., Minneapolis 4
Section on Otolaryngology and Rhinology, Mayo Clinic, 200 First St., S.W. Rochester
St. Paul Hearing Society, 496 Endocott-on-Robert Bldg., St. Paul 1

Mississippi

Speech and Hearing Clinic, Mississippi Southern College, Hattiesburg

Missouri

Speech and Hearing Clinic, Southeast Missouri State College, Cape Girardeau
Speech and Hearing Clinic, University of Missouri, Parker Hall, Columbia
Hearing Society, Greater Kansas City General Hospital, 24th and Cherry Sts., Kansas City
Speech and Hearing Clinic, Children's Mercy Hospital, Independence and Woodland Aves., Kansas City
Veterans Administration Hospital, 4801 Linwood Drive, Kansas City 9 (For eligible beneficiaries of VA only)
Speech Clinic, 15 N. Grand, St. Louis 3
St. Louis Hearing and Speech Center, 3600 North Grand Ave., St. Louis 7

Montana

Eastern Montana Speech and Hearing Clinic, Eastern Montana College of Education, Billings

Nebraska

Speech Clinic, Nebraska State College, Kearney
Speech and Hearing Laboratories, University of Nebraska, 102C Temple, 12th and R Sts., Lincoln
Speech and Hearing Services Rehabilitation Center, St. Joseph Hospital, Omaha

New Jersey

Speech and Hearing Department, Hunterdon Medical Center, Flemington
Henry C. Barkhorn Memorial Hearing and Speech Center, Newark Eye and Ear Infirmary, 77 Central Ave., Newark
Rehabilitation Center, St. Barnabas Hospital, 701 High St., Newark

North Jersey Hearing and Speech Center, 152 Market St., Paterson
Warren Hospital Speech and Hearing Center, Roseberry Street, Phillipsburg

New Mexico

Lovelace Clinic, Audiology Department, 4800 Gibson Blvd. S.E., Albuquerque
New Mexico Hearing Society, 1001 Second St., N.W., Albuquerque
Speech and Hearing Clinic, University of New Mexico, Albuquerque

New York

Conservation of Hearing Center, Albany Medical Center Hospital, New Scotland Ave., Albany 1
Apostolate for Deaf and Hard of Hearing, Division of Catholic Charities, 191 Joralemon St., Brooklyn 1
Speech and Hearing Center, Brooklyn College, Bedford Ave. at Ave. H, Brooklyn 10
Speech and Hearing Clinic, Div. of Otolaryngology, Kings Co. Hospital Center, Outpatient Bldg., 5th Floor, 451 Clarkson Ave., Brooklyn 3
Buffalo Hearing and Speech Center, Inc., 325 Summer St., Buffalo 22
Hearing and Speech Clinic, Children's Hospital, 219 Bryant St., Buffalo 22
Queens College Speech and Hearing Center, Kissena Boulevard, Flushing 67
Speech and Hearing Center, Adelphi College, Garden City
Long Island Hearing and Speech Society, Inc., Nassau Hospital, First St., Mineola
Audiology Center, New York Eye and Ear Infirmary, 218 Second Ave., New York 3
Audiology Clinic, New York Regional Office, Veterans Administration, 252 7th Ave., New York 1 (Veterans only)
Harlem Eye and Ear Hospital, 2099 Lexington Ave., New York 35
Hearing and Speech Center, Bellevue Hospital Center, First Ave. at 27th St., New York
Hearing and Speech Clinic, Manhattan Eye, Ear and Throat Hospital, 210 E. 64th St., New York 21
Hofheimer Speech and Hearing Clinic, Columbia Presbyterian Medical Center, 622 W. 168th St., New York 32
Murray, Phoebe R., Hearing Counsellor, Room 315, 342 Madison Ave., New York 17
New York League for the Hard of Hearing, 480 Lexington Ave., New York 17
Speech and Hearing Center, Hunter College, 695 Park Ave., New York 21
Speech and Hearing Center, New York Hospital, Cornell Medical Center, 525 E. 68th St., New York 21
Speech and Hearing Therapy Department, Institute of Physical Medicine and Rehabilitation, New York University Medical Center, 400 E. 34th St., New York 16
Speech and Hearing Department, St. Francis Hospital, North Road, Poughkeepsie
Hearing and Speech Center of Rochester, Inc., 501 Main St., Rochester 8
Hearing and Speech Center, Children's Hospital Home, 1675 Bennett St., Utica
Speech and Hearing Section of the New York State Rehabilitation Hospital, W. Haverstraw (For eligible residents of New York State only)

North Carolina

Speech and Hearing Center, Asheville Orthopedic Hospital, Inc., Asheville
Hearing and Speech Center, North Carolina Memorial Hospital, Chapel Hill
Speech and Hearing Department, Charlotte Rehabilitation Hospital, 1610 Brunswick Ave., Charlotte
Speech and Hearing Center, Duke University Medical Center, Durham
Speech Clinic, East Carolina College, Greenville
Hearing and Speech Center, North Carolina Baptist Hospitals, Inc., Winston-Salem

North Dakota

Speech and Hearing Clinic, 17 Merrifield Hall, University of North Dakota, Grand Forks
Speech and Hearing Clinic, State Teachers College, Minot

Ohio

Rehabilitation Center of Summit Co., Inc., 326 Locust St., Akron 2
Children's Speech and Hearing Center, Ohio University, Athens

Speech and Hearing Clinic, Bowling Green State University, Bowling Green
Hearing Department, Community Rehabilitation Clinic, 614 Dartmouth Ave., S.W., Canton
Cincinnati Speech and Hearing Center, 3006 Vernon Place, Cincinnati 19
Cleveland Hearing and Speech Center, Affiliated with Western Reserve University, 11206 Euclid Ave., Cleveland
Division of Audiology and Speech Pathology, (Department of Otolaryngology), Cleveland Clinic, 2020 E. 93rd St., Cleveland
Hearing and Speech Center of Columbus and Central Ohio, c/o Children's Hospital, 17th St. at Livingston Park, Columbus
Speech and Hearing Clinic, Ohio State University, Columbus
Hearing and Speech Center of Dayton and Montgomery Co., 1400 E. Third St., Dayton 3
Delaware City-County Speech & Hearing Center, 115 Sandusky St., Delaware
Speech and Hearing Clinic, Kent State University, Kent
The Rehabilitation Center, 5380 Oberlin Avenue, Lorain
Speech and Hearing Clinic, Miami University, Oxford
Betty Jane Memorial Rehabilitation Center, 235 N. Sandusky St., Tiffin
Toledo Hearing and Speech Center, 2313 Ashland Ave., Toledo 10
Youngstown Hearing and Speech Center, 69 Illinois Ave., Youngstown 4

Oklahoma

Community Speech and Hearing Center, Box 2262, University Station, Enid
Speech and Hearing Center, University of Oklahoma, 825 N.E. 14th St., Oklahoma City
Speech and Hearing Clinic, Northeastern State College, Tahlequah
Speech and Hearing Clinic, Tulsa University, Tulsa

Oregon

Eugene Hearing and Speech Center, 1202 Almaden St., Eugene
Portland Center for Hearing and Speech, 3515 S.W. Veterans Hospital Rd., Portland 1

Pennsylvania

Speech and Hearing Center, Lehigh Co. Crippled Children's Society, 17th and Chew, Allentown
Speech and Hearing Clinic, Bloomsburg State College, Bloomsburg
Department of Otolaryngology, Audiology Clinic, Geisinger Medical Center, Danville
Speech and Hearing Clinic, Indiana State College, Indiana
Hearing Conservation Center, 630 Janet Avenue, Lancaster
Audiology Section, Temple University Medical Center, 3401 N. Broad St., Philadelphia 40
Aural Rehabilitation Center, U.S. Naval Hospital, Philadelphia 45 (Servicemen, Dependents, Veterans)
Speech and Hearing School for Children, 2603 N. 5th, Philadelphia 33
Hearing and Speech Center, Jefferson Medical College Hospital, 1015 Walnut St., Philadelphia 7
Speech and Hearing Center, Hospital of the University of Pennsylvania, 36th and Spruce Sts., Philadelphia 4
Department of Audiology, University of Pittsburgh School of Medicine, 230 Lothrop St., Pittsburgh 13
Hearing Clinic, Mercy Hospital, Pittsburgh 19
Pittsburgh Hearing Society, 313 6th Ave., Pittsburgh 22
Speech and Hearing Clinic, Pennsylvania State University, University Park
Clinic for the Rehabilitation of the Hard of Hearing, Reading Hospital, West Reading

Rhode Island

Providence League for the Hard of Hearing, 49 Weybosset St., Providence

South Carolina

Junior League School of Speech Correction, 79–81 Alexander St., Charleston
Speech and Hearing Center, Medical College of South Carolina, 55 Doughty St., Charleston
Hearing and Speech Center, 1845 Assembly Street, Columbia
United Speech and Hearing Services of Greenville Co., General Hospital, Greenville

Speech & Hearing Clinic, South Carolina State College, Orangeburg
Spartanburg Speech and Hearing Clinic, 130 W. Hampton Ave., Spartanburg

South Dakota

Speech and Hearing Clinic, University of South Dakota, Vermillion

Tennessee

Speech and Hearing Center, Chattanooga-Hamilton Co., Sickin Memorial Foundation, Chattanooga
West Tennessee Hearing and Speech Center, 765 W. Forest Avenue, Jackson
Speech and Hearing Center, East Tennessee State College, Johnson City
East Tennessee Hearing and Speech Center, University of Tennessee Campus, Knoxville
The Bill Wilkerson Hearing and Speech Center, 19th Avenue South and Edgehill, Nashville

Texas

Speech & Hearing Clinic, University of Texas, Austin 12
Speech & Hearing Clinic, West Texas State College, Canyon
Speech & Hearing Clinic, East Texas State College, Commerce
Audiology and Speech Pathology Clinic, Veterans Administration Hospital, 4500 S. Lancaster, Dallas 16 (For eligible beneficiaries of VA only)
Dallas Speech and Hearing Center, 3851 Cedar Spring Rd., Suite 5, Dallas 4
Speech and Hearing Clinic, Southern Methodist University, Dallas
Speech and Hearing Clinic, Texas Woman's University, Denton
Speech, Hearing and Retardation Clinic, Texas Christian University, Fort Worth
Hearing and Speech Clinic, University of Texas Medical Branch, Galveston
Houston Speech and Hearing Center, Texas Medical Center, 1348 Moursund Ave., Houston
Speech and Hearing Clinic, University of Houston, 3801 Cullen Boulevard, Houston
West Texas Hearing Clinic, Texas Technological College, Lubbock
Sunnyside Speech and Hearing Clinic, 1546 Seventh St., Port Arthur
Harry Jersig Speech and Hearing Center, Our Lady of the Lake College, 411 S.W. 24th St., San Antonio 7
Southwest Texas State Teachers' College, Speech and Hearing Clinic, San Marcos
Speech and Hearing Clinic, Baylor University, Waco

Utah

Speech and Hearing Clinic, Brigham Young University
Speech and Hearing Clinic, University of Utah, 1699 E. 5th, S. (Hempstead Rd.), Salt Lake City
Speech and Hearing Department, Primary Children's Hospital, 320 12th Ave., Salt Lake City

Vermont

Speech and Hearing Unit, Vermont Rehabilitation Center, DeGoesbriand Memorial Hospital, Burlington
Vermont Association for the Crippled, Inc., 88 Park St., Rutland

Virginia

Bristol Speech and Hearing Center, Bristol Memorial Hospital, Bristol
Speech and Hearing Center, University of Virginia, Charlottesville
Hearing and Speech Center, Medical College of Virginia, Box 846, 231 N. 12th St., Richmond
Department of Audiology, Gill Memorial Eye, Ear and Throat Hospital, 711 S. Jefferson St., Roanoke
Franklin County Speech and Hearing Center, Rocky Mount

Washington

Seattle Hearing and Speech Center, 1229 Tenth Ave., N., Seattle 2
Speech and Hearing Clinic, University of Washington, 1320 Campus Parkway, Seattle 15
Inland Speech and Hearing Clinic, 304 Paulsen Building, Spokane

West Virginia

Kanawha Speech & Hearing Center, Memorial Hospital, 3200 Noyes Ave., S.E., Charleston 4
Speech and Hearing Clinic, West Virginia University, Morgantown

Wisconsin

Curative Workshop of Green Bay, 342 South Webster St., Green Bay
Speech and Hearing Clinic, University of Wisconsin, 403 Bascom Hall, Madison
Speech & Hearing Rehabilitation Center, Building T–17 Linden Drive, University of Wisconsin, Madison 6
University of Wisconsin—Milwaukee, 3203 N. Downer Ave., Milwaukee 11
Speech and Hearing Rehabilitation Center, Marquette University, 1317 W. Wisconsin Ave., Milwaukee
Milwaukee Hearing Society, 757 N. Water St., Milwaukee 2

Wyoming

Wyoming Speech and Hearing Clinic, University of Wyoming, Laramie

Canada

Clinic for the Prevention of Deafness, Hospital for Sick Children, Toronto, Ontario
Speech and Hearing Clinic, Health Centre for Children, The Vancouver General Hospital, 715 W. 12th Ave., Vancouver, British Columbia (Facilities for assessment of hearing loss are available to all preschool children.)

THE HEARING AIDS WE DIDN'T RATE

We have had reports that some hard-of-hearing patients are reluctant, on the strength of our January hearing-aid Ratings, to accept the prescription by their Certified Audiologists for a non-rated model. Such patients may be doing themselves a great disservice.

The testing of hearing aids is a complicated process. It is also costly. Although we tested as many models as our resources would allow, nothing like the entire market of 300 to 400 models could be included.

The field was narrowed down, first, to air-conduction hearing aids, which put the strengthened sound directly into the ear canal. Bone-conduction hearing aids are less efficient at getting sound vibrations to the inner ear, but they may be indicated in the presence of some medical conditions, chronic ear infection for one.

Secondly, the tests were confined to hearing aids designed to handle tones evenly over the whole frequency range or to provide only a mild boost in treble frequencies. But there are also models offering differential amplification to fill "holes" in the wearer's hearing for particular sections of the tonal spectrum. Research done thus far on differential amplification, as we noted in January, indicates that it may be valuable only in exceptional cases of hearing defects. If your hearing loss is one of these exceptional cases, however, you may be better off with a nonrated hearing aid.

Even within these testing limitations, the 40 hearing aids rated are only a fraction of the models that might have been tested had CU's resources so warranted. They represent only 17 large-selling brands among some 80 brands available, and they are mostly of the behind-the-ear type. Only a very few hearing aids of the body type and eyeglass type were included. Thus, the Ratings should not be viewed as setting a limit on the models worth of consideration.

On the contrary, the test results disclosed a fairly narrow quality range. Most models not tested would, like as not, fall in the same Acceptable range. Still, there may be some important exceptions.

Hard-of-hearing people, especially those who have encountered costly disappointments with previous hearing aids, understandably want all the assurance of quality they can get, and our Ratings are among the very few sources of such assurance that objectively cover a number of different brands. So patients may wish to be sure their Certified Audiologist or otologist is aware of CU's Ratings.

For patients' own use, there was much more to our report than Ratings alone. Various types of hearing aids and the features available on some of them were reviewed and evaluated. Most important, a proper procedure for being fitted and for shopping was outlined. Armed with this information, a patient can intelligently discuss with his Certified Audiologist or physician the possible solutions to his particular problems. Then a combination of the patient's own desires and the audiologist's or physician's diagnosis should give as good a chance of satisfaction as can be expected. If, after seeing our Ratings, the professional adviser prescribes a model we did not test, his prescription should take precedence.

EXHIBIT C. CONSUMERS UNION BRIEF*

68 Civil

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

CONSUMERS UNION OF UNITED STATES, INC., PLAINTIFF,

v.

VETERANS' ADMINISTRATION: W. J. DRIVER, ADMINISTRATOR OF VETERANS' AFFAIRS OF THE VETERANS' ADMINISTRATION; FRANCIS E. BLALOCK, CHIEF, PAPERWORK MANAGEMENT DIVISION, MEDICAL ADMINISTRATIVE SERVICE, DEPARTMENT OF MEDICINE AND SURGERY, VETERANS' ADMINISTRATION; AND H. M. ENGLE, M.D., CHIEF MEDICAL DIRECTOR, DEPARTMENT OF MEDICINE AND SURGERY, VETERANS' ADMINISTRATION, DEFENDANTS

COMPLAINT

1. This is an action under the public information section of the Administrative Procedure Act, 5 U.S.C. § 552, popularly known as the Freedom of Information Act of 1966. Plaintiff sues to obtain an order and judgment of this Court enjoining the defendants from withholding, and ordering them to produce certain information, records and data developed under the Performance, Measurement and Evaluation Program conducted by the defendant Veterans' Administration (hereinafter referred to as "VA") for the selection and procurement of hearing aids. The information sought consists of the quality index scores, scoring schemes and test results for the period designated by the defendants as the contract year 1968.

2. Plaintiff is a corporation duly organized and existing under the Membership Corporations Law of the State of New York. Its principal office and place of business is located at Mount Vernon, Westchester County, in the State of New York.

3. Plaintiff is a non-profit membership corporation whose principal activity for more than thirty years has been the testing of consumer products and the reporting of these tests to its members, to the readers of its monthly magazine, Consumer Reports, and to the general public, via product reports in such magazine. The circulation of Consumer Reports, including subscriptions and newsstand sales, approximates 1,350,000. Among the consumer products which plaintiff has tested and reported on over the years are hearing aids. Reports on hearings aids were published in Consumer Reports in the issues of September 1950, January 1951 and January 1966.

4. Defendant, W. J. Driver, herein sued in his official capacity, is the duly appointed and qualified Administrator of Veterans' Affairs of the VA, having his official office in Washington, D.C. Under and by virtue of 38 U.S.C. § 210, defendant Driver is responsible for the proper execution and administration of all laws administered by the VA and for the control, direction and management of the VA. Furthermore, defendant Driver has authority to make all rules and regulations necessary or appropriate to carry out the laws administered by the VA. Defendant Driver is in function and operation the chief executive, administrative, and policy making officer of the defendant VA.

5. Defendant, Francis E. Blalock, herein sued in his official capacity, is the Chief, Paperwork Management Division, Medical Administrative Service, Department of Medicine and Surgery of the VA. On information and belief, defendant Blalock is, in addition to his other duties, charged with the initial decision-making power within the Department of Medicine and Surgery of the VA, for requests for information made under the Freedom of Information Act.

6. Defendant, H. M. Engle, herein sued in his official capacity, is the Chief Medical Director, Department of Medicine and Surgery of the VA. Defendant Engle is, in addition to his other duties, charged with the power to hear and determine appeals within the Department of Medicine and Surgery of the VA, for requests for information made under the Freedom of Information Act.

7. Jurisdiction is conferred on this Court by the public information section of the Administrative Procedure Act, Public Law 89–487, 80 Stat. 250 (July 4, 1966), as codified, Public Law 90–23, 81 Stat. 54, 5 U.S.C. § 552(a)(3).

*Brief filed by Consumers Union and referred to by Mr. Warne on p. 123.

8. The venue of this action is based upon 5 U.S.C. § 552(a) (3) and lies within this District because the plaintiff has its principal place of business within this District.

9. Public Law 90–23, 81 Stat. 54, 5 U.S.C. § 552(a) (3) provides, in pertinent part:

". . . each agency, on request for identifiable records made in accordance with published rules stating the time, place, fees to the extent authorized by statute, and procedure to be followed, shall make the records promptly available to any person."

10. Pursuant to the applicable VA regulations (VA Regs. §§ 500–558) and the Freedom of Information Act of 1966, plaintiff, through its attorneys, made written application to the VA on September 21, 1967 for the quality index scores together with the testing methods, scoring schemes and test results on which they are based for all hearing aids tested by or for the VA during the past two years. The formal application was addressed to defendant Blalock, the VA official who was designated by defendant VA to receive such request. A copy of such application is annexed hereto as Exhibit A.

11. On October 2, 1967, Mr. Morris Kaplan, Technical Director of plaintiff, and Marvin M. Karpatkin, Esq., one of the attorneys for plaintiff, conferred in the offices of the VA in Washington, D.C., with the following VA officials: Dr. Robert E. Stewart, Director of Prosthetic and Sensory Aids Services; Dr. Bernard Anderman, Chief of Audiology and Speech Pathology; Mr. John Manning of the Office of the General Counsel; and Mr. Francis Frankino, Director of the Legal and Legislative Staff of the Department of Medicine and Surgery, concerning plaintiff's request.

12. As a result of suggestions made by the VA officials at such conference, plaintiff, on October 3, 1967, amended and modified its application so as to withdraw the request for information concerning hearing aids tested during the past two years and to substitute therefor a request for information with respect to hearing aids which were currently under test or which would be scheduled for testing under the most recent contracts. A copy of the letter amending and modifying plaintiff's application is annexed hereto as Exhibit B.

13. Following telephonic inquiries and a letter of inquiry by plaintiff's attorneys dated November 8, 1967, concerning the status of plaintiff's application (copy annexed hereto as Exhibit C) plaintiff was informed that a decision on its application would not be forthcoming until the VA had contacted by letter all of the hearing aid manufacturers whose products had been processed under the VA hearing aid program for 1968. The purpose of such contact, plaintiff was informed, was to inquire whether the manufacturers perceived any legal basis for objecting to VA compliance with plaintiff's request. Plaintiff was further informed that its request would not be acted upon until the VA had received and evaluated the manufacturers' responses. A copy of defendant Blalock's letter, dated November 16, 1967, which informed plaintiff of this VA action, is annexed hereto as Exhibit D.

14. By letter dated January 8, 1968, defendant Blalock advised plaintiff's attorneys that plaintiff's request under the Freedom of Information Act of 1966 for the quality index scores, scoring schemes and test results was denied pursuant to the exemptions granted by 5 U.S.C. § 552(b). A copy of such letter is annexed hereto as Exhibit E.

15. By letter dated February 1, 1968, plaintiff, through its attorneys, appealed such decision to defendant Engle. A copy of such letter is annexed hereto as Exhibit F. It was not until February 23, 1968 that defendant Engle revealed to the plaintiff the reasons for the initial denial by defendant Blalock. Such letter of February 23, 1968 (copy annexed hereto as Exhibit G) stated that plaintiff's request was denied pursuant to 5 U.S.C. § 552(b) (2), (4) and (5). The subsections allegedly relied upon by the defendants exempt from public inspection matters—

"(2) related solely to the internal personnel rules and practices of an agency;

"(4) trade secrets and commercial or financial information obtained from a person and privileged or confidential;

"(5) inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency;"

16. On May 2, 1968, an informal conference with respect to plaintiff's request was had at the VA offices in Washington, D.C. between plaintiff's counsel and Robert C. Fable, Jr., Esq., General Counsel of the VA, a member of Mr. Fable's

staff, and officials of the Department of Justice, including the late Mr. Merle McCurdy, who was then Consumer Counsel for the Department of Justice. At such conference, plaintiff's counsel was informed that defendant Engle had denied plaintiff's appeal and that plaintiff's appeal was currently pending before the Administrator, defendant Driver, for final agency action. Plaintiff never received written or any other formal notice of the denial of the appeal by the Chief Medical Director. Mr. Fable advised plaintiff's counsel that VA regulations did not require any such notice.

17. On May 22, 1968, plaintiff's counsel had a further conference concerning plaintiff's request with officials of the Department of Justice in the Office of Legal Counsel of the Department of Justice in Washington, D.C.

18. By letter dated June 26, 1968, defendant Driver communicated to plaintiff's attorneys his decision on the appeal denying access to the quality index scores and the VA scoring schemes and approving the request for test data only as to those manufacturers who indicate to the VA that they have no objection to its disclosure. A copy of such decision letter is annexed hereto as Exhibit H. Neither such letter, nor any other communication from the defendant Driver advised plaintiff which purported exemption or exemptions the defendants were relying on in denying plaintiff's appeal.

19. Plaintiff has exhausted the administrative remedies by which it could have obtained the withheld quality index scores, the scoring schemes and test data.

20. Plaintiff has a right to inspect and copy the withheld quality index scores, scoring schemes and test data, pursuant to 5 U.S.C. § 552(a)(3). The defendants are improperly withholding the agency records, data and information sought by this action, contrary to statute, and the intent and policy of the Freedom of Information Act as expressed by Congress in enacting the law, by the President in approving it, and by the Attorney General's Memorandum on the public information section of the Administrative Procedure Act (June 1967) which advised all government agencies, inter alia, that the policy of the Act required ". . . that disclosure be the general rule, not the exception . . . [and] that there be a change in government policy and attitude." (pp. iii-iv).

21. The public information section of the Administrative Procedure Act, 5 U.S.C. § 552(a)(3), further provides that in any legal action brought pursuant thereto "the burden is on the agency to sustain its action" in refusing disclosure. Such statute also provides that such proceedings, with certain exceptions, "take precedence on the docket over all other causes and shall be assigned for hearing and trial at the earliest practicable date and expedited in every way."

Wherefore, plaintiff demands judgment:

(i) enjoining the defendants from withholding the agency data, information and records requested by plaintiff;

(ii) ordering the defendants to make available to plaintiff for inspection and copying all of such data, information and records;

(iii) directing that this cause receive the precedence in hearing and trial and expedited treatment required by statute; and

(iv) for such other and further relief as this Court deems just and proper.

Dated New York, N.Y., July 19, 1968.

ITEM 7. NATIONAL ASSOCIATION OF HEARING AND SPEECH AGENCIES, SPECIAL REPORT—ADDITIONAL INFORMATION FROM TOM COLEMAN

[From Washington Sounds, July 22, 1968]

SENATE AGING COMMITTEE LAUNCHES INVESTIGATION OF HEARING AIDS WITH TWO DAYS OF HEARINGS BEFORE CONSUMER INTERESTS SUBCOMMITTEE

Under the hot glare of television lights, the Subcommittee on Consumer Interests of the Elderly last week began public hearings on hearing aids. "What more should be done in this nation to help Older Americans—those most vulnerable to deafness and near deafness—to save themselves from the isolation, demoralization, and hazards that occur when hearing deterioration becomes severe?" asked Subcommittee Chairman Sen. Frank Church (D-Idaho). "To judge by information gathered by this Subcommittee in preparation for this hearing, the answer to that question should be sought vigorously and it should be found

soon." For two days, 16 witnesses atempted to provide the answers. They represented a wide variety of groups interested in hearing problems of the elderly. Among them: the U.S. Public Health Service, the Rehabilitation Services Administration, the *National Association of Hearing and Speech Agencies*, the Hearing Aid Industry Conference, Consumers Union, American Speech and Hearing Association, American Academy of Ophthalmology and Otolaryngology, and the National Hearing Aid Society.

The scope of the problem began to emerge almost immediately.—Hearing loss significantly restricts 30 to 50 percent of the population past 65 years of age. An intensive PHS study shows that 52.9 percent of hearing aid users past 65 never had an audiometeric examination prior to hearing aid purchase. Present day clinical facilities cannot accommodate many more than ten percent of all the persons buying a hearing aid each year. Some 96 major cities in the U.S. have no established hearing and speech services. More than 300 hearing aid models are on the market, some costing under $100, others $400 or more per ear.

If any controversy could be identified in the two days of hearings, it would be between the hearing aid dealers and the hearing and speech professionals. The dealers hold that they already have a well-established system for diagnosing hearing loss and fitting persons who need them with hearing devices. The professionals say that no hearing aid should be fitted and sold without a prior medical examination and hearing exam performed by a competent audiologist. But there are not enough professionals to go around. And the solution to the problem depends on rapid training of sizeable numbers of new professional people, from audiologists to otolaryngologists. Until then, responsible dealers will continue to provide a useful and necessary—if somewhat less than perfect—service to the hard of hearing.

Here are some of the recommendations which witnesses made during the two days.—Train more professionals to care for the hard of hearing . . . Step up research efforts to curb disease processes early in life that lead to hearing disorders . . . Make the cost of hearing aids a Medicare benefit . . . Improve the quality of services offered by hearing aid dealers.

STATISTICS DRAMATIZE EXTENT OF HEARING LOSS AMONG ELDERLY

The true extent of hearing loss among the elderly is not known, and statistical surveys vary widely in their findings. The Public Health Service, for example, says that an estimated eight million adults have "significant hearing loss" including four million with bilateral loss. "On the basis of these figures," testified Joseph L. Stewart, Ph. D., consultant in Speech Pathology and Audiology to the PHS National Center for Chronic Disease Control, "the over-all prevalence of significant hearing loss among adult Americans is 2.7 percent." He added that 80 percent of all adults with bilateral hearing loss are 45 years of age or older, and 55 percent are 65 years of age or older. He also cited previous PHS estimates of eight to 15 million Americans with hearing loss, and findings by the Consumers Union that loss of hearing with age significantly restricts 30–50 percent of the population over age 65. Dr. Stewart said the differences are accounted for by the rigorous criteria used by the PHS in its latest survey.

The number of hard of hearing persons is increasing. Dr. William H. Stewart, PHS Surgeon General, told the Subcommittee that "information obtained in fiscal year 1958 shows a hearing impairment rate, for all ages, of 34.6 per 1,000 persons. By fiscal years 1960 and 1961, the rate had gone to 35.3 per 1,000 persons, and the most recent information, gathered in fiscal years 1962 and 1963, shows an even more alarming rise, to 43.7 per 1,000 persons." Dr. Stewart pointed out that for the group between 45 and 64 years of age, the rates rose from 51.2 per 1,000 in fiscal 1958 to 64.6 per 1,000 in fiscal 1961. "If the causes for this rise may be presumed to be still with us, and since we may anticipate ever increasing noise pollution to accompany further advances in our industrial technology, I can forsee no other course but for this problem to continue to expand."

Competent professional hearing services are fighting a losing battle to keep up with increased demand.—Declared PHS consultant Stewart, "The otologist and audiologist, by and large, feel an objective appraisal" of hearing conducted in a professional clinic environment "is far more desirable than the common practice of being counseled in hearing aid use by the person who stands to gain from the sale." The only problem, he admits, is that present day clinical facilities cannot accommodate many more than ten percent of all the persons buying a hearing aid each year. "Of the 15,000 members of the American Speech and Hearing Association, less than 2,000 hold, or have registered their academic

qualifications for, the Certificate of Clinical Competence in Audiology. If the estimate that five percent of our over-all population is in need of speech and hearing services is accurate, a ratio of one speech pathologist and one audiologist to each 50,000 people means we need 40,000 trained persons working in the field at the present time. The more conservative estimate of three percent of the population in need of these services will necessitate 27,000 in active work by 1970." An acute need also exists for otolaryngologists. The American Academy of Ophthalmology and Otolaryngology lists 4,900 board-certified otolaryngologists. "An additional 10,000 are needed at the present time, and an ideal ratio of physician to population of one to 20,000 appears to be completely unattainable in the foreseeable future," lamented Dr. Stewart.

DEALERS AND PROFESSIONALS CLASH POLITELY OVER RESPONSIBILITIES

With professional manpower and services so lacking, it is the hearing aid dealers who have filled the gap and brought service to the consumer. "Today there are approximately 6,000 locations staffed by some 20,000 people, where you can walk in and get hearing aid service—ranging from a new battery to complete repairs or replacement parts—and of course you can buy a new hearing aid," Samuel F. Lybarger, president of the Hearing Aid Industry Conference, told the Subcommittee. "These locations are equipped with devices such as audiometers to determine prospective users' hearing aid requirements. . . . In most towns of any size at all the consumer has a choice of at least several different dealers and brands. Then, to receive this total service, he may select from these trained specialists in fitting and selling hearing aids, and, if he wishes, have them come right to his home for fitting and service. . . . I know of no way to serve more people, more economically, more satisfactorily, more promptly, or more reliably, than by the expanded use of this system." Hearing aid manufacturers and dealers used Public Health Service statistics to prove the value of their services. "The Service says 93 percent of hearing aid wearers who use their aids constantly are satisfied with the performance of their hearing aids. We submit that this figure is hard to beat in any industry."

Yet "too many people are still being fitted with hearing aids who cannot be helped by this means at all," said Dr. Eldon L. Eagles, acting director of the National Institute of Neurological Diseases and Blindness. "Too many are being sold the wrong type of hearing aid; and most tragically of all, too many with remediable ear diseases are going undiagnosed while they try one hearing aid after another, until they pass the point where the disease is remediable." Kenneth O. Johnson, executive secretary of the American Speech and Hearing Association, agreed. "Hearing loss should be considered a symptom of a disease. Therefore, the first consultation concerning a hearing loss should be with a physician."

Johnson suggests that pressure for medical evaluation of hearing problems could be exerted through federal health programs. He called for establishment of "clearly defined protocols applicable to beneficiaries of federally supported programs. Such protocols should require that individuals complaining of auditory disorders, after being examined medically, be evaluated by a qualified audiologist. The selection and fitting of a hearing aid should be based primarily on the audiological evaluation. Such a system of procedure would place the physician, the audiologist and the hearing aid salesman in a proper perspective in the care of the hearing handicapped. . . . Hearing aid dealers are neither educated nor equipped to evaluate the integrity of the auditory system, define the locus of the pathology, or assume responsibility for the rehabilitation of the hearing impaired."

Sen. Church expressed strong reservations about dealers testing hearing of potential customers for hearing aids. But he realized that other professional services are often just not available. "What is the answer if the doctors of the country are not equipped to give the kind of examination needed?" he asked. The alternative, said the National Center for Chronic Disease Control consultant, Dr. Joseph Stewart, "is to upgrade the practitioner who dispenses so he can refer people who need evaluation" to professional hearing clinics. The Surgeon General calls this "a short-term attempt to solve the problem, not the final answer."

A significant step has been taken toward merging the dealer system with the professional system through an agreement between the Rehabilitation Services Administration of HEW, and the National Hearing Aid Society, under which dealers will refer hard of hearing customers to vocational rehabilitation centers for evaluation (WASHINGTON SOUNDS, Vol. II, June 5, 1968).

The Idaho Senator suggested a further step: Certification of those dealers who meet certain standards indicating they are competent to screen for hearing problems. Sort of a "Good Housekeeping badge . . . but something that *means* something," quipped Church. Coupled with the certification system would be an educational campaign to teach the public what constitutes acceptable hearing services. "We haven't really progressed very far in this field, have we?" remarked Sen. Church.

FINANCING CITED AS MAJOR ROADBLOCK TO ACQUISITION OF HEARING AIDS BY ELDERLY

The high cost of hearing aids and the failure of Medicare to pay for them is one of the chief roadblocks standing between many elderly persons and normal hearing, the Subcommittee was told. Citing a Consumers Union survey of 40 hearing aids, Dr. Joseph Stewart said, "37 of the 40 models ranged in price from $129.50 to $389.50. Of these, four ranged between $100 and $200, ten between $200 and $300, and 23 over $300. Two of the three models below $100 were rated as 'best buys' on the basis of quality control and over-all performance. The third was judged to be 'not acceptable'."

"The entire area of financing hearing and speech services must be carefully studied," declared TV star Nanette Fabray MacDougall. Miss Fabray, who herself has six hearing-aids, said "positive steps must be taken toward improving the patient's ability to pay for services and equipment. Part of this is the manufacturers' responsibility. Too much of the industry is devoted to making Rolls Royce hearing aids when what is often needed is a serviceable jeep . . . I have been told that a reputable manufacturer can expect a reasonable profit making and delivering a hearing aid to the retail outlet for $80. If so, is it really necessary for a hearing-handicapped individual, with a thin pocketbook, to purchase such an instrument from the salesman for $300, or perhaps more?" Miss Fabray, who testified as a private citizen, is a NAHSA Board Member.

Witnesses agreed that a change in the Medicare law would be the most valuable form of financial assistance to the older person. William R. Hutton, executive director of the National Council of Senior Citizens, told the Subcommittee that if an older person goes to the doctor complaining of ear trouble and the doctor recommends surgery, Medicare will pick up most of the tab. "But if the doctor recommends a hearing aid, Medicare pays nothing." Surgeon General William Stewart told the committee that the question of whether Medicare should be amended to pay for hearing aid costs is now under discussion at HEW. But he is not optimistic. "Following current procedures for obtaining a hearing aid would almost certainly be cost prohibitive and the alternatives will not be palatable to the industry. In view of the shortage of professional personnel and facilities, any change in the regulations must certainly be accompanied by, or preceded by, new systems for delivery of these services."

CONSUMERS UNION SUES GOVERNMENT FOR ACCESS TO HEARING AID TEST DATA

The simmering battle between Consumers Union and the Veterans Administration over access to hearing aid test data flared anew during the Subcommittee on Consumer Interests of the Elderly's session last week. Colston E. Warne, president of Consumers Union announced that, "We have today (July 19, 1968) filed suit in the U.S. District Court, for the Southern District of New York to obtain these test data concerning hearing aids, after having been repeatedly rebuffed by the administrators concerned."

CU's fight to get access to government test data on consumer items met with mixed reactions from the Subcommittee. While agreeing that in this particular case, CU should perhaps be given the right to the test information, committee members felt that opening the files could set a dangerous precedent.

Because the VA buys about 5,000 hearing aids every year, it has the National Bureau of Standards put the major brands through a battery of rigorous tests. In 1965, CU asked for the results of the tests. VA said no. Repeated requests brought indecision and vacillation. The final turn-down came just this summer. "If taxpayers' dollars go to support the development of elaborate standards for testing hearing aids and for the development of quality index scores, scoring schemes and specific test results in order to improve the hearing ability of thousands of veterans, why should not the ordinary consumer benefit from this governmental research? Why should not the veil of secrecy surrounding the government tests be lifted?" asks CU President Warne.

Sen. Church, who interrupted Warne's testimony several times, pointed out that the government has a right to test the quality of products which it buys for its own use. But he added that releasing the hearing aid tests results raises other questions regarding the extent to which this power might possibly be misused and the protections that would have to be established.

The private testing organization is not stopping with hearing aids. "Consumers Union is determined to employ hearing aids as a test case to ascertain whether the administrative agencies really will give the consumer access to governmental research information." A great deal of information is at stake. The Department of Agriculture collects information on the effectiveness and toxicity of insecticides. The Food and Drug Administration tests clinical thermometers and condoms. The laboratories of the Quartermaster evaluate such consumer items as clothing and textiles. Navy laboratories evaluate paints, detergents, and other products. The General Services Administration and/or the National Bureau of Standards will be testing tires, seat belts, and brake fluids. "We recognize that our quest to open test results to public scrutiny may injure some concerns while benefitting others," said Warne. "Yet we feel that potential savings to the public are so immense and the principle so important that the effort and the resources which we bestow upon the effort to pry loose these test data from the VA will be well justified by the public interest."

Meanwhile, the VA, which did not testify, is standing by its decision. As VA Administrator William J. Driver said in a letter to the Consumers Union June 26, 1968, "The request is denied insofar as quality index scores and the VA scoring scheme are concerned; the request for test data is approved as to instruments submitted by manufacturers who, in the light of the foregong decision, indicate to this agency that they have no objection to its disclosure, and is denied as to all other instruments." The final decision is now up to a U.S. District Court in New York.

PANEL OF EXPERTS DISCUSSES PROFESSIONAL MANPOWER NEEDS

The problems of the hard-of-hearing elderly cannot be solved until additional numbers of professional and supportive manpower are recruited and trained. This was the conclusion of experts from the hearing and speech field who discussed the problem in round-table fashion during last week's Subcommittee hearing. Participants were Tom Coleman, executive director, National Association of Hearing and Speech Agencies; Kenneth Johnson, Ph.D., executive secretary, American Speech and Hearing Association; and Aram Glorig, M.D., executive director of the Callier Center of Dallas, Texas, and Chairman of the Committee on Hearing Conservation of the American Academy of Ophthalmology and Otolaryngology.

ASHA's Johnson led off the discussion by citing the number of hearing and speech professionals in the field. He said there were some 2,000 to 2,500 audiologists in the service field today. A committee staff member questioned Johnson on this point, noting that earlier testimony had indicated less than 2,000 practicing audiologists. Johnson hedged and admitted the figures do contradict, but said the bulk of the 2,500 are available and provide clinical service. There are 800 service programs plus others located in school systems, which together employ 4,000 speech pathologists and audiologists, he told the committee. This, he said, makes about one clinician for every 12,500 citizens.

Johnson told the committee that it is important to recognize that cirticisms of the hearing aid industry and their dealers are based on a small percentage of offenders. Most provide excellent service. Also, he said, the problem of sales practices come from the nature of the business. "The hearing aid industry has to sell to people who need but don't want the products." Then, there are many who can benefit from a hearing aid but who can't be happy with it because of the difference "between the level of expectation and the level of benefit." Dealers, through their efforts to get hearing aids to people who really need them, contribute to the high level of expectation.

The ASHA Executive Secretary told the committee he does not believe that licensing laws, registration, or self-policing by the manufacturers and their dealers will change the situation materially. But if any change is needed, Johnson said it is the method of providing hearing aids for beneficiaries of federal programs such as Medicare and Medicaid. *His recommendation:* Establish state-federal hearing aid purchasing programs modeled after the Veterans Administration program. Medicare, Medicaid, and other federal-state beneficiaries could get aids directly through these facilities. They would have assurance of good service

and quality products, Johnson said. A strong program of public education to encourage proper use of medical-audiological services would be required to improve services for non-beneficiaries.

But NAHSA's Executive Director, Tom Coleman, emphasized to the committee that there aren't enough professional people to go around to provide these needed services.—He said that the needs in the hearing and speech field parallel the manpower needs elswhere in the health field today. In the meantime, said Coleman, hearing aid dealers serve more people than does any other single group. And this will probably continue in one form or another. Many communities, in fact, have only the dealer to provide hearing services. In this case, the dealer must be considered as part of the 'supportive personnel" team. "Facing the reality that the dealer is serving the majority of hearing handicapped individuals, we must assist him in upgrading his knowledge," said Coleman. He pointed out that in the last year or two, some major companies have been developing training programs for dealers. And in the last few months, the National Hearing Aid Society has approached NAHSA for assistance in such programs. Coleman questioned Johnson's recommendation that a federal-state purchasing system with outlets for serving government health program beneficiaries be established. He said that the burden should perhaps be on industry itself. Historically, industries have been strong in other health fields in getting lower cost products to people. Licensing is very important, said Coleman. He told the Subcommittee that he personally believes that anyone providing services to, or touching the human body should be licensed. Among Coleman's other recommendations:

> The Bureau of Census or Department of Health, Education, and Welfare should conduct a nationwide *census* (not survey or sample) of handicapped inviduals, including those with hearing and speech disorders. This would give us more reliable figures for estimating our program, personnel, and financial needs in all service fields for the future.
>
> Family-type physicians (general practitioners, internists, pediatricians) should be given educational experience to enable them to provide better management and care for their patients with hearing and speech disorders. This would open services to many people who now depend entirely on the limited number (approximately 3,500) otologists and otolaryngologists in practice.
>
> There should be a significant increase in federal and state financial support of hearing and speech service agencies.
>
> We must immediately develop some solid training programs for several levels of supportive personnel to assist audiologists and speech pathologists and thereby increase the patient population currently being served. It is possible that hearing aid dealers could be included in this technician group.

Dr. Glorig amplified what the other two said about professional manpower needs. He said that although about 30 percent of the older population is in need of hearing services, there are but 3,500 certified otolaryngologists. Because of the shortages, Dr. Glorig said "the job can't be done without all the various groups, from manufacturers to physicians, working together as a team." The Intersociety Committee on Hearing Conservation, which represents one move in this direction, has prepared a model hearing aid dealer licensing bill which so far has not been found acceptable to all members of the team.

HEARING PROBLEMS AND THE ELDERLY—WHAT NEXT?

Last week's hearing on hearing problems, hearing aids, and the elderly may be only a starter for the Subcommittee on Consumer Interests of the Senate Aging Committee. Aging Committee staff director William Oriol says it is entirely possible that the Subcommittee may hold further hearings later in the year after Congress adjourns to probe deeper into some of the problem areas. Once the hearings are complete, the Committee will draft a report containing recommendations for possible government assistance in the field and suggestions for further steps private interests can take. The committee, of course, can't consider legislation. Any bills introduced as a result of the hearings by a committee member would be referred either to the Committee on Labor and Public Welfare or to the Finance Committee. (*Democrats* serving on the Subcommittee on Consumer Interests of the Elderly under Chairman Frank Church (D-Idaho) are: Wayne Morse (Ore.), Edmund Muskie (Me.), Edward Long (Mo.), Edward Kennedy (Mass.), Ralph Yarborough (Tex.), and Walter Mondale (Minn.). *Republicans are:* Hiram Fong (Hawaii), Frank Carlson (Kans.), Thruston Morton (Ky.), and Clifford P. Hansen (Wyo.).

ITEM 8. MATERIAL SUBMITTED BY JOSEPH HUNT, COMMISSIONER, REHABILITATION SERVICES ADMINISTRATION

EXHIBIT A. SUMMARY OF PROGRAMS FOR THE DEAF, FOR THE HARD OF HEARING, AND FOR THE SPEECH IMPAIRED

The limited achievement in vocational rehabilitation of persons with communication disorders makes the promise and challenge of Vocational Rehabilitation Act Amendments of 1965 (Public Law 89-333) especially significant. The complexity and diffusion of the problems that surround hearing deficiences and speech impairments require bold new concepts of service for their effective solution. Focus on the adjustment needs of deaf persons previously classified as not feasible for vocational rehabilitation can be expected to lead to development of appropriate services and training opportunities. Likewise, improved programs and services for the hard of hearing and the speech impaired will bring greater occupational fulfillment and a more satisfactory living pattern.

Americans who are vocationally handicapped by varying degrees and kinds of communication disorders exceed 8,000,000 in number. Some have disorders of the ears, the normal channels for *receiving* verbal messages. Some have defects in the vocal mechanisms, the main means for *sending* verbal messages. Some have disorders of the central nervous system which interfere with receiving and sending even though the ears and vocal apparatus are whole. Some have peripheral involvements that curb free verbalization. Some have combinations of causes.

The complexity and variety of the causes frequently obscure the fact that speech and hearing are variables that fluctuate with physical, mental and emotional conditions. Normal ears, normal mentality, normal vocal mechanisms and so on should result in normal hearing and normal speech. One abnormality or more results in abnormal communication. The person permanently affected faces formidable barriers. Fortunately, the condition for many is transitory due to the wonders of medicine and related disciplines. These are not among the above named 8,000,000 whose disabilities are constant, who continuously search for ways to reduce the handicap of communication limitation.

Vocational rehabilitation workers share with teachers, audiologists, speech pathologists, medical workers, and others the responsibility to create, extend and improve knowledge and resources by which the communicatively handicapped can attain adjustments commensurate with their mental and residual physical capacities.

THE DEAF

Deafness is, in fact, a multiple handicap. Total lack of hearing prevents the individual from using a major way of communicating with others. It also denies him the personal enjoyment that others receive through listening. More importantly, however, he cannot utilize his hearing as an ever-alert warning system of approaching danger which cannot be detected through the eyes. For those who are born deaf, their handicap imposes a most serious deficit upon their ability to learn language, which is fundamental for future intellectual and educational development. Finally, and perhaps most penalizing of all, deafness is a hidden disability. The deaf person moves and lives in a hearing world, unidentified and isolated.

RSA has long given special priority to research and demonstration projects which attempted to define and resolve the many problems of the deaf. The task, however, is overwhelming in its magnitude. Many questions remain to be answered, and for every answer found, new questions emerge. For instance, how best can the deaf be helped to secure and keep jobs in spite of the fact that their traditional entry jobs in industry are rapidly being eliminated by automation. The deaf, themselves, ask whether they can ever realistically hope for job advancement and promotion or whether they must confine their goals to low level jobs and menial tasks, as at present. On the social front, research is showing many unmet needs for the deaf. At present, the deaf do not have access to the kinds of medical guidance and advice that are so readily available to all other segments of our society; few physicians know how to communicate through finger spelling and the language of signs and written messages are a poor foundation for an adequate diagnosis. This language barrier is particularly evident in the area of mental health counseling for the deaf. Many deaf individuals who need and could benefit from such guidance may develop serious and incapacitating problems if its remains unavailable. The question of how psychotherapy can be carried on between a psychiatrist and a deaf patient through manual communication is just now beginning to be answered through pioneering research sponsored by RSA. Basic to all these problems are the unanswered questions about the

language development and functioning of the deaf and the yet undiscovered ways that creative and flexible language skills can be taught to them effectively and efficiently.

Research and demonstration activities have already resulted in a better understanding of the problems which exist. They also have shown the way for a better solution for many of the problems. The major task of finding answers and implementing them remains to be done.

The 250,000 leaf people have very complex problems. Many of them are without useful speech despite years of training. Many have limited language skills. They receive messages principally through their eyes. They send messages by combinations of signs, gestures, speech, and writing. Most of them have normal strength, mobility and intelligence. They strive for achievement within the limitation society imposes in the face of their inadequate verbal communication. This is the handicapping base of their disability. It is primarily psycho-social. It manifests itself in many ways: underinvolvement in the main stream of community life; limited sharing with fellowmen; lack of acceptance among neighbors, employers, and fellow employees; severe underemployment. It seldom yields at all to medical intervention such as drugs surgery or prosthesis. It does yield in approximate ratio to their availability in quality and depth, to training and adjustment services that stem from comprehensive, expert diagnosis that may involve the disciplines of psychology, audiology, medicine, and education and to public relations activities that stress the deaf person's strengths.

Two deep-seated problem areas for vocational rehabilitation exist with respect to deaf people. First, the most basic and achievable need of the deaf person, specifically skill in reading and writing, is insufficiently emphasized in childhood training. Formal training has generally so heavily emphasized the development of speech skills in the deaf child that speech has erroneously assumed the position of being the equivalent of rather than a vehicle for language. To put it another way, teachers of the deaf have focused disproportionate time and energy upon an outlet (speech) for language rather than power in language itself. Language and speech are referred to interchangeably, confusing professional and lay workers alike. Hence, the handicapping aspects of deafness are often intensified by a needless wall of language deficiency.

Second, an incorrect image of the deaf person's potential in verbal communication skills stems from this heavy emphasis on speech and frequently unrealistic publicity that generates from it. These together create everywhere an expectancy in oral communication performance which very few deaf people can fulfill. Employers and others are, thus, not conditioned to look beyond the poor speech for the hidden, often rich, human resources.

The Rehabilitation Services Administration is attacking the roots of underemployment: (1) By encouraging and assisting in the establishment of rehabilitation centers to diagnose and train deaf people; (2) by extending its training operations (a) to reduce the communication barrier facing deaf people by developing standards and new procedures for speech conservation and instruction in sign language, (b) to qualify more professional workers in psychology, social work, vocational rehabilitation, speech therapy and audiology to work with the deaf, (c) to develop better understanding of the potentials of deaf people among vocational rehabilitation workers and others, including employers and community leaders, (d) to improve the understanding among professional and voluntary workers of how they can assist the State vocational rehabilitation agencies in serving the deaf, and (e) to help deaf people and their co-workers develop more productive concepts of community inter-relationships; (3) by encouraging researchers to study and resolve the many economic, social, and psychological problems associated with deafness.

THE HARD OF HEARING

The several million hard of hearing pose quite different problems from the deaf. The two groups cannot be treated as one. Whereas the deaf receive verbal communication almost solely through their eyes, the hard of hearing rely principally upon their ears, even though these are defective. The hard of hearing generally have near-normal speech and language. Their disability often had a late onset as opposed to the early affliction of the deaf. Partial hearing impairment is less a psycho-social than a medical problem and often yields significantly and quickly to medical intervention and prosthesis with speedy return to an old job or a new one.

It is known that the number of individuals with debilitating hearing loss is far greater than those who have lost their hearing completely. How much greater

is unknown. More accurate estimates are needed before the full magnitude and vocational significance of this problem can be assessed. Deteriorating job performance, eventual loss of job, and gradual withdrawal from family and society are three of the more obvious results of gradual and progressive hearing loss. Too few of these people request help from the State divisions of vocational rehabilitation.

The problems of the hard of hearing are many; this the State vocational rehabilitation counselor knows. How best to solve them, no one yet knows. Much remains to be accomplished in helping the hard of hearing person retain the skills he had before the onset of his handicap. Better diagnostic methods need to be developed to permit earlier prediction or identification of hearing loss. Such methods would also enable a more successful prescription of hearing aids. Abilities which permit a person to speech read (lipread) successfully are, at present, unidentified. And yet, accurate prediction of such ability would have profound effects on the rehabilitation management of hard of hearing and deaf children as well as adults.

Further attention should also be given to ways of helping the person with progressive hearing loss retain his speech intelligibility while he is losing his major sensory pathway for judging the accuracy of his speech production.

THE SPEECH IMPAIRED

The speech impaired, including the language impaired, necessarily include many of the deaf and the hard of hearing because normal speech production depends to a great extent upon self-monitoring which in turn depends largely upon the speaker's hearing. We hear ourselves and correct as we go along. It is not the same for the hearing disabled. However, the speech impaired also number millions whose abnormal or absent output stems from organic disorders other than hearing.

The special needs of stroke victims, particularly those with debilitating language problems due to aphasia, have recently received nation-wide attention. Surprisingly little, however, is known about the actual incidence of the disability, particularly in its more subtle and partial forms. Also, diagnostic techniques to determine the most appropriate treatment problem and the outlook for recovery remain crude and inexact. Unavailability of crucial specialized services within the aphasic's home community, particularly language therapy, poses insurmountable problems for most aphasics living outside large metropolitan areas. New methods of extending services to those people and/or training other family members to assume the task must receive highest priority. The use of programmed teaching machines represents one partial solution to this problem, but self-teaching programs must be developed and evaluated. The spotlight of attention given to this affliction merely highlights the problems which are as yet unsolved.

Equal attention has recently been given to cancer victims. In great need of rehabilitation are those who have lost their larynx because of cancer, thus, their ability to produce voice. Such a sudden handicap usually results in loss of job and loss of family responsibility. Training procedures now exist to help the laryngectomees learn to use esophageal speech, but too often, those methods fail. Many individuals, therefore, go for the rest of their lives without the ability to speak. Reasons for this failure must be found. Better techniques for identifying those people who will be able to learn esophageal speech—and those who will not—are needed. Programmed learning methods also need to be considered as possible retraining procedures. Presurgery personality factors deserve investigation as probable reasons for post-surgery response to rehabilitation efforts.

Stuttering is another wide-spread speech handicap which deserve greater research attention. Over 1,000,000 people in the United States suffer from this affliction. The problems of the adult stutterer are particularly damaging and cause the individual to lead a restricted and sterile life. This is true primarily because the speech defect is variable; the stutterer rarely knows when he begins to speak whether he will talk normally or will produce a spasm of muscular tension and an explosion of distorted words. Most stutterers, therefore, remain constantly "on guard" and resort to bizarre tricks and body motions (which themselves attract attention) to avoid stuttering. Some stutterers even pose as deaf to avoid having to speak. Consequently, many stutterers of superior ability accept jobs which require little or no talking and remain at a level of employment far below their aspirations and capacities. Underemployment, self-imposed, may sometimes be the stutterer's greatest handicap.

Usually, these problems are most resistant to change, even though research has shown that most of the stutterer's speech problem has been learned and can be unlearned. The reasons for the tenacity of stuttering are unknown. What is particularly puzzling is the fact that for a few persons, long-time stuttering can be eliminated with relative ease. Clinical observation has indicated that there are different types of stutterers and much more research is needed to find ways of identifying each kind and the critical factors which determine their response to rehabilitation. Also, better ways of helping stutterers achieve and retain more normal speech must be found. To do this, better methods of judging the effectiveness of speech therapy are needed. The goal is doubly worthwhile since if the stutterer's speech can be improved, most of the associated psychosocial and vocational problems which his stuttering creates will also be elminated.

The State vocational rehabilitation agencies find that a major problem is the lack of guidelines that enable staff to relate speech impairment to occupational handicap. Moreover, standards of casework performance and progress in therapy are not so closely defined nor apparent in speech rehabilitation as in other areas. The resources that serve the hard of hearing can be effective for the speech handicapped if qualified staff are available. The Rehabilitation Services Administration's drive for more hearing and speech centers relates to speech rehabilitation, too. Additionally, special emphasis is being given (1) to the development of authoritative literature on the handicapping aspects of speech disorders and their treatment and (2) to the fostering of voluntary work for the speech impaired throughout the national community on a level equal to that for the hearing impaired. Research in speech performance, production, and diagnosis continues. Also in the making is the development of casework standards as guidelines for vocational rehabilitation counselors serving hard-of-hearing clients.

NUMBERS SERVED BY STATE VOCATIONAL REHABILITATION AGENCIES

The aim of the public vocational rehabilitation program is the preparation of the occupationally handicapped disabled person for suitable employment. The State vocational rehabilitation agencies actually determine eligibility and provide services using grant-in-aid funds administered by the Rehabilitation Services Administration.

All of the resources of the public vocational rehabilitation services are directed toward the occupational adjustment of the person whose disability is a vocational handicap. The media for attaining this end with each client are the case services that are patterend to individual needs. The research, training, and facility development activties of the Rehabilitation Services Administration and the State agencies are carried on for the purpose of strengthening case service techniques, developing new ones improving the capacities of the case worker and the personnel upon whom he draws, and developing resources for better diagnostic, evaluation, training and restoration services. The dual aim of sharp increases in the quality and quantity of services and persons served permeates the whole program.

The extent to which the State agencies rehabilitated the deaf, the hard of hearing, and the speech impaired in the fiscal year 1965 through 1968 and the numbers estimated to be rehabilitated in fiscal 1969 are shown in the following table:

NUMBER OF REHABILITANTS OF THE STATE VOCATIONAL REHABILITATION AGENCIES WITH SPEECH AND HEARING IMPAIRMENTS, FISCAL YEARS ENDING JUNE 30, 1965-69

[Estimated and actual number of rehabilitants in fiscal year [1]]

	1965	1966	1967	1968	1969
All rehabilitants	134,859	154,279	190,000	218,000	----------
Number of rehabilitants with major disability of speech or hearing	9,720	10,640	12,200	13,600	14,900
Deaf	2,560	2,731	4,900	5,200	6,200
Hard of hearing	5,570	6,284	5,300	6,200	6,400
Speech	1,590	1,625	2,000	2,200	2,300

[1] Data are actual for fiscal years 1965-66, estimates are used for fiscal years 1967-69.

The effectiveness of casework rests in appreciable measure upon the joint planning of the counselor and the client. Clients who are hard of hearing or who have serious speech problems of other than hearing origin tax even the most skilled caseworker. Even so, counselor and client do have a line of verbal communication which encourages rapport. They can develop a good rehabilitation plan together. The profoundly deaf client, however, especially that large majority who have serious language deficiencies, are not able to communicate by normal means. This is the crux. There must be communication between counselor and client for effective casework.

The State agencies have recognized this basic factor and are moving to rectify it as qualified workers become available or through special training of current counselors. Thirty-eight States [1] now have or are actively recruiting staff who may be classified as expert vocational rehabilitation workers for the deaf since they are trained as professional counselors and are also able to communicate by sign language with deaf clients. Several of the States are searching for additional qualified counselors because their caseloads of deaf clients have rapidly grown beyond the capacities of the special staff as their deaf citizens have become aware that the vocational rehabilitation agency is now able to work more effectively with them. The Rehabilitation Services Administration urges that each State should have at least one highly skilled vocational rehabilitation counselor for the deaf and preferably that there be one in each metropolitan area.

A continuing problem in the area of the hard of hearing through the years has been developing and maintaining adequate channels of referral of hard of hearing persons needing vocational rehabilitation services. Major efforts have focused on encouraging the professional, the medical, and the voluntary worker to refer persons with hearing impairment to State vocational rehabilitation agencies for evaluation and consideration of possible services. The results have been disappointing as witnessed by the relatively small number of hard of hearing clients rehabilitated each year as compared to the many thousands needing or able to benefit from our services. The persistence of this problem has encouraged us to look to other channels by which more persons may become knowledgeable of their entitlements under the vocational rehabilitation service. Accordingly, we are now developing formal working relationships with the National Hearing Aid Society, a principal feature of which encourages referrals by hearing aid dealers of persons coming to their attention who may be eligible for the services of our State agencies. If this move is as effective as we expect, the number of hard of hearing rehabilitants each year should increase rapidly into the tens of thousands.

SERVICE CENTERS

Most of the many hearing and speech centers that have been established in the past twenty years have come into being in universities as training and research facilities, in large hospitals as service units, and in metropolitan areas. They fill vital rehabilitation needs in diagnosis, in evaluation, in training in lipreading, speech, and listening, and in selection of hearing aids. We may have as many as 400 of widely varying levels of effectiveness and uneven distribution. Many thousands of people with communication problems are just too far away from even the least of these service centers and even further from the more technical assistance that they may need. For example, a hard of hearing person who is 50 miles away from lipreading instruction, auditory training, hearing aid evaluation, is not likely to be able to travel this distance several times per week for instruction and service. The Rehabilitation Services Administration is attacking this problem directly through a carefully designed project to bring the basic hearing and speech services that the majority of these disabled people need into the local community at a cost that it can afford to maintain, leaving for the more comprehensive center the intricate services needed by more difficult hearing or speech cases. Successful initial experiences with two projects now underway [2] are in the process of developing a prototype for a nationwide program that could bring basic hearing and speech rehabilitation services within reach of all.

The State vocational rehabilitation agencies are making important contributions to the availability of hearing and speech evaluation services through grants

[1] Alabama, Arizona, Arkansas, California, Connecticut, District of Columbia, Florida, Georgia, Guam, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, and Wisconsin.

[2] Macon, Georgia, and Mansfield, Ohio.

to extend and improve vocational rehabilitation services for the communicatively impaired.

The practical needs of deaf people are little related to speech and hearing centers. Almost all of them have had several years of intensive, expert training in speech and use of residual sound perception in their special schools. The deaf need the same vocational rehabilitation services as other clients, specifically diagnosis, evaluation, training, counseling, and placement, but in *language* that they understand. There are very few persons in rehabilitation centers or vocational schools who can communicate with deaf people to the point where a good learning situation may be said to exist. Consequently, the Rehabilitation Services Administration has had to concentrate on developing centers where there are expert professional workers for the deaf. Usually, these have proven to be the residential schools for the deaf. Diagnostic, evaluation, prevocational, and adjustment centers have been established or are planned atthe State schools for the deaf in sixteen [3] States.

Encouraging by-products of this activity is the interest in other States and the growing efforts by established rehabilitation centers to qualify themselves to serve the deaf.[4] Community service centers for deaf people that are relieving residential schools for the deaf of counseling responsibility of deaf adults are located in three metropolitan areas.

Justification.—The most pervasive, persistent yet reducible problem of deaf people is their underemployment. It has always been so. The normal strength, mobility, and intelligence of deaf people do not help them find satisfactory employment that is jobs that are appropriately challenging. Much manpower is wasted. Underemployment is increasing as job demands become more complex and preparation therefore less available.

The experience of the Rehabilitation Services Administration emphasizes that a principal cause of underemployment is inadequate training. Appropriate resources for deaf people of employable age simply do not exist. By appropriate resources we mean training situations which fully compensate for the handicapping aspects of the disability, that is by providing for the special communication needs of deaf people so that transfer of ideas, exchange of thinking really takes place at more than a superficial, fragmentary level.

It is widely recognized that formal training for most deaf people terminates at the elementary level or slightly above. The average age of departure of the mass of deaf students from this level of training is about 18 years. Moreover, recent reports suggest the average age of departure is dropping. This is disastrous, except for the small percentage who qualify for and go on to secondary and higher educational opportunities, because there is no permanent school or other fixed training situation which the young deaf person may consider and toward which he may aspire. There is an utter vacuum of opportunity aside from an occasional local situation, such as on-the-job training or a receptive vocational school for normally hearing people, which may rise and fall in accordance with attending circumstances. Moreover, apprenticeships are seldom available to deaf people for age or other reasons. None of these latter provides the rich depth in training experience by which a permanent institution with its highly skilled staff reaches and motivates the deaf person to be somebody.

The tragedy of these failures of our society to meet its responsibilities is that a large portion of deaf people can benefit very much from more training. However, when their formal schooling is terminated, there is no place for them to go for more at the time or when they are motivated to want more training.

Of continuing concern to the Rehabilitation Services Administration is the decline in the vocational training of deaf clients. The accelerating inroads of automation seem to have sharply reduced the number of entry level jobs by which the deaf have gained their footholds in industry. Consequently, more vocational training has been necessary for deaf people who frequently are being pushed aside by overcrowded vocational schools. This intensifies the training void for deaf people that exists between the special school system which generally terminates at 9th grade or less and Gallaudet College, a void which has nurtured and partially perpetuated their serious *underemployment.*

Accomplishments.—The establishment of the National Technical Institute for the Deaf authorized by Public Law 89–36 is a very important step toward reduc-

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[3] Alabama, Arizona, Arkansas, Colorado, Florida, Georgia, Indiana, Louisiana, Mississippi, Nebraska, New Mexico, Oklahoma, South Carolina, Tennessee, Vermont, and Wisconsin.

[4] Seattle, Washington; Kansas City, Missouri; and Pittsburgh, Pennsylvania.

ing the underemployment of deaf people. It will contribute vital new concepts in the training of deaf people and through its special job development and placement program open employment that has not had many or even any deaf practitioners. The State vocational rehabilitation agencies will naturally be directly involved with every student.

The most promising accomplishments for that large fraction of deaf people who are the most severely handicapped because of limited or no formal education, emotional problems, mental deficiency, or other difficult-to-manage circumstances, have been the successful transfer to State operations of three pioneering Rehabilitation Services Administration conceived and sponsored research projects. These are glowing examples of research results being incorporated in regular operations.

The Michigan Rehabilitation Institute in Pine Lake is operating the personal adjustment and prevocational center for unemployed deaf men that the RSA supported in Lansing for over three years. It successfully demonstrated, through techniques that its staff developed, that uneducated, seriously maladjusted deaf men who have not been eligible for vocational rehabilitation because suitable services were not available could in fact be prepared for and placed in competitive employment. This center is a regional model from which equivalent service centers in other States will be established as soon as possible.

The RSA project at Lapeer (Michigan) State Home and Training School to demonstrate rehabilitation of the hospitalized deaf-retarded has been made a part of regular State operations. It is essentially a training operation to make retarded deaf individuals more effective, varying from greater individual contribution to in-institutional life to discharge to independent living of those who have been patients because of improper diagnosis. It is being developed as an innovation project for adoption in other States. It has unusual economic significance in view of the larger ratio of deaf persons in institutions for the mentally retarded.

The State of New York has absorbed, after nine years of RSA supported demonstration, the mental health project for the deaf in the New York State Psychiatric Institute. It is expected that other large population States will emulate this pilot experience as mental health workers who are able to communicate with the deaf (the crux of the project) become available.

TRAINING

Communication is the most complex aspect of human behavior. Impairments in the processes of communication—speech, language, and hearing—leave a multitude of problems in their wake. The child with a communication disorder may encounter overwhelming obstacles to learning and may find it difficult to establish the realtionships with other children which are essential to growing up to healthly, stable adulthood. The adult who acquires a speech or hearing disorder may experience a variety of social problems. His livelihood may be endangered; he may withdraw from his friends and cease to be a participating member of his community. It is not surprising, then, that persons with speech and hearing disorders form one of the largest disability groups in the country. What is surprising—and intolerable—is the fact that adults with communication problems form one of the smallest groups of successful rehabilitants.

The purpose of training grants in speech pathology and audiology is to increase the number of speech and hearing specialists qualified to diagnose and treat adults with communicative disorders. Teaching grants are made to assist university training centers to expand their programs and modify their curricula to provide more extensive training for work with adults. Prior to the initiation of the RSA training grants program, the majority of the programs traditionally prepared students to work with children in the public school system. A significant number of graduate training programs have modified their curricula to include extensive training in the area of adult rehabilitation. Traineeship grants are made to training centers so that students may gain experience with adults and so that experienced clinicians may secure advanced training to prepare for university teaching positions.

Accomplishments.—Significant progress is being made in the effort to alleviate the shortages of qualified personnel to diagnose and treat individuals with communicative disorders but shortages continue to exist. Since RSA began to support graduate training in this field in 1958, the number of universities with teaching grants has grown from seven to 66 in fiscal year 1967, and the number of traineeships from 23 to 718 in fiscal year 1967. Approximately 1,200 RSA train-

ees have completed their graduate study in this field and of this number over 1,000 (90 percent) are employed in rehabilitation settings which provide services to adults with communicative disorders.

The number of speech pathologists and audiologists who have met the requirements for the certificate of clinical competence, as established by the profession, has increased in the past few years. They now total over 6,000 as compared with less than 1,000 in 1958. Improvements in the graduate curricula account in large measure for this increase. At the present time it is estimated that less than 500 trained persons are providing services in postlaryngectomy or esophageal speech to the laryngectomee. More persons are being trained in this area through short-term training programs.

A very conservative estimate of the number of trained persons providing language and speech training to the aphasic on a full-time basis would be 250. In addition there are a number of speech clinicians, some with limited training, providing minimal services. Some of these clinicians may provide services to one or two aphasic patients each year. It is important that every speech clinician receive specialized training in working both with the laryngetomee and the aphasic. These competencies are most important to every clinician, working in a large rehabilitation center, in small community hospitals, private practices, or in any of the work environments.

Needs.—Precise figures on the number of speech pathologists and audiologists now employed are lacking. The membership of the American Speech and Hearing Association is now over 13,000, and there are perhaps an additional 5,000 persons working in the field who are not members. It is estimated that about 20,000 clinicians are required to provide the necessary services to the approximately 8,000,000 persons in the United States who have defective speech or hearing serious enough to handicap them in their social relationship and vocational adjustment. Approximately 800 students are completing their studies at the master's or doctoral level each year. This number represents about half of those needed to reach the goal of 20,000 trained clinicians in practice and 1,500 graduates a year.

Of the approximately 6,000 clinicians who have received the certificate of clinical competence, only 900 have certification in audiology and about 150 have dual certification. The need for bringing new workers into the field is clear and the increase in college enrollments will result in larger graduate student bodies. At the same time, many of the clinicians now working lack competencies in dealing with specialized problems, such as work with the laryngectomized patient, the adult aphasic, or those with profound hearing loss. There is a need for the continued training of these individuals who are presently providing only limited or inferior services.

Every rehabilitation environment should have at least one speech clinician who possesses the special competencies in working with the aphasic. This would mean that some 400 to 500 speech clinicians with special competencies in working with the aphasic should complete their training each year. In addition, training should be provided to the clinicians presently in practice.

Estimate manpower figures in speech pathology-audiology are:

	1968	1969	1973
Number enrolled in graduate education programs:			
Master's degree	1,500	1,750	2,000
Doctoral	160	180	200
Number receiving RSA traineeships	673	673	1,500
Number of graduates:			
Master's degree	1,100	1,400	1,800
Doctorate	155	170	190
Number needed for replacement and to fill new positions	2,750	3,250	4,500

New activity.—A major effort in the recruitment of students to work in this profession is underway at the present time. It is anticipated that by 1968, effects of this activity will begin to have an impact on the graduate enrollment, and by 1972 some of the manpower needs will be met. This can be accomplished only through the continued increase in support of the program.

1969 proposed program.—In 1969 funds amounting to $3,267,000 are requested for support of 61 teaching grants and 67 traineeships, the same level as 1967. Components of this request are: $1,006,000 to continue support of 61 continuing teaching grants; and $2,261,000 for 678 traineeships.

Trained personnel to meet the needs of people who are deaf are in short supply. Special skills are required to work with this group of handicapped persons. It is important for the trained worker to have some understanding of the psychological, social, and communicative problems of these individuals. The skill of manual communication is most important to the worker serving a deaf person whose verbal communication ability is limited or completely lacking. Teaching grants are made to prepare speech pathologists, audiologists, social workers, rehabilitation counselors, psychologists, physicians, and others to work with this specialized group. Research in this area continues to expand, but the quick incorporation into the curricula in the respective professional fields of new knowledge gained through this research continues to be difficult. Traineeship support is important to help prepare a number of individuals to work with the deaf.

Accomplishments.—Until recent years, academic programs to prepare personnel for rehabilitation of deaf persons did not exist in the United States except those of preparation of teachers of deaf children. In fiscal year 1961, VRA began support of a specialized training program at the master's degree level which was designed to prepare a small number of persons now working with the deaf for leadership positions in rehabilitation of the deaf. The curriculum drew upon a number of disciplines and is composed of both classroom instruction and actual field experience in varied settings serving deaf persons. In 1963, three programs were developed to provide orientation of professional personnel to work with the deaf, through training courses of four to six weeks' duration. These courses were primarily geared to meet the needs of rehabilitation counselors, social workers, psychologists and other rehabilitation personnel. In 1964, an inter-disciplinary program was developed to provide greater breadth and depth in the understanding of the problems of deaf persons. The students in this program are individuals from the fields of speech pathology, audiology, social work, or rehabilitation counseling. All of these programs are comparatively new and their full effectiveness will not be realized until the students have returned to their work environments to try the new skills and knowledge gained. So little has been done in the past in the rehabilitation of deaf adults that it is premature to attempt an objective assessment of accomplishments.

Needs.—Relatively few professional workers are now equipped with enough knowledge about problems of deaf persons or with skill in communicating with totally deaf persons. State vocational rehabilitation agencies need more counselors with adequate preparation for serving deaf persons. Only thirty-eight of the agencies have even one counselor with special competence in serving deaf persons. Only eleven[6] State agencies have more than one such specialized counselor.

Although some university training programs in rehabilitation counseling offer limited field work experience in rehabilitation of the deaf, most of them are faced with inability to locate satisfactory facilities for student clinical practice. Counselors with knowledge of the problems of the deaf are needed in residential schools for the deaf, in public employment services, in rehabilitation facilities, in vocational schools, and in mental hospitals and schools. Skilled audiologists are needed in the schools for the deaf to assist in determining the level of residual hearing and its possible contribution to independent living and employment.

Manpower figures are:

Manpower estimates	Fiscal year		
	1968	1969	1973
Number of students enrolled in specialized training programs related to the deaf	100	115	150
Number receiving VRA traineeships	72	72	135
Number of graduates	60	60	120
Number needed for replacements or expansion	200	230	300

In 1967 we saw the successful development of guidelines for case service standards for vocational rehabilitation counselors serving deaf people; increased activation of the registry of interpreters for the deaf; assistance in the estab-

[6] Alabama, California, Georgia, Illinois, Minnesota, North Carolina, New Jersey, Ohio, Texas, West Virginia, Wisconsin.

lishment of a professional organization of rehabilitation workers for the adult deaf; and a pilot effort to develop an intensive training program for interpreters of the deaf.

New activities.—In 1968 program plans include the development of guidelines for the integration of special education and vocational rehabilitation; in intensive effort to interest psychiatrists in serving deaf people; development of guidelines for professional non-medical and lay workers in extending mental health services to the deaf; design of better techniques of communication for severely handicapped deaf people; orientation of religious workers for the deaf to vocational rehabilitation; and the preparation of guidelines and standards for teaching the language of signs.

1969 proposed program.—In 1969, $551,000 is requested for 8 teaching grants and 72 traineeships, same level as 1968. Components of the request are $243,000 for continuation of eight teaching grants; and $308,000 for 72 traineeships.

REHABILITATION FACILITIES AND WORKSHOPS

Project development grants are available for the planning of new and expanded speech and hearing facilities under section 12 of the Act. During 1966, two awards amounting to $9,000 were made for this purpose.

Funds for the construction of new facilities are also available under Section 12 of the Act and during FY 1967, one award amounting to $113,000 was made for a comprehensive rehabilitation facility serving this group.

RESEARCH

Rehabilitation of deaf persons

Accomplishments.—Investigations are being continued and broadened on a national level to determine the actual occupational status of young deaf adults. Two intensive surveys have already been completed in the New England States and the Southwestern States, and the findings were combined with those from earlier VRA-sponsored studies of the vocational achievements of the deaf in representative urban and rural communities. The most significant finding to emerge from these investigations was documentation of the fact that the deaf, as a group, were not receiving vocational training of a type which would prepare them to compete for or retain jobs in the present day labor market. Much of their present training was for jobs which are rapidly being eliminated by automation. An immediate outgrowth of these survey findings was the preparation and passage of Public Law 89–36, "To provide for the Establishment and Operation of a National Technical Institute for the Deaf." It is intended that the newly-created Technical Institute for the Deaf will begin to provide the kind of modern training, counseling, and ancillary services which the deaf must have if they are to achieve suitable employment in the coming years.

Another of the many discoveries to emerge from these research surveys was the fact that most deaf adults who are working are grossly underemployed in view of their inherent intellectual and personal capacities. As a consequence of this finding, VRA-sponsored projects are now under way in St. Louis, Boston, Chicago, and Little Rock to demonstrate the long-term value to society of providing continuing vocational counseling and training to the underemployed deaf adult as well as to the unemployed deaf persons. These projects are also investigating the economic and educational feasibility of providing such services for the deaf in existing rehabilitation facilities, under the guidance of specially-trained personnel, rather than in more expensive and virtually non-existent vocational training centers established exclusively for the deaf. If these demonstrations prove productive, they will have widespread influences on future State vocational rehabilitation programs for the deaf.

Many projects are under way to demonstrate ways in which the hearing community can assist the deaf to become active and well-informed members. Two sociologists from Catholic University are completing their second study of the personal and social interaction of deaf and hearing people within a community in an attempt to discover unmet needs and unrecognized deterrents to effective relationships.

The close involvement of the vocational rehabilitation program with deaf people and the foregoing and other sociological studies have brought into focus the urgent need for a coordinating, referral, interpreting and supportive counseling service for deaf people in metropolitan areas. We have found that most deaf people seldom know about community services to which they are entitled and

which they need. Moreover, the relatively few who do become clients of these services may remain very much underserved because of the severe communication problem inherent in their disability.

Consequently, their vocational rehabilitation potential may be seriously affected. We are now carrying out demonstrations of the kind of a supportive service communities can most economically provide while not duplicating other services. Speech and hearing societies in Pittsburgh, Kansas City, and Seattle are sponsoring community service centers for deaf people. A statewide program is now operating in Utah under the State vocational rehabilitation agency. We expect to be able to support similar work in other hearing societies, in an independent voluntary agency, and a university.

The new authorization in Public Law 89–333 that permits Federal funds to be used for interpreting language in describing and providing services for deaf vocational rehabilitation clients without regard to economic need underscores the urgency of finding successful patterns for this needed community service.

DePaul University in Chicago is instituting a metropolitan mental health facility for the deaf patterned after the successful demonstration project recently completed at the New York State Psychiatric Institute which established new ways of providing professional psychiatric services through the use of the language of signs. In San Francisco, a pilot program will soon begin to demonstrate the mental health service needs of deaf people.

The need to explore untried employment areas for the vocational rehabilitation advancement of deaf people and better utilization of their talent and capabilities has focused interest on the theater. The O'Neill Foundation of New York City is presently conducting a pilot program in repertory theater for the deaf that holds considerable promise of opening an area of new employment opportunities for deaf people.

The newly established Research and Training Center at New York University holds great promise for the conduction of studies in breadth and depth that will yield answers to the persisting problems that continue to surround deafness.

The National Health Council and a distinguished committee of prominent citizens have joined with VRA in sponsoring the formulation of an American Council of Organizations of and for the Deaf. This Council will include representative members from approximately 20 national organizations concerned with the deaf and should provide an effective mechanism for consolidation of the many independent and largely ineffectual efforts made in behalf of the deaf at the present time.

We anticipate that this Council will take leadership in developing urgently needed services for the deaf community such as management of a nationwide program of communication improvement centers, the publication of a regular paper to keep deaf people aware of their opportunities and roles in the larger society, the development and management of an appropriate program whereby deaf people can share the cultural resources of society, a job development service, and so on.

Research scientists from other professional fields are also beginning to turn their interests and talents to the problem of the deaf. Medical geneticists and audiologists at Johns Hopkins University are conducting an exhaustive search for new classifications of hereditary deafness. Engineers at Northeastern University, Wayne State University and Gallaudet College are perfecting new teaching machines which should greatly improve methods of teaching intelligible speech to the deaf. Joint research is being conducted by Ohio State University and the University of Zagreb, Yugoslavia, on a dramatically new technique for teaching the totally deaf to utilize sounds for possible understanding of speech. Further efforts along these lines relate to a project which is investigating the possible usefulness of technological developments coming from the space program as new sensory aids for the deaf. On another front, research projects at Vanderbilt University, Catholic University and the Institute for the Deaf in the Netherlands are investigating ways in which the characteristic lack of creative language in the deaf can be overcome.

1968 proposed program.—In 1968, a total of $966,000 is requested for 18 projects. Emphasis will be given to the establishment of demonstration centers to develop and test better methods of vocational evaluation and assessment of the deaf, techniques for their placement, specific counseling methods, and ways of establishing a closer association with business and industry during on-the-job trials. Efforts to expand the number of professional fields in which the superior deaf adult may find employment will also be made. Supporting these activities, research will continue into ways of improving the language and the psychosocial relationships of

the deaf so they may function more effectively and competitively on the job. Continued search for new sensory aids for the deaf will be conducted.

Rehabilitation of speech impaired

Accomplishments.—Finding ways in which the stroke patient with aphasia can obtain more intensive language retraining is the purpose of a research project being conducted jointly by Ohio State University and the Catholic University of the Sacred Heart in Milan, Italy. Devices and materials are being developed and evaluated which provide the aphasic with opportunities for intensive drill and self-instruction in language during periods in which he is not receiving formal speech and language training from a qualified therapist. A new type of teaching machine, designed specifically with the aphasic's problems in mind, has been developed and is being tested in several clinical settings. This device, utilizing a typewriter beyboard, promises to increase ten-fold the amount of self-training opportunities presently available to the aphasic. An obvious extension of this research is determining the feasibility of the stroke patient using the programmed learning sequences and machines in his own home and with the assistance of his family. Should the investigators find that such home instruction is productive, one solution will have been found for the perplexing problem of providing specialized services to home-bound and rural stroke patients. An initial research project has just been completed, with RSA support, at Washington University in St. Louis which may, eventually, pave the way for physical restoration of the laryngectomized patient who has lost his larynx because of cancer. Medical specialists have studied and identified some of the basic neurophysiological requirements necessary for the reestablishment of normal swallowing and voice production through reconstructive surgery.

Future research projects are being developed which will utilize this information with laryngectomized animals and, eventually, laryngectomized humans.

Several research programs are presently underway to determine better ways of helping adult stutterers obtain normal speech. Speech pathologists at Northeastern University are conducting careful studies of the therapeutic progress of stutterers, and concomitant psychological and physiological changes, in an attempt to determine factors associated with an improvement in speech and to predict the likelihood of a patient's successful rehabilitation. At Western Reserve University, work is underway to develop methods whereby reliable and precise judgments can be made of a stutterer's speech improvement. Ways of helping speech therapists ascertain the success of their own therapy with stutterers by establishing personalized but objective criteria of judgment are being tested at the University of Kansas Medical Center with the use of closed-circuit television and video tape. Also, scientists at the State University of Iowa are testing new methods for conducting therapeutic counseling for stutterers. Combined, the outcome of these 4 studies should represent a major advancement in the development of more precise rehabilitation techniques for this speech handicapped group.

At present, most of RSA-sponsored projects involving the hard of hearing concern the development of more precise audiologic measures to be used in diagnosis. Two projects, one at the Houston Speech and Hearing Center and the other at the Universdity of California Medical School, are independently investigating audiological findings which are proving to be predictive of the outcome of surgery for patients with particular types of hearing loss. These findings are of inestimable value to the surgeon in selecting potentially successful candidates for surgery and subsequent restoration of hearing. The University of Oklahoma Medical Center, the Johns Hopkins University and Vanderbilt University are undertaking the development of new audiologic tests which promise to provide some of the kinds of specific information State rehabilitation counselors and others need to be of greatest help to their hard of hearing clients.

In quite a different view, RSA recently awarded a contract for the writing and production of a stage play which would help inform the general public of the importance and seriousness of partial hearing loss. Reaction to the play's first public performance before the American Hearing Society was enthusiastically positive. The play script has now been made available to community groups across the nation.

1968 proposed program.—For 1968 $314,000 is requested for 13 projects. Primary emphasis will be given to the development and establishment of better rehabilitation methods for the aphasic patient and the laryngectomized person. Community demonstration projects, involving a multi-disciplinary approach, will be encour-

aged. The feasibility of establishing an organized and standardized reporting system to be used with large numbers of aphasic patients across the country will be studied for the purpose of collecting sufficiently large amounts of data to permit predictive studies. Research concerning better diagnostic and treatment methods for laryngectomized patients will receive high priority. In the area of stuttering, particular attention will be given to new ways of treatment. The possible usefulness of operant conditioning therapy and pharmaceutical treatment, among others, will be considered. Determination of the true vocational significance of partial hearing loss seems to be a most critical need at this time and efforts will be made to find such answers.

OFFICE OF EDUCATION—OBLIGATIONS FOR PROGRAMS ON SPEECH AND HEARING

	1965	1966	1967	1968 (estimate)	1969 (estimate)
Office of Education:					
Elementary and secondary activities		$1,086,341	$1,480,000	$3,500,000	$3,700,000
Libraries and community services			11,000	20,000	20,000
Educational improvement for the handicapped	$3,279,999	6,554,175	7,930,465	9,011,728	10,189,000
Research and training	534,635	471,562	401,172	355,869	335,039
Total	3,814,634	8,112,078	9,822,637	12,887,597	14,244,039

OFFICE OF EDUCATION PROGRAMS IN HEARING, SPEECH, AND LANGUAGE

Grants for training of professional personnel

According to the most recent estimates of the American Speech and Hearing Association, speech and hearing disorders account for more than 8 million handicapped individuals. Of this number approximately 3 million possess hearing difficulties severe enough to interfere with communication and the development of normal speech and language. 125,000 of these are considered totally deaf, and thereby incapable of receiving any speech through the auditory mechanism. The remaining 5 million represent children and adults with significant speech and language difficulties generally unrelated or only in part related to hearing disorders. Among the types of speech and language problems found are those related to stuttering, aphasia, laryngectomy, cleft palate, cerebral palsy, or mental retardation.

The Office of Education activities related to improving and enlarging educational opportunities for handicapped children has expanded significantly during the past year. A number of training grants have been awarded to colleges and universities to help increase the number of professionals trained to work with children with communication disorders. Grants have also been awarded to training institutions for the purpose of developing graduate programs in the area of speech pathology and audiology. Research and demonstration projects are being carried out in several areas, such as determining the effectiveness of instruction in the classroom and other learning situations for communicatively handicapped children and youth.

To encourage State departments of education to expand their services to the communicatively handicapped in the schools, a National major conference was held by OE in the fall of 1966 for State supervisors in speech and hearing. Problems in the development of school programs with and without Federal assistance were identified and discussed by participants. A study of the recipients of OE training grants in Speech and Hearing under P.L. 85–926, as amended, revealed that almost all trainees and fellows have indicated the vocational goal of providing speech and hearing services in the schools.

Sixteen program directors representing 16 colleges and universities attended the first conference for Program Development Grant Awardees in the spring of 1966. During the spring of 1967 twenty directors attended. The purpose of these meetings was to discuss the implications of funding for the development of training programs as well as the details of the policies and procedures concerning program development grants.

For academic year 1968–69, it is estimated that a total of $3,152,160 will be obligated for awards for speech and hearing in the following categories:

	Number	Amount
Post masters fellowship	27	$186,300
Masters fellowships	481	2,549,300
Senior year traineeships	44	123,200
Summer traineeships	56	65,850
Program development grants	13	227,510

An additional $613,225 will hopefully be obligated for awards to States.

Although the school-age population of deaf children has remained relatively constant in the past few years, the downward extension of educational services to very young preschoolers has increased the total number. It is estimated that there are over 40,000 deaf pupils in the United States. Due to a shortage of teachers and other obstacles, an additional 14 percent (8,400 children) are not receiving the specialized help necessary from schools and classes appropriately equipped to serve these children. A recent survey has identified an annual need for 500 new teachers of the deaf plus 500 more to overcome existing shortage and annual attrition.

Public Law 87–276, approved September 22, 1961, authorized a grant program of $1.5 million for each of 2 years to accredited public and non-profit institutions of higher learning for the training of teachers of the deaf. This program was extended for an additional year in fiscal year 1964. In the three-year tenure of the act, 1,376 scholarships have been awarded to train teachers of the deaf.

The program was expanded in academic year 1965–66 to include, in addition to the training of teachers, the preparation of college instructors, supervisors, administrators, and research personnel as authorized by section 301 of Public Law 88–164. A total of $2,068,350 was utilized in support of the program in the area of education of the deaf.

The program incorporated by Public Law 85–926, as amended, was extended by Public Law 89–105 in 1965. Further support of the program activities in academic year 1966–67 and 1967–68 was $2,552,180 and $2,832,839, respectively.

For academic year 1968–69, it is estimated that total funds of $2,559,157 will be awarded for the following categories:

	Number	Amount
Senior year traineeships	141	$394,800
Masters fellowships	312	1,653,600
Post masters fellowships	11	75,900
Summer traineeships	176	189,300
Special study institutes	96	55,168
Program development grants	7	138,045
Special projects		52,344

An additional $196,000 was obligated for awards to States.

It is anticipated that in 1969–70, a total of $4,002,000 will be available for the preparation of professionals to work in the area of the deaf.

RESEARCH

The research and demonstration program for handicapped children established under Public Law 88–164 has become the principal source of funds within the Office of Education relating to speech and hearing problems. During recent years, research has been supported which focused upon a wide variety of problems in this critical area. The largest and most complicated project currently in progress is a national survey of speech and hearing problems in school children. This study will test more than 25,000 school children in order to establish the prevalence of a variety of speech and hearing problems.

Other studies in this area include the development of curricula for the deaf, the development of auto-instructional aids for lipreading, the development of other teaching aids for both deaf and speech impaired children, the development of new signs to enrich the sign language of the deaf, and the development of instructional methods to reduce stuttering.

One study of particular merit is attempting to make the telephone available to the deaf. This project will develop an easily portable device which

will permit the deaf to communicate over the telephone by use of specially constructed portable typewriters which act very much like teletype machines.

A number of investigators are studying testing procedures, both for identification purposes and for suggestions regarding treatment. An investigator at Gallaudet College is experimenting with a variety of electronic aids which can be useful for helping the deaf to speak. He held a conference during 1967 which brought to Gallaudet College researchers and technicians from around the world to demonstrate the various new devices now available. As a result of this work many new devices should soon become available to help teachers with the speech problems of deaf youngsters.

MEDIA SERVICES AND CAPTIONED FILMS

Expanded to provide media services to all types of handicapped children by enactment of P.L. 90–247, the former Captioned Films for the Deaf program was redesignated as Media Services and Captioned Films in fiscal year 1968. Since no funds were appropriated, however, to serve any of the handicapped other than the deaf, actual program activities are essentially the same as in the previous year.

Groups served will reach a total of more than 1,700 and film attendance will number about one and three-quarter million. Addition of forty feature titles spur showings to a new high of 2,500 per month on the average.

Educationally, the principal gain is the completion of a three year project to supply basic projection equipment to all classes for the deaf. Addition of 1,100 overhead projectors, 2,300 filmstrips projectors, 4,300 projection tables and 4,000 screens equip every listed class of deaf children with these aids. In addition, 300 motion picture projectors for 8mm single concept films were put out on loan. Production activities accounted for 150,000 special transparencies and 9,000 motion picture loops in cassettes or cartridges as well as some 16,000 filmstrips.

Training activities continue through the services of four regional centers at the universities of New Mexico, Nebraska, Massachusetts and Tennessee. Two basic media institutes were provided for sixty teachers of the deaf and one advanced institute for supervisors of media programs. Each of the centers continues to provide inservice training through demonstrations and on-site workshops from Maine to Hawaii.

Release through the National Educational TV network of some 30 television programs selected from a series of 100 produced last year provided the first national television service for the deaf. Identification of other possible media services to the adult deaf was the purpose of a national meeting jointly sponsored by Vocational Rehabilitation and Captioned Films at the University of Tennessee.

Demonstrations of the effects of saturation use of educational media were carried on in California, Utah, Idaho, and Washington, D.C. Research in programming language for deaf children provided enough materials to supply more than thirty hours of self-instructional lessons. Development of teacher training materials for speech instruction saw the completion of six, ten-minute films together with audio training tapes and manuals.

Title III of the Elementary and Secondary Education Act (P.L. 89–10) provides nonmatching grants to local education agencies to stimulate and assist in (a) the provision of vitally needed educational services not available in sufficient quantity or quality, and (b) the development and establishment of exemplary educational programs to serve as models for regular school programs. This program gives special consideration to projects that are truly innovative as well as being of high quality and responsive to local needs. In fiscal year 1966, 15 projects were funded at a total of $1,086,341; in fiscal year 1967, 22 projects were funded for $1,480,000.

Funds under LSCA Title IVA are for the purpose of establishing and improving State institutional library services. Residential schools for the handicapped, including hard of hearing, deaf, and speech impaired, may be included in a State plan if these schools are operated or substantially supported by the State. Funds may be used to provide books and other library materials as well as other library services to students in such residential schools under an approved State plan. Fiscal 1967 funds were limited to planning purposes. Fiscal 1968 Title IVA projects affecting the mentally retarded cannot be identified at this time as the annual State programs have not been submitted.

Under Title I of the Higher Education Act of 1965 (PL 89-329), there was one program in the University of Vermont focused on hearing and speech activities. This program was for the purpose of training teachers, nurses, and supportive aides in the needed skills and techniques to work with persons with speech, hearing, language, and learning deficiencies.

In fiscal year 1967, the Office of Education supported research projects in such areas as school achievement as related to developmental speech inaccuracy; learning of aurally received verbal material; the effects of training and proficiency in public speaking on the dimensionality of speech evaluation, a swell as, studies of speech dialects in various areas of the country.

The factors which may influence the permanency of protrusional lisps will be investigated to develop standardized criteria for kindergarten children. On a continuing basis, several tests are to be administered, but no child will enroll in speech therapy while participating in the study. After four years, the subjects will be divided into two groups—those who no longer lisp and those who still have a lisp problem. A profile of significant factors will then be developed for determining those children who may require the help of therapy to achieve normal speech.

Gallaudet College in Washington, D.C. is preparing an analytic curriculum in English for 200 deaf students at the secondary level. During the first 2 years, instructional tools for improving English proficiency are to be developed centering around the belief that a set of teaching materials can be synthesized from an analysis of difficulties encountered by deaf students and students learning English as a second language. During the third year, formal comparisons will be made.

At New Mexico State University, University Park programmed instruction based upon stimulus control will be studied for application to the speech and language disorders of adults and children. The application will be made through an automated speech correction system (ASCS) and supervised by school personnel other than speech therapists. Instruction provided by the ASCS should be effective in producing marked changes to functional misarticulation of mental retardates and in the articulation and/or verbal linguistic function of both children and adult aphasics.

PUBLIC HEALTH SERVICE—SPEECH AND HEARING

Disorders of hearing and speech, and neurological disorders which hamper or prevent language development are major national problems. This is true not only because of the large number afflicted and the health problems involved but because of their associated educational and economic implications. Because these disorders are so interrelated, they are usually referred to as the communicative disorders. This general concept also includes problems of voice and reading disability.

OBLIGATIONS

	1965	1966	1967	1968	1969
Chronic diseases	$1,341,000	$1,344,060	$1,644,000	$676,000	$676,000
National Institute of Neurological Diseases and Blindness	5,645,000	6,533,000	7,929,000	9,601,000	10,130,000
Total	6,986,000	7,877,060	9,573,000	10,277,000	10,806,000

NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS

Disorders of hearing, speech, and language became an early targeted area for the National Institute of Neurological Diseases and Blindness. These disorders include—

Deafness resulting from malformations or malfunctions of the ear, the auditory nerve, and sound-receiving centers of the brain;

Delay or failure to talk;

Defects of articulation, including cleft palate, facial malformations, and other speech-affecting organic disorders; and

Inability to receive, interpret, retain, and express language, including aphasia and central disorders of perception.

Because of the urgent need for trained personnel, training received a major emphasis. At the present time 377 postdoctoral students are receiving training in

69 programs in otolaryngology, audiology, speech pathology, and sensory physiology.

Research in the communication field is one of the most rapidly expanding areas of the Institute, and almost 200 separate Institute-supported research projects are under way at medical centers across the Nation. Five multidisciplinary clinical research centers are now being supported at Princeton University, Central Institute for the Deaf in St. Louis, the University of Chicago, the Kresge Hearing Research Institute of Ann Arbor, Michigan, and the University of Florida. The Institute's cerebrovascular center at Boston University is also emphasizing research on aphasia. In addition to these centers, the Institute is supporting a temporal bone bank program for the long-term study of structural and pathological changes relating to functional disorders of hearing, and an Information Center for Hearing, Speech, and Disorders of Human Communication at Johns Hopkins Medical Institutions. This communications center is providing an efficient interchange of important scientific information between researchers.

To tie all facets of the program together and plan for the future, a subcommittee on the Institute's National Advisory Council has been reviewing and assessing the field during the past 2 years. They have outlined unresolved problems, pointed to unmet needs, and are suggesting new approaches to many areas of need. A detailed report from the subcommittee is expected later this year.

Research accomplishments

A research tool, evoked response audiometry, is presently being developed and refined at several medical institutions to permit physicians to test hearing independent of the individual's conscious participation. One of the greatest problems facing hearing and speech professionals is the very early identification and management of children with impaired hearing. In most children, speech develops naturally between 18 months and 3 years of age and for maximum effectiveness, therapy should begin at that time. Current audiometry techniques often cannot detect hearing loss in a child before he is 5. In evoked response audiometry, a specialized computer analyzes brain wave tracings and provides a true picture of the brain's responses to sound—making accurate diagnosis possible for tiny babies as well as for mentally retarded, brain damaged, and other uncooperative patients.

The current interest in all types of organ transplants is reflected in research programs concerned with developing and implanting an artificial larynx. This device would be of immediate benefit to laryngectomy patients as well as to accident patients and the growing number of soldiers in Viet Nam receiving wounds or injury to the throat. Scientists already have successfully removed and reimplanted the larynx of an experimental animal in a study of the basic mechanisms of laryngeal implantation.

One study of the vestibular system, which controls balance, has provided researchers with information about the biochemistry of fluids in this organ (the labyrinth) and about the pathology of ossification in the labyrinth and cochlea. Advances also have been recorded in understanding the central connections of the vestibular system and of the processes producing dizziness. These and other important basic studies of the anatomy, physiology, biochemistry, and development of the inner ear have provided information and understanding of the basic structure of the ear and of processes of disease production.

An improved technique for staining temporal bones, willed for research by patients with hearing problems, has been developed. This technique promises to greatly shorten the time needed to prepare temporal bones for study, increasing the number that can be used for research and reducing the possibility of chemical and structural change in the bone during the preparation process.

In a landmark study this year, an Institute-supported investigator reported that in kernicterus, a disorder that may develop in a newborn with jaundice, the damage may be central rather than peripheral. Knowledge of the actual site of damage is necessary for the most effective management of a child with hearing loss. The finding that it may be the nerve pathway from the ear to the brain that is damaged, rather the inner ear as was believed, has important implications for handling patients with kernicterus-induced deafness. This finding, with its important clinical implications, also is providing investigators with further knowledge of central hearing damage.

The Institute is supporting studies on the characteristics of hearing aids and their suitability in specific types of deafness. For hearing aids to be used effectively, the Institute strongly emphasizes the importance of a thorough otologic examination before any remedial steps are taken. Because of the complexity of

the auditory system and the great variety of underlying disorders that may contribute to hearing disability, too many people are still being fitted with hearing aids who cannot be helped by this means at all; too many are being sold the wrong type of hearing aid; and too many with remediable ear disease are going undiagnosed while they try one hearing aid after another, until they pass the point where the disease is remediable.

Speech and language disorders and learning disabilities in children are receiving increasing attention by the Institute because of the possibility that many of these disorders have a neurological basis rather than a behavioral one. Institute-supported studies of minimal brain dysfunction are continuing, as well as studies of actual brain damage. In minimal brain dysfunction, the Institute is supporting Task Force studies of medical facilities needed by children with this disability, and studies of research gaps and opportunities in this area. Elucidation of the factors responsible for the development of neuropsychiatric damage in children is a major Institute activity through its Collaborative Perinatal Research program.

NATIONAL CENTER FOR CHRONIC DISEASE CONTROL

The Neurological and Sensory Disease Control Program provides for the development of new instrumentation, techniques, and methodologies for prevention, early detection and diagnosis and improved treatment of communicative disorders.

The ability to communicate is vital if a person is to develop himself as a contributing member of society. Yet, communicative disorders are one of the most prevalent handicapping conditions in this country. Today, they encompass approximately eight million people. Hearing impairment is the greatest single disabling condition, estimated at 6,000,000 cases. There are several reasons why this is so. Speech and hearing impairments, which originate in childhood and persist to maturity, such as stuttering faulty articulation, and language deficits due to sensory and cultural deprivation, have always been prevalent. Congenital problems, such as cleft palate, otosclerosis, and cerebral palsy also frequently affect the ability to receive and/or transmit speech. In addition to these causes of communicative disorders, however, the technological advances of our modern civilization have increased the number of communicatively impaired persons. Trauma from noise and cerebral damage resulting from automobile accidents cause hearing loss. More important, modern medicine, through its strides in saving the child who might otherwise not survive long after birth, and in prolonging life, has been responsible for increasing the number of people living who are communicatively impaired. Children are saved, but they often have damaged nervous systems or congenital defects affecting their potential for learning speech and language. People are living longer, but hearing degenerates with age.

The most common cause of hearing loss is chronic otitis media. About 5% of the children in the United States have repeated episodes of serious middle ear infections sometimes during the early years of life, and approximately 10% suffer at least one major episode. The magnitude of this problem can further be seen in the estimate that 50% of all adult hearing problems have their origin in these childhood infections.

Program interest in noise induced hearing loss has expanded to include other aspects of noise. This year, the Program will support a National Conference on Noise as a Public Health Hazard. Resulting from this Conference will be a definition of the noise hazard problem and specific recommendations for the control and minimization of this hazard. These will pertain to the effects of noise on man; industrial noise and the worker; noise in the community; special problems of recent technological development, e.g., sonic boom, and community control.

In keeping with its view that loss of hearing is primarily a health problem and that the medical and allied medical specialists most concerned with the ear and hearing should be involved in the diagnosis and treatment of the disorder, the Program is investigating ways to increase the effective use of hearing aids.

Of broader significance, but also applicable to the effective use of hearing aids are improved diagnostic techniques which the Program is developing. Evidence is available that current audiometers have a tendency to drift out of adequate calibration without the fact being known to the user of the equipment. The development of an audiometer which has self-calibrating features as well as methods for determining the instrument's level of calibration will be supported.

Investigation will continue into the clinical usefulness of evoked response audiometry, a technique which permits the audiologist, by observing brain waves, to determine hearing loss in people too young or too physically or mentally impaired to offer verbal response.

Another study being continued will determine selected speech and neurological characteristics of dysarthria (imperfect articulation in speech due to neurological lesions). Data resulting from this study will be used to determine the feasibility of applying speech physiology and analysis techniques to the problems of early diagnosis of neurological dysfunctions.

A project will be supported to continue the evaluation of pitch perturbation as a diagnostic and screening tool for laryngeal pathology, both benign and malignant. An electronic device will be developed and assembled which will have the capability of analyzing speech data through the use of a specialized computer in order to determine the presence or absence of abnormalities.

There is a critical shortage of professionally trained personnel (otolaryngologists, speech pathologists, audiologists) who provide services to people with communicative disorders. Not only are large sections of the country without the services of such people, but also the number of people available in urban areas is inadequate. The Program will continue to make available its expertise to stimulate and aid in the implementation of training programs for persons who provide services to those with communicative disorders. These programs are both long-term training and continuing education.

Consultation is also available to official and voluntary health agencies, professional organizations, institutions of higher learning, and other groups to aid their efforts to establish or improve service programs for persons with communicative disorders.

CHILDREN'S BUREAU—PROGRAMS IN SPEECH AND HEARING

	Actual obligations [1]			Estimated	
	1965	1966	1967	1968	1969
Special project grants	$542,500	$714,966	$1,396,312	$2,146,890	$2,500,000
Salaries and expenses	20,763	28,123	32,583	33,000	34.000

[1] Excludes formula grant funds expended by States for speech and hearing activities, for which no estimate is available.

Casefinding and screening

Research studies continue to verify that stimulation of a child's hearing must occur in infancy and early childhood for the normal development of speech and language. For the child with a normal hearing mechanism this stimulation occurs naturally, but for many children medical and audiologic treatment are required. To find such children, the Children's Bureau in partnership with the States has developed and improved programs *to discover children with partial or total loss of hearing.*

While there are still questions about the feasibility of testing the newborn's response to acoustic stimuli, hospitals have been encouraged to add hearing testing to their procedures for the total evaluation of the newborn. Continuing study of the effectiveness of different ways of testing hearing at different ages is carried on as part of projects supported by the Children's Bureau at the medical schools of Johns Hopkins University, Vanderbilt University, University of Texas (Houston), New York University, and University of Kansas. Similar studies are supported by funds administered by the Children's Bureau under the special foreign currency program, P.L. 480, at the Institute for Mother and Child, Warsaw, Poland, and at the Rambana Hospital, Haifa, Israel.

State health department programs for maternal and child health in Georgia, Michigan, Maasachusetts, Oregon, and Maryland for several years have conducted programs for testing at the early preschool years. This kind of a testing program is more difficult to develop than is a hearing testing program in school settings. Nevertheless, the State directors of hearing and speech services in a number of State health departments and in State crippled children's agencies are actively seeking to extend the State screening program for hearing impairment to early preschool ages. Utah, Minnesota, Ohio and Colorado are among these States.

The child's failure to respond to acoustic stimuli is oftentimes an indicator that he is delayed in neurological development even though his hearing mecha-

nism is functioning. This fact makes hearing testing a significant tool in overall casefinding programs for children with impairments.

Because of the rubella epidemic of 1963–65, there has been an increase in the number of children with hearing impairment. These children, soon to enter school, will pose not only a numerically greater problem for the schools, but also a more complicated problem for they are likely to have multiple impairments, including reduced vision. In order to provide an increased number of specialists to cope with the problems in the early testing of multiply handicapped children, the Children's Bureau supports the professional training of audiologists and speech pathologists. Support for specialized, post-academic training for audiologists has been continued at two institutions with a special focus on the infant with multiple handicaps, including those who suffer from the results of the rubella virus.

The data reported for hearing testing in the schools has not varied greatly over a period of years. In 1966, the latest year for which nationwide data is available, 46 State health departments reported testing the hearing of 5,425,000 children and referred 151,000 to physicians for further evaluation and treatment. These data do not reflect *all* of the testing carried on in the schools, for some, school programs are not reported. The data show that about 2 percent of the children fail to pass the screening tests and are referred for more thorough diagnostic evaluation. Evidence from individual State reports indicate that there is a range of approximately 3–5 percent of the school children who fail the initial screening test and that about 1 percent have a condition requiring medical treatment.

States have kept the cost of school testing programs low by the use of volunteer workers and by the use of salaried by nonprofessional personnel. In order to explore the limits of activities which might be carried on by the nonprofessional worker, the Children's Bureau is supporting a research study in cooperation with the Ohio State Department of Health. Inservice training for such workers is encouraged as a part of the regular formula grants made available to the States. States have been encouraged too, to use the screening testing program as a means of recruiting additional health service workers. Evaluation of this activity as a recruiting device is planned.

Casefinding for hearing impairment and speech and language impairment has been established as one of the requirements in the special projects supported by the Children's Bureau for comprehensive health services for children and youth in selected poverty areas. With the support of project funds, the facilities for hearing and speech services in hospitals and universities have been strengthened and expanded. The development of satellite centers related to the comprehensive care facility around which screening activities can be programmed promises to be a means by which better casefinding for communications disorders can be accomplished.

Treatment and remedial services

All but nine States have employed in their State health department or crippled children's agencies, speech pathologists and audiologists who have the responsibility for developing services for children with hearing, language, and speech disorders. The State crippled children's services reported giving services in 1966 to 32,344 children with hearing impairments and to 8,530 with cleft lip or palate, most of whom received speech therapy. Technical assistance and professional consultation was provided to these State programs by specialists on the Children's Bureau staff. As a means of promoting the exchange of information between States, and to promote the improvement of State programs, the Children's Bureau conducted regional meetings of the speech and hearing specialists in State programs. Two meetings, combining regions, encompassed Regions I, II, III, and V–VI.

In addition to the services provided by the States, the Children's Bureau supported special projects in the amount of about $200,000 to demonstrate the contributions of speech and hearing specialists in providing services for multiply handicapped children. These grants to the John Tracy Clinic, Los Angeles, the Iowa Crippled Children's Division, the Department of Health in Colorado, Tennessee, Alaska, Hawaii and Utah combine a concern both with casefinding and provision of the required services.

Hearing aids are provided by most of the States. A special study was conducted which showed that approximately 4,500 heading aids are provided yearly. The report of a three-year research study supported by the Children's Bureau was published and distributed in January 1967. This study is an attempt to

develop guidelines for the evaluation of hearing aids which will assure the children of the most effective aid at the least cost to the agency or family.

Services for children with hearing, language and speech disorders have been considered as a basic requirement in the projects for comprehensive care for children and youth. Approximately $225,000 was made available in fiscal year 1964 and about $800,000 is planned for this purpose in fiscal year 1968 in these projects for services specifically related to communicative disorders. The Children's Bureau has held two regional meetings of the speech and hearing specialists in these projects to plan and to promote the development of more effective services in the selected poverty areas.

The provision of speech and hearing services as a part of mental retardation evaluation centers supported by the Children's Bureau has increased for two reasons: (1) the profession of speech pathology and audiology has increasingly focussed its attention on this problem in recent years and (2) the establishment of university-affiliated training centers for mental retardation and related disorders has motivated the training centers to develop specialized curricula. The Children's Bureau conducted a seminar on speech and mental retardation for leaders in Region IX and also a national conference of those academic leaders responsible for developing the training programs in mental retardation.

One of the difficulties in examining the very young child is to determine whether his response to acoustic stimuli results from a hearing loss, or a central nervous system developmental retardation, or some other problem. Prior studies supported by the Children's Bureau indicated that electroencephalography in connection with a computer could be helpful in diagnosis. As part of a continuing study of the cost effectiveness of such testing, a national conference was held at the University of California in connection with an ongoing research project of the outstanding experts in EEG Audiometry. The conferees cast doubt that the technique is ready for use generally as has been suggested by some experts. Further studies to refine the procedure and the means for interpretation of the results are planned.

Training

The professional training program for audiologists and speech pathologists has been continued at six medical schools: Johns Hopkins University, Vanderbilt University, University of Iowa, University of Kansas, Stanford University and the University of Oklahoma. Nonacademic training was continued at the Iowa Crippled Children's Division, and New York University. Approximately $504,258 was expended on this training program in fiscal year 1967.

The trining program in speech and hearing associated with the university-affiliated centers for mental retardation and related neurological disorders has expanded rapidly. Staff and student support—have been added to 12 projects at a cost of $289,600 and plans call for additional expansion of the training program in speech and hearing to 18 universities at an approximate cost of $350,000.

Publications

A series of lessons for a home training program were developed in cooperation with the John Tracy Clinic and the University of Southern California. This material is designed for use by mothers of children with delayed development of language for reason of hearing impairment or other causes.

A report on "Hearing Aid Evaluation Procedure" was developed in cooperation with the American Speech and Hearing Association.

"Services for Children With Communicative Disorders" a guide for public health personnel was prepared by Children's Bureau staff and published in cooperation with the American Public Health Association and the Public Health Service's National Center for Chronic Disease Control.

ST. ELIZABETHS HOSPITAL PROGRAMS IN HEARING, SPEECH, AND LANGUAGE

St. Elizabeths Hospital has been operating a speech and hearing clinic for five years. The clinic is equipped to offer a wide variety of treatment, evaluative and rehabilitative procedures, including (1) pure tone and speech audiometry, (2) involuntary response audiometry, (3) hearing aid evaluations, (4) speech reading, (5) auditory training, designed to make maximum use of residual hearing acuity, (6) speech conservation and correction to prevent and treat the deterioration of speech which often accompanies hearing impairment, and (7) speech rehabilitation for patients with speech defects unrelated to their hearing acuity. The last procedure deals, on both a group and individual basis, with

patients suffering from such problems as aphasia, stuttering, and language/voice disorders. Rehabilitative training is also provided for patients who have had laryngectomies. Approximately 250 different patients are expected to be referred for services at the Hospital's speech and hearing clinic in fiscal year 1968, with some 300 patients estimated for 1969. Although treatment, evaluation and rehabilitation are the primary objectives of this facility, excellent opportunities are afforded for training and research.

The amounts shown reflect obligations for supplies, equipment, and a pro rata share of staff time allocated to speech and hearing activities:

Fiscal year:	*Amount*
1965	$30,500
1966	25,500
1967	31,000
1968 (estimate)	50,500
1969 (estimate)	56,000

EXHIBIT B. COMMISSIONER'S LETTER NO. 68-37

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
SOCIAL AND REHABILITATION SERVICE,
Washington, D.C., May 15, 1968.

To: Divisions of Vocational Rehabilitation; commissions and other agencies for the blind; district and local offices.

Subject: Joint statement of principles of cooperation between the Rehabilitation Services Administration and the National Hearing Aid Society.

The attached Joint Statement of Principles of Cooperation Between the Rehabilitation Services Administration and the National Hearing Aid Society, signed May 15, 1968, is aimed at providing more and better vocational rehabilitation services to more hard of hearing people.

Vocational rehabilitation of the hard of hearing has not kept pace with advances in other disabilities. An important reason is that hard of hearing people in need of vocational rehabilitation are often not aware of the availability of services through the State-Federal program.

The Rehabilitation Services Administration and the National Hearing Aid Society agree that members of the latter organization are frequently the first point of inquiry from hard of hearing people and, thus, are strategically situated to increase the flow of referrals to the State divisions of vocational rehabilitation. Hence, the National Hearing Aid Society has agreed to encourage hearing aid dealers to inform hard of hearing people about the vocational rehabilitation service and cooperate in activities that improve opportunities for the hard of hearing.

The Rehabilitation Services Administration in turn encourages the State divisions of vocational rehabilitation to become informed about hearing aid dealers, to acknowledge referrals from hearing aid dealers and to cooperate in programs elevating standards of performance.

We anticipate that the State divisions of vocational rehabilitation will be able to reach more hard of hearing people each year as a result of successful observation of the principles of this agreement.

JOSEPH V. HUNT,
Commissioner.

JOINT STATEMENT OF PRINCIPLES OF COOPERATION BETWEEN THE REHABILITATION SERVICES ADMINISTRATION AND THE NATIONAL HEARING AID SOCIETY

The National Hearing Aid Society and the Rehabilitation Services Administration have concurred with the following basic principles of cooperation aimed at more effective services toward maximum rehabilitation opportunities for the hearing handicapped.

BACKGROUND

I. Rehabilitation services

Under the Vocational Rehabilitation Act, as amended (PL 89-333, 29 U.S.C.), the following are among the services made available for the purpose of rendering the hearing handicapped fit for gainful occupation consistent with their capabilities.

1. Otological and audiological examinations coupled with a vocational evaluation as the basis for determining eligibility and an appropriate plan of rehabilitation for the individual.

2. Counseling and guidance to select suitable fields of work by relating vocational capacities to job requirements and local vocational opportunities.
3. Any medical, surgical, hospital or other services that will improve a client's hearing ability, or correct any other handicapping conditions found through the medical examination.
4. Any aid that is required to help in communicating with others, such as a hearing device, training in speech reading, speech correction, fingerspelling, sign language, auditory training, interpreting services or other related services.
5. Vocational training to furnish new skills, if indicated. The training may be in public or private schools, college or university, on the job, by correspondence or by tutor.
6. Financial assistance to provide maintenance and transportation as appropriate during the rehabilitation process.
7. Placement in a suitable job, and in certain instances provision of occupational tools, and in other specific instances equipment, licenses and stock for a small business.
8. Follow-up on performance in employment to ensure client and employer satisfaction.

II. Services provided by the National Hearing Aid Society

The National Hearing Aid Society is an organization of ethical hearing aid dealers. The purposes of the Society are:
1. To establish and maintain standards of excellence for the training, knowledge, experience and character of its members requisite to issuing its official certification to qualified members.
2. To establish and maintain among its members a Code of Ethical Practices.
3. To establish and maintain a unified voice at the national and State levels for those actively and principally engaged in the retail fitting and selling of hearing aids.
4. To establish and maintain liaison mechanisms to deal with issues of common interests to its members, otologists, other related medical disciplines, audiologists, speech pathologists, teachers of the deaf, public school educators, and other groups concerned with hearing problems.
5. To promote and encourage hearing conservation and auditory rehabilitation as a community responsibility through cooperation with national, State, and local governmental agencies concerned with hearing problems.
6. To promote and encourage the acceptance of hearing aids as a method of auditory rehabilitation when medical or surgical correction is not possible.

PRINCIPLES OF COOPERATION

I. Vocational rehabilitation

1. The Rehabilitation Services Administration encourages State rehabilitation agencies to become familiar with the purposes and goals of the National Hearing Aid Society membership requirements, State and local affiliates, and certification standards, codes of ethics, and grievance policies and procedures.
2. The Rehabilitation Services Administration will encourage State rehabilitation agencies to recognize the National Hearing Aid Society as a representative organization at the national level for hearing aid dealers.*
3. The Rehabilitation Services Administration will encourage State rehabilitation agencies to make full and proper use of hearing aid dealers such as those who are bona fide members of the National Hearing Aid Society.
4. The Rehabilitation Services Administration will encourage State rehabilitation agencies to acknowledge referrals made by member dealers. This should not be construed in any manner to imply the revealing of any information about the client whatsoever deemed of a personal or confidential nature.
5. The Rehabilitation Services Administration shall encourage State rehabilitation agencies to cooperate in educational and training programs affiliated with or sponsored by the National Hearing Aid Society for the purpose of upgrading membership standards of performance in assisting the hearing handicapped.

II. Dealer relations

In order that more hearing handicapped people may become familiar with and

*Hearing aid dealers for this purpose are persons, firms, corporations and organizations engaged in the selection and sale of any instruments, devices, and parts and accessories designed for or represented as aiding or compensating for defective hearing.

utilize the services of the State-Federal vocational rehabilitation program, the National Hearing Aid Society shall promote the following activities:

1. The National Hearing Aid Society will encourage individual members to become familiar with the purpose and goals of the State-Federal vocational rehabilitation program. Included should be familiarity with location of facilities, services provided and eligibility requirements.

2. The National Hearing Aid Society will encourage individual members to make full and proper use of the State-Federal vocational rehabilitation program through the referral of those individuals who may be in need of such services.

3. The National Hearing Aid Society shall encourage its State affiliates and individual members to undertake and cooperate in studies and projects as might contribute to more effective relations between its members and the State-Federal vocational rehabilitation program.

4. The National Hearing Aid Society shall encourage its State affiliates and individual members to cooperate in educational, training, and research and demonstration programs financed or sponsored by the Rehabilitation Services Administration as related to rehabilitation of the hearing handicapped.

Exhibit C. Speech and Hearing—National Technical Institute for the Deaf

The National Technical Institute for the Deaf (NTID) Act of 1965 (Public Law 89–36) authorized the Secretary, after consultation with an Advisory Board, to enter into an agreement with one institution of higher education for the establishment and operation of a residential facility for post-secondary technical training and education for persons who are deaf. On December 20, 1966, the Secretary entered into such an agreement with the Rochester Institute of Technology.

The establishment of the NTID represents a pioneering effort in the U.S. to provide broad post-secondary technical education and training which will lead to diversity in employment opportunities for productive deaf citizens. To date major activities have included development of educational and program requirements, recruitment of professional staff, production and collection of instructional materials, and planning for facilities construction. During FY 1969, a pilot program will be initiated to enroll 100 deaf students in regular RIT courses. The special training needed for these students will be developed so that when facilities become available, the substantive program involving an integrated RIT-NTID curricula will be available.

Model Secondary School for the Deaf

Public Law 89–694 provides for the establishment of a Model Secondary School for the Deaf and authorizes the Secretary of Health, Education, and Welfare to enter into an agreement with Gallaudet College to operate such an institution to serve primarily residents of the District of Columbia and nearby States. The facility will provide day and residential facilities for secondary education for persons who are deaf in order to prepare them for college and other advanced study, and provide an exemplary secondary school program to stimulate the development of similarly excellent programs throughout the country. The initial year of activity was devoted principally to curriculum planning and development of instructional material, development of professional staff, and studies related to site preparation. Plans for FY 1969 include the initiation of an interim program—pending completion of facility construction—to enroll approximately 100 students.

National Advisory Committee on Education of the Deaf

Establishment of a National Advisory Committee on Education of the Deaf (NACED) was provided for by Section 5 of Public Law 89–258. The Committee advises the Secretary of Health, Education, and Welfare with respect to the administration of present programs and need for new or modified programs. The Committee and its staff have been involved in the development of plans for both the National Technical Institute for the Deaf and the Model Secondary School for the Deaf. In addition the Committee in FY 1967 sponsored a National Conference on Education of the Deaf to consider the problem of total state planning for the education and training of deaf children and youth.

ITEM 9. EXHIBITS PROVIDED BY RAYMOND Z. RICH, PRESIDENT, NATIONAL HEARING AID SOCIETY

The committee chairman addressed the following letter to Mr. Raymond Z. Rich, president, National Hearing Aid Society, Cleveland, Ohio.

DEAR MR. RICH: In view of the interest of the National Hearing Aid Society in this field, I know that your contribution will be of interest to us.

It would be helpful to the Subcommittee to have your brief outline of the NHAS, its programs and policies. In addition, the following information is requested:

1. How many hearing aid dealers are currently represented by the National Hearing Aid Society?
2. What are the statistics relating to hearing aid sales per dealer—by the week—by the month?
3. What percentage of NHAS members provide audiometric tests for customers?
4. What precentage of NHAS members refer their customers to clinics or hospitals where otological and audiological tests may be made prior to purchasing a hearing aid?
5. In over-the-counter sales, are price reductions made to customers who have no need for consultation or testing?
6. Can you provide statistics showing the retail price spread for several models of hearing aids? I refer to cosmetic types, body types, etc.

With kind regards,

Sincerely,

HARRISON A. WILLIAMS, Jr.,
Chairman.

The following reply was received:

NATIONAL HEARING AID SOCIETY,
Detroit, Mich., October 12, 1967.

SIR: At your invitation, attached you will find a statement on the history, program, and purposes of our Society. In addition, we have replied to the six questions you posed in your letter as best as we could in the time allotted.

Our statement is as you requested—brief, and can be expanded upon whenever you so desire.

We appreciate the opportunity of submitting this information to you. Please be assured of our complete cooperation and our desire to assist the work of your committee.

Kindest regards.

Sincerely yours,

R. Z. RICH, *President.*

[Enclosures]

The National Hearing Aid Society is dedicated to the goal of maintaining the highest standards among those engaged in the selection, sale, fitting and service of hearing aids. Founded in 1951 as the Society of Hearing Aid Audiologists, it was organized by members of the International Hearing Aid Association (the parent organization) who saw the need for defining standards of competence and ethical conduct. Included in our total national membership are twenty-nine (29) State Associations, which are affiliated as Chapters.

The purposes of the Society are:

1. To establish and maintain standards of excellence for the training, knowledge, experience and character of its members requisite to issuing its official Certification to qualified members.
2. To establish and maintain among its members a Code of Ethical Practices.
3. To establish and maintain a unified voice at the national and state levels for those actively and principally engaged in the retail fitting and selling of hearing aids.
4. To establish and maintain liaison mechanisms to deal with issues of common interest to its members, otologists as well as all concerned branches of medicine, audiologists, speech pathologists, teachers of the deaf, public school educators, and other groups concerned with hearing problems.
5. To promote and encourage Hearing Conservation and Auditory Rehabilitation as a community responsibility through cooperation with national, state and local governmental agencies concerned with hearing problems.

6. To promote and encourage the universal acceptance of hearing aids as a method of auditory rehabilitation when medical or surgical correction is not possible.

One of the most important activities of the Society is its *Certification Program*, whereby hearing aid dealers and consultants who meet the strict standards of experience, training, competence, knowledge and character become Certified members.

The Society administers the Code of Ethics for its members, operating in conjunction with, and compliance to, the Federal Trade Commission's Trade Practice Rules for the Hearing Aid Industry.

Continuing Education is provided through Society publications, including Audecibel, the official quarterly journal, and through current literature and brochures provided by the Society.

Annual and Regional Meetings include many educational seminars, speakers, exhibits and items of interest to all who work in the field.

Course of Study: The Society offers to anyone in the hearing aid field a "Basic Course in Hearing Aid Audiology", an extensive course of instruction in acoustics, the human ear and hearing process, types of hearing disorders, audiometry, hearing analysis and the selection and fitting of hearing aids. The course has been adopted by some State Universities as a teaching vehicle in audiology classes. Further expansion of learning facilities is also part of our efforts in education.

The following is in reply to the numbered questions posed in your letter:

2,036 individuals comprise the present total membership of NHAS. Of this total, 1,204 are Certified members and 832 are Chapter members. It is anticipated that the total membership will reach 2,500 by January 1, 1968, inasmuch as we have currently 214 applications for Certification and four (4) applications pending from State Associations for Chapter status.

The NHAS has not endeavored to gather figures on the sales of hearing aids per dealer. However, the best available estimates in the industry indicate about 400,000 units sold last year by about 4,800 retail outlets.

To the best of our knowledge, all NHAS members provide audiometric tests for the purpose of determining the proper fitting of hearing aids.

The NHAS has never attempted to gather such figures as the percentage of customers referred to clinics or hospitals. Generally it is left to the discretion of our members since it varies greatly with, and depends considerably on local conditions and available facilities.

It is unlikely that proper hearing aid fitting could be made without repeated consultation and additional tests or re-tests by the dealer. To the best of our knowledge, price reductions are not made when consultation or testing requires less than the customary amount of time, just as no price increases result in cases where such services exceed the usual.

A cursory survey of the retail price range of different models and types of monaural hearing aids—body, ear-level, eyeglass—made by a number of manufacturers seems to indicate that they range predominantly from $250 to $350. Exceptions may bring the price below or above this range.

EXHIBIT A. EXCERPTS FROM THE BY-LAWS OF THE NATIONAL HEARING AID SOCIETY

(Revised October 26, 1967)

ARTICLE I—NAME

Section 1. The name of this organization shall be the National Hearing Aid Society and may be hereinafter referred to as the Society or NHAS. It is the successor to the Society of Hearing Aid Audiologists (hereinafter known as SHAA).

ARTICLE II—PURPOSE

The purpose of the Society shall be:

1. To promote the welfare, insofar as hearing is concerned, of the hearing impaired.
2. To coordinate, promote and advance the programs of this Society and others in a similar work.
3. To provide a unified voice within and for those actively and principally engaged in the retail selling and fitting of hearing aids.
4. To provide communications among the members of the industry.
5. To improve the methods of selling, fitting and using hearing aids and to improve the effectiveness of such aids.

6. To establish standards of education, equipment and techniques in the fitting of hearing aids.

7. To examine and pass upon the qualifications of all persons fitting hearing aids who wish to be Certified Hearing Aid Audiologists and to Certify as to such person's competency in the field of fitting hearing aids.

8. To sponsor and enforce among its members a code of ethical practices.

9. To cooperate with the medical profession and all other ethical, professional groups engaged in aural rehabilitation.

10. To promote and encourage an effective industry program of public education as to benefits of the use of hearing aids.

ARTICLE III—MEMBERSHIP

Sec. 1, Members. All members in good standing of the Society of Hearing Aid Audiologists at the time of organization of the National Hearing Aid Society shall be deemed to be members of the National Hearing Aid Society. It shall not be necessary for these members to belong to any chapter of this Society as such chapter is hereinafter defined.

Sec. 2, Types of Members. The National Hearing Aid Society will be comprised of three types of membership:

a. Certified Voting Members—who have been so designated under terms of Article IV by the National Board for Certification and whose principal activity within the hearing aid field is the retail selling and fitting of hearing aids.

b. Chapter Members, non-Certified—by virtue of their membership in a Chapter where they vote.

c. Members, Certified, non-voting—by virtue of their being principally engaged in other than the retail selling and fitting of hearing aids, or by virtue of their holding an inactive membership.

Sec. 3, Chapter Membership.

a. All present members of the Society of Hearing Aid Audiologists in good standing shall automatically become Certified voting members of this Society as well as members of the Chapter in the State where their business is located. If, according to the by-laws of such chapter, such a Certified voting member of this Society is entitled only to associated or non-voting membership, he shall be assured of a vote in the election of a governor in all elections held for that purpose.

b. All state dealer associations belonging to the Council of State Hearing Aid Associations shall become Chapters of this Society and all members of such Chapters in good standing shall become members of this Society.

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ARTICLE IV—CERTIFICATION

Sec. 1, There shall be appointed annually by the President, with the approval of the Board of Governors, five certified members plus one alternate, three of whom shall be members of the Board of Governors, who shall constitute the National Board for Certification.

Sec. 2, Duties of this Board shall be to evaluate and pass on the qualifications of all applicants for Certification and reinstatement of Certification in accordance with standards and policies fixed by the National Board of Certification, subject to the approval of the Board of Governors.

Sec. 3, All Certified members of the Society shall be furnished with an appropriate certificate, evidencing such Certification, which shall remain the property of the Society, subject to being returned upon demand of the Board of Governors.

Sec. 4, All non-certified members may be furnished with a certificate of membership by the Chapter to which they belong and such certificate shall remain the property of the Chapter and subject to return upon demand. Such forms of certificate furnished by chapters shall be approved by N.H.A.S.

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ARTICLE XI—ETHICS COMMITTEE

Sec. 1. The President, with the approval of the Board of Governors, shall appoint a National Committee on Ethics consisting of 7 voting members, 1 from each Governor's territory as such territories are defined in Article V, Sec. 5.

Sec. 2. It shall be the purpose of said Committee to review all questions arising under the Society's Code of Ethics, to render interpretations of said Code and to recommend any changes to said Code that it feels warranted.

Sec. 3. The Committee will not be required to review any questions arising under the Society's code or render any interpretations of the Society's Code unless it is presented with a formal written request specifically outlining the issue or issues involved or the matter or matters upon which review is sought.

Sec. 4. The Committee, after due notice to the membership as to the matters that it has under consideration, will review those requests properly before it and render its interpretation thereon. The formal interpretations rendered by the Committee will be made available for examination to all members of the Society and such other persons having a legitimate interest therein.

Sec. 5. All interpretations rendered by the National Committee on Ethics will be binding on all members of the Society and all persons who have pledged themselves to be bound by the Code of Ethics of the Society. No person or body of this Society or any persons who have pledged themselves to be bound by the Code of Ethics of the Society shall have the right to disregard or overrule the interpretations rendered by the National Committee on Ethics.

ARTICLE XII—GRIEVANCES

Sec. 1, National Grievance Committee.

a. The Board of Governors shall appoint a National Grievance Committee consisting of three voting members of the Society. Such committee shall hear all complaints concerning members of the Society referred to it pursuant to the provisions of this Article.

b. All complaints which shall be referred to the National Grievance Committee shall be in writing and signed by the party making such complaint.

c. The National Grievance Committee may require any member of the Society to appear before it and give testimony with regard to any complaint being heard by it. The National Grievance Committee may require any testimony given before it to be given under oath of affirmation. All persons called by the National Grievance Committee to give testimony shall have the right to be represented by legal counsel and the National Grievance Committee itself may request the assistance of legal counsel when deemed necessary.

Sec. 2, Grievance Procedures Regarding Society Members Who are Members of a Local Chapter.

a. All complaints concerning Society members who are also members of local chapters which are referred to the Society or any local chapter other than that of the respondent shall be forwarded to the Executive Secretary.

b. Upon receipt of such a complaint, the Executive Secretary shall make an investigation thereof and shall make a preliminary determination as to whether there is reason to believe the acts or omissions complained of did occur and as to whether such acts or omissions could constitute an actionable grievance.

c. If such preliminary determination is negative the Executive Secretary shall notify the complainant and the respondent in writing with an explanation of the reasons therefor.

d. If such determination is affirmative, the Executive Secretary shall forward such complaint to the chapter to which the respondent is a member and shall forward a copy of such complaint by registered mail to the respondent.

e. The Executive Secretary shall specify a reasonable time within which said chapter shall act upon said complaint.

f. It shall be the duty of such chapter to act upon such complaint, within the time specified by the Executive Secretary, through its own grievance procedures which shall substantially conform to the procedures of the National Grievance Committee as set forth herein.

g. If such local chapter fails to act upon the complaint within the time specified by the Executive Secretary, a copy of the complaint shall be forwarded by the Executive Secretary to the National Grievance Committee and he shall so notify the local chapter and the respondent in writing.

h. The National Grievance Committee shall thereupon act on said complaint according to the procedures hereinafter set forth.

i. Either party to the proceedings in a local chapter shall have the right to appeal the action taken or the decision rendered by such chapter to the National Grievance Committee by forwarding his written request for an appeal, together with his grounds for appeal, within twenty (20) days from the date such action is taken or decision rendered.

j. The National Grievance Committee shall act upon such appeal in accordance with the provisions hereinafter set forth.

Sec. 3, Grievance Procedures Regarding Society Members Who Are Not Members of a Local Chapter.

a. All complaints regarding Society members who are not members of a local chapter shall be in writing, addressed to the Executive Secretary.

b. Upon reecipt of such a complaint, the Executive Secretary shall make an investigation thereof and shall make a preliminary determination as to whether there is reason to believe the acts or omissions complained of did occur and as to whether such acts or omissions could constitute an actionable grievance.

c. If such preliminary determination is negative, the Executive Secretary shall notify the complainant and the respondent in writing with an explanation of the reasons therefor.

d. If such determination is affirmative, the Executive Secretary may do either of the following:

(1) The Executive Secretary may so notify the complainant and the respondent and forward a copy of the complaint to the respondent together with a request that the respondent desist from further acts or omissions of the nature specified in the complaint;

(a) The respondent shall, within ten (10) days, notify the Executive Secretary in writing of his willingness to comply with the request to desist from all such further acts or omissions.

(b) If said respondent fails to so notify the Executive Secretary within the specified time or if he fails to desist from further or similar acts or omissions, said complaint shall be processed according to the provisions of Sec. 3(d) (2) and following.

(2) The Executive Secretary may forward his findings, copy of complaint and all correspondence concerning such complaint to the National Grievance Committee, should he, in his sole discretion, deem said complaint to be of such a serious nature as to merit action by said committee, and thereupon appropriate action shall be taken pursuant to the provisions of this section.

Sec. 4, Procedures for Handling Complaints Presented to the National Grievance Committee.

a. Upon the filing of a complaint with the National Grievance Committee, whether by appeal from the local chapter or by referral from the Executive Secretary pursuant to the foregoing provisions, it shall be acted upon in accordance with the following procedures:

(1) The National Grievance Committee shall, upon receipt of a complaint, promptly notify the respondent that a complaint against him has been received by the National Grievance Committee for consideration, and shall forward a copy of the complaint by registered mail to said respondent if this has not been previously done.

(2) The respondent shall have twenty (20) days from receipt of this notice within which to submit to the National Grievance Committee any written reply, response or explanation with regard to the complaint.

(3) Upon expiration of the 20 day period, the National Grievance Committee shall consider all allegations, responses, findings of the Executive Secretary and other information in its possession which it deems pertinent to the matter and shall thereupon make a determination as to the validity of the complaint, and:

(a) Upon a determination that the complaint is justified, it shall order that such action be taken as it deems fitting and proper in view of the gravity of the offense and as is authorized by Sec. 4; such order shall be forwarded by registered mail to the respondent.

(b) Upon a determination that the complaint is not justified or that it fails to present matters which call for action by the National Grievance Committee, the matter may be dismissed and the complainant and respondent shall be so notified of the dismissal and of the reasons therefor.

(c) If, in its discretion, the National Grievance Committee should feel that the complaint, Executive Secretary's findings, correspondence, replies or responses of the respondent and other information in its possession do not provide sufficient facts or information upon which a decision may be based, the National Grievance Committee may order a hearing on the matter and request the complainant and respondent to present further testimony or evidence so as to enable it to decide the matter.

b. The respondent shall have the right to a hearing before the National Grievance Committee, upon request, to review the decision reached and the order entered in respect to the complaint.

(1) Respondent must request such hearing in writing within twenty (20) days of receipt of the order of the National Grievance Committee.

(2) Upon receipt of such request for hearing, the National Grievance Committee shall set a date for the hearing and shall notify complainant and respondent of such date and time.

(3) At such hearing the respondent may present evidence, testimony and argument in his own behalf in answer to the complaint. To this end respondent may be represented by legal counsel. The National Grievance Committee may take testimony and may require that it be given under oath of affirmation.

(4) Upon a full hearing of all facts, evidence, allegations and arguments, the National Grievance Committee shall make a determination that either said matter should be dismissed or that its prior decision as to the validity of the complaint be affirmed and shall thereupon enter its order affirming in full, amending or modifying the prior order entered.

Sec. 5, Powers of National Grievance Committee.

a. If the National Grievance Committee shall find any complaint valid and justified, it shall take such action against the party found guilty of an infraction of the rules or code of ethics of the Society as it shall deem fitting and proper in view of the gravity of the offense. In its discretion, the National Grievance Committee may, among other things:

(1) File its opinion on the complaint with the Executive Secretary to be held for future reference.

(2) Reprimand the member found guilty and file the complaint as above described.

(3) Fine the member a sum not to exceed $200.00.

(4) Suspend the member for a period not to exceed one year from the privileges of the Society, provided that such suspension shall not constitute a waiver of dues from the period of suspension, and fine such member a sum not to exceed $200.00.

(5) Expel the member from membership.

b. If any member so found guilty and fined shall fail to pay such fine within thirty (30) days, or any further time granted by the National Grievance Committee on good cause shown, he shall automatically be expelled from membership.

c. Decisions reached by the National Grievance Committee of the Society concerning a member shall be binding on the Chapter to which he belongs.

d. Any member expelled by action of the National Grievance Committee may be reinstated by filing a petition asking for such reinstatement with the Executive Secretary, who shall present the same to the members of the Society together with the recommendations of the National Grievance Committee as to whether or not it should be granted at the next annual meeting of the Society. If a majority of the members present and voting in person or by proxy at such meeting vote to reinstate such person, he shall again be reinstated to membership by paying all fines and past dues, including dues for the time during which he was expelled or suspended. Provided, however, that if such suspension continues for more than two (2) years, he shall, upon petitioning for reinstatement, again submit to the Board of Governors for examination as to his qualifications as a Certified Hearing Aid Audiologist in the same manner as an original applicant.

Sec. 6, Appeal from Decisions of National Grievance Committee.

a. The respondent shall have the right to appeal the final decision and order of the National Grievance Committee to the Board of Governors of the Society.

b. Such appeal shall be taken by forwarding a written request for appeal to the Executive Secretary within twenty (20) days of the date respondent receives notice of the decision and order of the National Grievance Committee setting forth the respondent's grounds therefor.

c. The Executive Secretary shall notify the respondent to appear before the Board of Governors at the next regularly scheduled meeting, and shall set forth the time, date and place of such meeting. Respondent shall be entitled to be represented by legal counsel with respect to said appeal.

d. The Board of Governors shall hear such appeal, shall consider the decision of the National Grievance Committee, the arguments of respondent and may accept, modify or overrule the decision and order of the National Grievance Committee and make such disposition of the matter as it shall deem just.

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EXHIBIT B. EXCERPT FROM N.H.A.S. CIRCULAR

Technical Knowledge—Key to Success—Is Yours With This Basic Home Study Course in Hearing Aid Audiology

Ideal for Sales Consultants—Salesmen—Dealers—Dealer Personnel—Dealer Associations—Factory Fieldmen—Servicemen—Manufacturer Personnel.

The fitting and selling of hearing aids offers a field of service and employment that provides much personal satisfaction and many rewards for those who are properly trained and prepared for it.

A proven and effective method of preparation is through the "Basic Home Study Course in Hearing Aid Audiology" offered by the National Hearing Aid Society. More than 1600 men and women have taken this course. Many have gone on to become Certified Hearing Aid Audiologists with a standing and capability that have done much to improve the image of service offered to the hard of hearing public.

Because it is basic, beginners in the industry will find the home study course necessary and useful to an understanding of hearing disabilities and what can be done for them. Even dealers and consultants with many years of experience have reported benefits from reviewing the technical knowledge contained in these 18 lessons.

The course has been prepared by experts and has been tested and revised through continuing research and study by the Education Committee of the National Hearing Aid Society. It brings to the student an opportunity to study the methods and techniques of those who make a success of service in the hearing aid field *plus* a background of knowledge about hearing and hearing disorders.

Lesson subjects include:

1. Acoustics: General Principles
2. Acoustics: The Decibel
3. Acoustics: Hearing and Speech
4. The Human Ear: External and Middle Ear
5. The Human Ear: Inner Ear
6. The Hearing Process
7. Disorders of Hearing: Conductive
8. Disorders of Hearing: Sensori-neural, Central, Psychogenic
9. Pure Tone Audiometry: Theory
10. Pure Tone Audiometry: Procedures
11. Speech Audiometry
12. The Hearing Analysis: The Audiogram
13. The Hearing Analysis: The Auditory Area
14. Hearing Aids: History
15. Hearing Aids: Characteristics and Components
16. The Earmold
17. Fitting
18. Delivery and Checkup

Each lesson includes a quiz which is to be completed and returned for grading. By use of a code number, graders never know the identification of the person taking the course. Textbooks required for supplemental reading are available through most bookstores or can be purchased from the Society. The Home Study Course is a copyrighted publication of the National Hearing Aid Society. There are no restrictions on enrollment. For those who complete the course arrangements can be made with the Society office to take a final examination.

EXHIBIT C. ARTICLE FROM SPRING 1968 ISSUE OF AUDECIBEL

Qualifications: The Dealer of the Future

(By Ralph F. Naunton, M.D.*)

May I first disclaim all responsibility for the title of my paper. As it stands it would appear to me to be more appropriate for Las Vegas than for Chicago.

I am perhaps the least appropriate person to be talking to you about your future qualifications. I am not an audiologist, in the American sense of the term, or a hearing aid dealer; nor can I accurately map out the directions and pathways your development will follow; your development will, of course, partly determine and in part be determined by your "future qualifications." I can, however, look at your professional area and draw a few inferences from what we were seeing yesterday and what we see today.

Who are the people currently involved with hearing aids and how are they changing? Clearly, those most involved, apart from the manufacturers and users, are (1) The Audiologist, (2) Otologist, (3) Hearing Aid Dealer. May I hasten to add that these are not necessarily listed in order of importance.

Let us take a brief look at each of these professional groups: First, the audiologist. In England there is no such person as an audiologist. A number of people have interested themselves in the physiology and pathology of hearing and in the psychology and rehabilitation of the deaf (e.g.: educators of the deaf, psychologists, phoneticists, otologists and engineers); these are the people doing most of the research work in the area of hearing; but they are never called *audiologists*. There is a group of persons described as audiometricians; they are trained briefly, usually for only a few months, in hearing testing techniques, earmold manufacture and in simple hearing aid servicing. Most of them came into being as the Government hearing aid, the Medresco, was introduced and issued free of charge to anyone who needed it. Despite the Medresco aid, the independent hearing aid dealers flourish; they are not referred to as audiologists—not even as hearing aid audiologists.

In continental Europe the audiologist is an otolaryngologist who has relinquished most of his interest in the nose and throat to concentrate on the ear and its defects in the broadest sense. He is an ear surgeon, but is also intimately involved in the education of the deaf, the rehabilitation of the deaf and in hearing aids. He may be assisted in some areas by hearing technicians. As an aside it should be noted that in several European countries the government buys hearing aids on a contractual basis from European or U.S. hearing aid companies and issues them free of charge to the hearing-impaired; despite this, independent hearing aid companies continue to flourish.

In the U.S. audiology is a young specialty. It was developed deliberately out of a growing recognition that the IInd World War would leave many servicemen in need of auditory rehabilitation; ironically, as the specialty has developed it has been seriously weakened by a loss of interest in the very service it was established to provide—rehabilitation of the deaf. Few audiologists are interested nowadays in rehabilitation, which is regarded as the poor and unglamorous relation of audiology; rehabilitation of the deaf and hard of hearing is too often left to the deaf educators and to speech pathologists. In place of rehabilitation, the American audiologist has developed audiological diagnosis (ignoring the fact that otologists often do not need it) and psychoacoustical research to a very high degree of complexity. Preoccupation with audiological diagnosis has led to the remarkable development in recent years of the battery of hearing tests generally assumed to permit the differential diagnosis and recognition of VIIIth nerve tumors. In fact, audiological tests are of limited value in this area. The audiologist with his Doctorate is often very reluctant to work in clinical

*This paper was delivered as a panel discussion at the 1967 Annual Meeting in Chicago. Dr. Ralph F. Naunton, M.D., is Professor Surgery (Otolaryngology) at the University of Chicago. He has worked on projects related to development of the MEDRESCO Hearing Aid in England, is Associate Editor of the Journal of Speech and Hearing Research and has lived and worked in the Central Institute for the Deaf in St. Louis.

audiology—"Research and teaching, yes; but I don't want to have to see any patients." The audiologist has a smooth road to fame if he can develop a new hearing test of differential diagnostic value or if he can modify someone else's test; moreover, the road to this attractive variety of instant success is swept clear and made all the more attractive by those many academic institutions or by research grants which encourage or even insist upon publications. It is far more difficult to write a paper or accumulate the experience and data necessary to the publication of an original paper in the area of rehabilitation than it is to collect data bearing on a topic in audiology. The audiologist's progress up the academic ladder will therefore be rapid but his colleagues in rehabilitation will be left behind. Jack Rosen[1] has indicated that "* * * the hierarchy in the field is reflected in its monetary rewards, as indicated by the study of incomes in the speech and hearing profession (Johnson and Newman, 1962). Status in the academic setting is depicted in the study by Ventry, Newman, and Johnson (1964), who reported:

" 'Individuals who perform or supervise clinical services in the academic setting generally have a master's degree or less, hold low academic rank, and have 10 or fewer years of paid professional experience. In addition, nearly half have either no ASHA certification or hold only the basic certificate.'

"Low status is even more evident in the instructors, supervisors, and courses assigned to rehabilitative audiology in some training programs."

The Illinois Department of Public Health is now training audiotechnicians who, although the term is not used, will carry out some of the functions of diagnostic audiologists. There is to be a repetitive two week program that will train technicians to administer hearing tests in a variety of settings including schools and doctors' offices. This program is of interest in that its underlying philosophy may shed a glimmer of light on the future of the audiologist.

If we may speak in terms of descending levels of complexity, the extent to which skills are amenable to quantification, then clinical audiological testing is rather low and rehabilitation extremely high on the complexity scale. Hearing rehabilitation requires a very high level of skill and training; it is more intellectually satisfying and is also considerably more demanding than diagnostic audiology.

Clinical audiologists are at present able to command a reasonably good salary thanks largely to grant support. Grants of various kinds have had the happy effect of raising audiologists' salaries but it has unhappily discouraged the development of audiological rehabilitation and encouraged the devaluation of audiology to the point where it is in danger of becoming an uncomplicated technical skill rather than an exacting profession.

Just like the rest of us, the audiologist is very jealous of his standing and he is well protected by his parent organization, the Speech and Hearing Association; this Association has adopted the philosophy that he may not be connected in any way with the selling of hearing aids. Although the philosophy may be correct and thoroughly well-founded, the unfortunate implication is that there is always something intrinsically wrong about the sale of hearing aids.

The audiologist, with all his years of training, should have a great deal to offer the patient which hearing aid dealers cannot offer; but there is evidently growing doubt that he has anything peculiar to offer in terms of diagnostic testing or hearing aid selection. There is growing doubt that the traditional two or three hour hearing aid selection routine serves any very useful purpose. It is an expensive, time consuming ritual for which the patient can rarely pay and for which the audiologist must almost invariably be subsidized. At the University of Chicago we have refused for many years to do traditional hearing aid selections, not because we were afraid of the necessary subsidization but because we were reluctant to become involved in any activity whose validity we doubted and whose worth was hard to find. We have long preferred to speak in terms of "Hearing Aid Consultations" and to devote most of the time available to counselling. Unfortunately, we have been forced recently to change our practice and to do hearing aid selections because in no other way can our indigent patients get help in the purchase of hearing aids; help is only available if the ritual has been completed.

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[1] Rossen, Jack: *Distortions in the Training of Audiologists.* ASHA 9 : 171, 1967.

SECOND TYPE

The second type of person I listed as being involved to some extent with hearing aids is the otologist. Much though I may wish it were not true the otolaryngologist or otologist is not entirely blameless in this area; his understanding of audiology is often very limited. But ours is a rapidly changing specialty and most of the otolaryngologists now in training have a very thorough understanding of the many hearing tests now in use. We must at the same time remember that the otologist has very many diagnostic weapons in his armamentarium of which audiology is only one. The otologist needs to know *who* to refer for a hearing aid and it is useful for him to be able to make a reasonable guess as to whether a hearing aid will be of value to a given patient or not; often, in the final analysis, it is very much a matter of "try it and see." The otologist would also like to know where to send his patients for auditory rehabilitation, but all too often none is available.

Much has been said of the deafened subjects unwillingness to accept auditory training and speech reading. It is used by the audiologist as an excuse for his staying out of rehabilitation and it is used by the hearing aid dealer who wants the deafened listener to buy an instrument not a service. Surely if we have confidence in all that we have been taught and have learned about the value of rehabilitation we must be willing to accept the added responsibility of "selling" the deaf on the idea that rehabilitation is of incalculable value.

I have spoken very critically about two of the three types of people who should be concerned with hearing aids. And now it is the turn of the hearing aid dealer. As I see him he is essentially a salesman with that inborn or acquired skill seen in every successful salesman,—a sense of sales psychology. He may have had training in sales psychology but he is not very likely to have had more than a few weeks training in the physics of sound, in electronics, in psycho-acoustics or in the medical aspects of deafness. If he is an effective salesman he will push a sale, but only if he thinks he can in this way produce a satisfied customer; he knows very well that a dissatisfied customer means eventual loss of business. He usually stays away from rehabilitation except insofar as his sales psychology serves the same purpose. The hearing aid dealer may bet a great deal of very honest satisfaction out of helping the deaf; but at the same time he likes to be paid for his services.

Several important features characterize the hearing aid dealer and make him different from the audiologist. First, of course, is the fact that he sells hearing aids. Traditionally the physician and paramedical specialist may sell their services but not their wares; so we find that the ophthalmologist does not usually handle glasses and the physician usually stays out of the pharmaceutical business. If this were not so the professionals concerned would risk the criticism of conflict of interests.

Another important characteristic of the hearing aid dealer is the fact that the audiologist is often suspicious of him,—a suspicion possibly stemming from a number of points; the hearing aid dealer can advertise but the audiologist may not; he can make an executives income if he is good at his job but the audiologist is often pegged by salary scales at a relatively low level regardless of his worth; and, of course, the audiologist has spent long years of training but many of you have probably had very little didactic training in audiology or electroacoustics.

SHORT OF IDEAL

Finally, I must get back to the subject of my talk to you.—"The Dealer of the Future." The title implies that he is going to be different from the dealer of today, so I will accept this as an invitation to discuss the points where I think you may fall short of the ideal at present. I believe that the essential problem lies with your far less-than-perfect image as seen by the audiologists and to a lesser extent by the public and the otologists. Your image is bad for several reasons: many of you know far less than the audiologist does about the anatomy, physiology and pathology of the ear and about hearing testing and auditory rehabilitation. If you support research it rarely hits the headlines and, with a few notable exceptions, audiologists and otologists remain unaware of it (remember my concern is not with the truth but with the image; and the two may not always be identical).

Clearly it takes only a cursory look at your problem today to realize that you are doing a lot to change your academic know-how, to get closer to the scientific method, and to change your image; equally clearly, it takes time. I wonder if your Society has ever considered making an in-depth study of your image. I know nothing about Public Relations but I can give you a shocking illustration of the fact that one hearing aid company knows even less. I will read to you extracts from a letter sent by a hearing aid dealer to a colleague of mine, concerning his mother who has a hearing problem but who does not suffer from Meniere's Disease.

"In order to fully satisfy myself pertaining to the case, I made a complete hearing evaluation audiometrically, and found in essence approximately the same degree of hearing impairment as was found in the test taken February * * * at the University of Chicago Hospitals and Clinics.

"From the case history and the hearing evaluation, there is no doubt that the problem is caused by the Meniere's disease which afflicted your Mother a few years ago.

"In order to aid your Mother's hearing, it is obviously necessary that a Hearing Aid be fitted to her with enough gain to allow sound to be heard with ease, and as much clarity as possible. It is also mandatory that the proper frequency selection be established within the instrument, in order that amplification be on a proper level for all frequencies involved in speech (primarily between 300 and 4,000 CPS). It is also extremely important that the maximum saturation level of the Hearing Aid be within the tolerance level of your Mother's hearing system, so as not to cause the ears to recruit.

"As you can imagine, this is a tall order. But, I feel as if it can be done. All of the work, materials and services that I am going to describe to you will not cost you or your parents anything. I have told your Father I want no money at all unless we can do the job within reason.

"I have ordered for your Mother a post auricle Hearing Aid to be worn behind the ear. The Hearing Aid is an ———— with a forward directional microphone, a sound pressure level of 85 db with a flat response, and a curved linear (sic) compression unit measured at 100 db.

"I expect to fit your Mother to this instrument within ten days."

Clearly I cannot and do not judge you all by this miserable letter; but in some places and to some people one or two letters like this will do incalculable harm. It may require only one experience of this sort to leave a life-long misconception of hearing aid dealers in general.

Perhaps next year you should have not only training courses in acoustics and audiology but also a working seminar on Public Relations.

EXHIBIT D. CODE OF ETHICS OF THE HEARING AID INDUSTRY

FOREWORD

This Code of Ethics for the Hearing Aid Industry has been prepared and subscribed to after careful study by manufacturers of hearing aids and components and by hearing aid dealers in the United States and Canada. It is a voluntary effort that signifies an intent to provide the best possible service to those who are hard-of-hearing and to the public in general. With this Code we who serve the hard-of-hearing recognize a special responsibility and pledge pursuit of the principles that are herein registered.—*National Hearing Aid Society, National Committee on Ethics of the Hearing Aid Industry (at Retail Level)*.

Adopted: January 1, 1960. Revised: January 1, 1963.

PREAMBLE

So that we can best serve the hard of hearing, provide correction for their impairment, and contribute toward their participation in the world of sound and speech, we, in the hearing aid industry, including manufacturers, distributors, dealers and salesmen (hereafter referred to as "industry members"), pledge ourselves to observe this code of ethics:

(a) All advertising and public announcements covering hearing aids and other industry products relating to performance, appearance, benefits, elements, and use will state only the true facts and will not, in any way, attempt to misrepresent our products or mislead the persons we seek to serve.

(b) Industry members engaged in dispensing hearing aids are to provide thorough and ethical consulting services, including appropriate testing and proper fitting of a hearing aid that would be most suitable for the particular type of loss.

(c) We shall, at all times, provide the best possible service to the hard of hearing, offering counsel, understanding, and technical assistance contributing toward their deriving the maximum benefit from their hearing aids.

(d) We shall constantly engage in independent and combined research, cooperating whenever possible with medical and other professional individuals and societies to employ the maximum accumulation of scientific knowledge and technical skills in the manufacturing and fitting of hearing aids.

Specifically, we agree as follows:

I. MISREPRESENTATION IN GENERAL

It is unethical for any industry member to use, or cause or promote the use of, any trade promotional literature, advertising matter, testimonial, guarantee, warranty, mark, insignia, depiction, brand, label, designation, or representation, however disseminated or published, which has the effect of misleading or deceiving purchasers or prospective purchasers (a) with respect to the characteristics and terms of sales of its products; (b) with respect to any services offered or promised by such member in connection with its products; (c) with respect to limitations concerning the use or efficient application of its products.

II. GUARANTEES AND WARRANTIES

It is unethical to use, or cause to be used, any guarantee or warranty which is false, misleading, deceptive, or unfair to the purchasing or consuming public, whether in respect to the quality, construction, serviceability, performance, or method of manufacture of any industry product, or the terms and conditions of refund of purchase price thereof, or in any other respect.

The foregoing inhibitions of this rule are to be considered as applicable with respect to any guarantee or warranty in which the terms and conditions relating to the obligation of the guarantor or warrantor are deceptively minimized or stated, or in which the obligations of the guarantor or warrantor are impractical of fulfillment; and is also applicable to the use of any guarantee or warranty in respect to which the guarantor or warrantor fails or refuses to observe scrupulously his obligations hereunder.

Any guarantee or warranty made by the dealer or vendor which is not backed up by the manufacturer must clearly state that the guarantee is offered by the dealer or vendor only.

III. "BAIT" ADVERTISING

(a) It is unethical for any industry member to advertise a particular model or kind of hearing aid for sale when purchasers or prospective purchasers responding to such advertisements cannot have it demonstrated to them or cannot purchase the advertised model or kind from the industry member and the purpose of the advertisement is to obtain prospects for the sale of a different model or kind of hearing aid than that advertised;

(b) It is unethical to advertise or represent an installment sales contract as a lease or rental plan;

(c) It is unethical for an industry member to advertise or offer as an aid to hearing a device which has less than 18 decibels of amplification as average at 500, 1,000 and 2,000 cycles per second (as determined by HAIC standards);

(d) It is unethical when an industry member:

(1) uses in his advertising the name or trademark of a manufacturer in such a way as to imply a relationship which does not exist;

(2) uses in his advertising the name or trademark or model name of a manufacturer or displays on his premises the name or trademark of a manufacturer in such a way as to imply a relationship which does not exist, or whose products he neither has in stock nor has arranged to stock;

(3) advertise services and/or accessories in such a manner as to imply a relationship with a manufacturer that does not exist;

(4) in any other manner tries to benefit from the use of a trade name of an industry member when he is not authorized or legally entitled to do so.

(e) It is unethical when an industry member advertises a hearing aid utilizing bone conduction as having no cord, no tube, no ear mold, no buttons, or receivers without disclosing the instrument utilizes bone conduction;

(f) It is unethical for an industry member to advertise that no buttons, wires, records are attached to an instrument unless there is disclosed in the same advertisement and in reasonable proximity to such statement the fact that a tube runs from the instrument to the ear, if such is the fact;

(g) It shall be considered unethical for an industry member to use or cause, or promote any advertising material which shall show only a single part, accessory, or component of the hearing aid such as a battery on the finger, or a transistor held in the hand, where such has the effect of misleading or deceiving purchasers or prospective purchasers into believing that said parts are all that need be worn or carried, when such is not the fact.

IV. EARNINGS OF INDUSTRY MEMBERS

It is unethical for any industry member to make or publish, or cause to be made or published, any advertisement, offer, statement, or other form of representation which directly or by implication is false, misleading, or deceptive (a) concerning the salary, commission, income, earnings, or other remuneration which industry members receive or may receive; or (b) concerning any conditions or contingencies affecting such remuneration or the opportunities therefor.

V. CHARACTER OF BUSINESS

It is unethical for any member of the industry to represent, directly or indirectly, through the use of any word or term in his corporate or trade name, in his advertising or otherwise, that he is a *manufacturer* of hearing aids, or of batteries or other parts or accessories therefor, or that he is the owner or operator of a factory or producing company manufacturing them, or that he owns or maintains as acoustical research laboratory devoted to hearing aid research or development, when such is not the fact, or in any other manner to misrepresent the character, extent, or type of his business.

VI. MEDICAL, PROFESSIONAL AND SCIENTIFIC CLAIMS

(a) It is unethical, in connection with the sale and offering for sale of industry products, for any industry members to represent or imply that the services or advice of a doctor have been used in the designing or manufacturing of an industry product, or will be used or made available in the selecting, testing, or adjusting of industry products to the individual needs of consumer-purchasers, when such is not the fact;

(b) The inhibitions of the above rule are applicable to the use of such terms as doctor, physician, otologist, specialist, audiologist, or certified hearing aid audiologist, and to any abbreviation of such terms, and are also applicable to the use of any symbol or depiction which connotes the medical profession;

(c) It is considered unethical to use terms in hearing aid advertising that have medical connotations, such as clinic, and so forth;

(d) Industry members must not use such terms as "Hearing Center," "Hearing Institute," "Hearing Bureau," "Hearing Clinic," and the like, that can cause confusion between a commercial hearing aid establishment and a governmental or non-profit medical, educational or research institution. "Hearing Center" is not acceptable although "Hearing Aid Center" is acceptable. Any public hearing aid center or medical clinic or practitioner which might undertake to sell hearing aids should identify its commercial interest plainly by the words "Hearing Aid Dealer."

(e) Industry members recognize the professional and non-commercial status of the physician, optometrist, clinical audiologist and other professional and scientific practitioners. There shall be no fee-splitting or kickbacks on referrals from the aforementioned groups.

(f) It is unethical for an industry member to advertise or offer as an aid to hearing, medicines, ear oils, drugs, vitamins, or remedies of any kind, or treat-

ment, rehabilitation by machine, vibrations, sound "treatment," or surgery. Medicine and surgery are the province of the physician and may in no way be offered or advertised by industry members.

VII. VISIBILITY OR CONSTRUCTION

It is unethical to represent that any hearing aid or part thereof is concealed or unrecognizable as a hearing aid when worn by any user if, for practical purposes, such is not the fact.

VIII. NOVELTY OF PRODUCTS

It is unethical, in the sale, offering for sale, or distribution of industry products, to use any advertisement or other representation which misleads or deceives purchasers or prospective purchasers into the belief that any such product, or part or accessory thereof, is a new invention or involves a new mechanical or scientific principle, when such is not the fact.

IX. USED OR REBUILT PRODUCTS

It is unethical for any industry member to represent, directly or indirectly, that any industry product or part thereof is *new*, *unused*, or *rebuilt*, when such is not the fact.

In the marketing of industry products which are second-hand or rebuilt, or which contain second-hand or rebuilt parts, it is unethical to fail to make full and nondeceptive disclosure in writing to the purchaser and by a conspicuous tag or label firmly attached to the product, and in all advertising and promotional literature relating thereto, of the fact (a) that such products are second-hand, rebuilt, or contain second-hand or rebuilt parts, as the case may be, or (b) that the rebuilding of rebuilt products was done by other than the original manufacturer, when such is the case.

X. TESTS, ACCEPTANCE, OR APPROVAL

It is unethical, in the sale, distribution, or promotion of hearing aids, for any industry member (a) to represent, or to use any seals, emblems, shields, or other insignia which represent or imply in any manner, that a hearing aid or other industry product has been tested, accepted, or approved by any individual, concern, organization, group, or association, unless such hearing aid has in fact been tested in such manner as reasonably to insure the quality and performance of the instrument in relation to the intended usage thereof and the fulfillment of any material claims made, implied, or intended to be supported by such representation or insignia; or (b) to represent that a hearing aid or other industry product tested, accepted, or approved by any individual, concern, organization, group, or association has been subjected to tests based on more severe standards of performance, workmanship, quality than is in fact true; or (c) to make any false, misleading or deceptive representation respecting the testing, acceptance, or approval of a hearing aid by any individual, concern, organization, group or association.

XI. ENDORSEMENT AND TESTIMONIALS

It is unethical for any industry member to advertise that a certain individual, organization, or institution (a) endorses, uses or recommends his hearing aids or other industry products when such is not the case; or (b) personally wears his hearing aid when such is not the case.

XII. DISPARAGEMENT

(a) It is unethical to defame industry members by falsely imputing to them dishonorable conduct, inability to perform contracts, questionable credit standing, or by other false representations, or the false disparagement of the products or competitors in any respect, or their business methods, selling prices, values, credit terms, policies, or services.

(b) It shall be considered unethical for an industry member to:

(1) display the products of his competitor in his window, shop or advertising in such manner as to convey a false comparison of the products, thereby resulting in a false disparagement of the competitor's product. This shall not prevent him from displaying or advertising in such manner as to convey a true and accurate comparison of competitive products, and shall not prevent him from making specific or generalized truthful comparisons to point out the features and superiorities of his product;

(2) represent, without substantial and specific grounds for such representation, that competitors are unreliable whereas he himself is not;

(3) quote prices of competitive devices when such are not the true current prices, or to show, demonstrate or discuss competitive models as current models when such are not current models.

(c) It shall be considered unethical for an industry member to attempt to foster an unfavorable impression of a competitor with the medical profession, hearing societies, clinics, or public groups by falsely disparaging his motives, his methods, his products, and his prices with such groups.

Appendix 2

LETTERS AND REPORTS FROM FEDERAL DEPARTMENTS

ITEM 1: MATERIAL SUBMITTED BY DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

EXCERPTS FROM ATTORNEY GENERAL'S MEMORANDUM ON THE PUBLIC INFORMATION SECTION OF THE ADMINISTRATIVE PROCEDURE ACT—JUNE 1967

In his discussion of "Exemptions" the Attorney-General said the following:

* * * * * * *

(2) INTERNAL PROCEDURES

"The provisions of this section shall not be applicable to matters that are * * * (2) related solely to the internal personnel rules and practices of any agency;"

The House report explains that the words "personnel rules and practices" in subsection (e) are meant to relate to those matters which are for the guidance of agency personnel only, including internal rules and practices which cannot be disclosed to the public without substantial prejudice to the effective performance of a significant agency function. The examples cited in the House report (H. Rept., 10) are "operating rules, guidelines, and manuals of procedure for Government investigators or examiners." An agency cannot bargain effectively for the acquisition of lands or services or the disposition of surplus facilities if its instructions to its negotiators and its offers to prospective sellers or buyers are not kept confidential. Similarly, an agency must keep secret the circumstances under which it will conduct unannounced inspections or spot audits of supervised transactions to determine compliance with regulatory requirements. The moment such operations become predictable, their usefulness is destroyed.

As the examples cited in the House report indicate, the exemption in subsection (e)(2) is designed to permit the withholding of agency records relating to management operations to the extent that the proper performance of necessary agency functions requires such withholding. However, as the House report states, at page 10, "this exemption would not cover all 'maters of internal management, such as employee relations and working conditions and routine administrative procedures which are withheld under the present law." It follows that the exemption should not be invoked to authorize any denial of information relating to management operations when there is no strong reason for withholding. For example, the examining, investigative, personnel management, and appellate functions of the Civil Service Commission relate solely to the internal personnel rules and practices of the Government and, as such, are covered by the exclusion in subsection (e)(2). However, the Commission now publishes all its regulations in the Federal Register, and its instructions are available to the public through the Federal Personnel Manual, which may be purchased at the U.S. Government Printing Office. This is an example of the exercise of the principle that the exemption, even though it may be literally applicable, should be invoked only when actually necessary.

* * * * * * *

(4) INFORMATION GIVEN IN CONFIDENCE

"The provisions of this section shall not be applicable to matters that are * * * (4) trade secrets and commercial or financial information obtained from any person and priviliged or confidential;"

The scope of this exemption is particularly difficult to determine. The terms used are general and undefined. Moreover, the sentence structure makes it sus-

ceptible of several readings, none of which is entirely satisfactory. The exemption can be read, for example, as covering three kinds of matters: i.e., "matters that are * * * [a] trade secrets and [b] commercial or financial information obtained from any person and [c] privileged or confidential." (Bracketed initials added). Alternatively, clause [c] may be read as modifying clause [b]. Or, from a strictly grammatical standpoint, it could even be argued that all three clauses have to be satisfied for the exemption to apply. In view of the uncertain meaning of the statutory language, a detailed review of the legislative history of the provision is important.

Exemption (4) first appeared in the bill (S. 1666) following full commmittee consideration by the Senate Committee on the Judiciary in the second session of the 88th Congress. It then provided for the exemption of "trade secrets and other information obtained from the public and customarily privileged or confidential." The Senate report explained the addition of exemption (4) as follows:

"This exemption is necessary to protect the confidentiality of information which is obtained by the Government through questionnaires or other inquiries, but which would customarily not be released to the public by the person from whom it was obtained. This would include business sales statistics, inventories, customer lists, and manufacturing processes. It would also include information customarily subject to the doctor-patient, lawyer-client, and other such privileges." (S. Rept., 88th Cong., 6.)

When S. 1160 was introduced in the 89th Congress, exemption (4) differed in two respects from the previous version. The words "commercial or financial" had been substituted for the word "other," and the word "customarily" had been deleted.

While the first of these two changes could be read as narrowing the exemption, a comparison of the Senate reports in the 88th and 89th Congress indicates, rather, that it was intended to make sure that commercial and financial data submitted with loan applications would come within the exemption. The description of exemption 4 at page 9 of the Senate report in the 89th Congress is the same as that quoted above from the report in the 88th Congress, except that reference to the "lender-borrower privilege" is inserted and the following sentence is added: "Specifically it would include any commercial, technical, and financial data, submitted by an applicant or a borrower to a lending agency in connection with any loan application or loan."

The Senate report in the 89th Congress thus treats the change as expanding rather than contracting the coverage of the exemption, since it not only adds the above language, but also continues to refer to the doctor-patient and lawyer-client privileges, which certainly are not "commercial or financial," and all the other material referred to as exempt in the previous report.

Deletion of the word "customarily" apparently had a different basis. While at first glance the reach of "privileged" might be considered extended by removal of the modifying word "customarily," the change also serves a narrowing function by negating the possibility of a privilege created simply by agency custom. The word "customarily" is still used in the report, but with examples of the kinds of privileges which are protected by the exemption.

The House report on this exemption generally parallels the Senate language with several additions, including such matters as disclosures of negotiation positions in labor-management mediations, and scientific or manufacturing processes or developments. The report states at page 10:

"This exemption would assure the confidentiality of information obtained by the Government through questionnaires or through material submitted and disclosures made in procedures such as the mediation of labor-management controversies. It exempts such material if it would not customarily be made public by the person from whom it was obtained by the Government. The exemption would include business sales statistics, inventories, customer lists, scientific or manufacturing processes or developments, and negotiation positions or requirement in the case of labor-management mediations. It would include information customarily subject to the doctor-patient, lawyer-client, or lender-borrower privileges such as technical or financial data submitted by an applicant to a Government lending or loan guarantee agency. It would also include information which is given to an agency in confidence, since a citizen must be able to confide in his Government. Moreover, where the Government has obligated itself in good faith not to disclose documents or information which it receives, it should be able to honor such obligations."

The last two sentences, in particular, underline the protection afforded by this exemption to information given to the Government in confidence, whether or not involving commerce or finance.

It seems obvious from these committee reports that Congress neither intended to exempt all commercial and financial information on the one hand, nor to require disclosure of all other privileged or confidential information on the other. Agencies should seek to follow the congressional intention as expressed in the committee reports.

In view of the specific statements in both the Senate and House reports that technical data submitted by an applicant for a loan would be covered, and the House report's inclusion of "scientific or manufacturing processes or developments," it seems reasonable to construe this exemption as covering technical or scientific data or other information submitted in or with an application for a research grant or in or with a report while research is in progress. Lists of applicants, however, would not necessarily be covered.

In view of the statements in both committee reports that the exemption covers material which would customarily not be released to the public by the person from whom the Government obtained it, there may be instances when agencies will find it appropriate to consult with the person who provided the information before deciding whether the exemption applies.

One change was made in exemption (4) by the Senate committee in the 89th Congress: the phrase "information obtained from the public" was amended by substituting the words "any person" for "the public." It seems clear that applicability of this exemption should not depend upon whether the agency obtains the information from the public at large, from a particular person, or from within the agency. The Treasury Department, for instance, must be able to withhold the secret formulae developed by its personnel for inks and paper used in making currency.

An important consideration should be noted as to formulae, designs, drawings, research data, etc., which, although set forth on pieces of paper, are significant not as records but as items of valuable property. These may have been developed by or for the Government at great expense. There is no indication anywhere in the consideration of this legislation that the Congress intended, by subsection (c), to give away such property to every citizen or alien who is willing to pay the price of making a copy. Where similar property in private hands would be held in confidence, such property in the hands of the United States should be covered under exemption (e)(4).

(5) Internal Communications

"The provisions of this section shall not be applicable to matters that are * * * (5) inter-agency or intra-agency memorandums or letters which would not be available by law to a private party in litigation with the agency;"

The problems sought to be met by this exemption are principally the problem of prejudicing the usefulness of staff documents by inhibiting internal communication, and the problem of premature disclosure. The House report explains the exemption as follows:

"Agency witnesses urged that a full and frank exchange of opinions would be impossible if all internal communications were made public. They contended, and with merit, that advice from staff assistants and the exchange of ideas among agency personnel would not be completely frank if they were forced to 'operate in a fishbowl.' Moreover, a Government agency cannot always operate effectively if it is required to disclose documents or information which it has received or generated before it completes the process of awarding a contract or issuing an order, decision or regulation. This clause is intended to exempt from disclosure this and other information and records wherever necessary without, at the same time, permitting indiscriminate administrative secrecy. S. 1160 exempts from disclosure material 'which would not be available by law to a private party in litigation with the agency.' Thus, any internal memorandums which would routinely be disclosed to a private party through the discovery process in litigation with the agency would be available to the general public." (H. Rept., 10.)

Accordingly, any internal memorandum which would "routinely be disclosed to a private party through the discovery process in litigation with the agency" is intended by the clause in exemption (5) to be "available to the general public"

(H. Rept., 10) unless protected by some other exemption. Conversely, internal communications which would not routinely be available to a party to litigation with the agency, such as internal drafts, memoranda between officials or agencies, opinions and interpretations prepared by agency staff personnel or consultants for the use of the agency, and records of the deliberations of the agency or staff groups, remains exempt so that free exchange of ideas will not be inhibited. As the President stated upon signing the new law, "officials within Government must be able to communicate with one another fully and frankly without publicity". The importance of this concept has been recognized by the courts. See *Carl Zeiss Stiftung* v. *V.E.B. Carl Zeiss Jena*, 40 F.R.D. 318 (D.C., D.C., 1966), affirmed for the reasons stated in the district court opinion—F. 2d—(D.C. Cir. May 8, 1967).

In addition to its explanation of exemption (5) quoted above, the House report in its general discussion of the bill's provisions states:

"* * * in some instances the premature disclosure of agency plans that are undergoing development and are likely to be revised before they are presented, particularly plans relating to expenditures, could have adverse effects upon both public and private interests. Indeed, there may be plans which, even though finalized, cannot be made freely available in advance of the effective date without damage to such interests. There may be legitimate reasons for nondisclosure * * * in such cases." (H. Rept., 5–6.)

The above quotations make it clear that the Congress did not intend to require the production of such documents where premature disclosure would harm the authorized and appropriate purpose for which they are being used.

ITEM 2. ADMINISTRATION ON AGING, SOCIAL AND REHABILITATION SERVCE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
ADMINISTRATION ON AGING,
SOCIAL AND REHABILITATION SERVICE,
Washington, D.C., July 17, 1968.

DEAR SENATOR CHURCH: I am happy to answer the questions you posed in your letter to me of July 2, 1968, regarding the forthcoming study of the Subcommittee on Consumer Interests of the Elderly on "Hearing Loss, Hearing Aids, and the Older American."

Question 1.—We have been informed by the Public Health Service that the Administration on Aging is cooperating with PHS to obtain information on assessment of programs for follow-up services in hearing aid orientation, maintenance, and overall assistance in hearing aid usage. May we have details of the AoA role in this area?

Answer.—Dr. Clifford Cole, Chief, Chronic Disease Control Program in the Public Health Service and Dr. Joseph L. Stewart, Consultant, Speech Pathology and Audiology, have met with the Administration on Aging to define the problems of adjustment and orientation which older people with hearing loss often face in the usage of hearing aids and to determine the factors that should be considered in any evaluations or studies of this subject. We also have consulted with the Public Health Service regarding possible communities where such studies might be conducted.

As indicated, the Administration on Aging's role has been to cooperate in helping to identify communities which would be considered as potential sites for a study. In addition, we will cooperate in other ways with the National Center for Chronic Disease Control in the development of the proposed study—which is still in the planning stage.

Question 2.—We would welcome any other information or observations that may arise from experiences of participants or directors of projects assisted by funds from AoA.

Answer.—Time did not permit us to undertake a complete review of the experiences of participants or directors of projects assisted by funds received under the Older Americans Act. However, a sampling of directors of Title IV

projects (the Research and Development Grants under the Older Americans Act of 1965) resulted in these observations:

a. A varying proportion of older people who are participants in such projects have some degree of hearing loss. Estimates ranged from 10% to 90%.

b. Dr. Carl Eisdorfer, M.D., Center on Aging, Duke University in a study which he conducted, reports that hearing loss appears to be sex related, age related, and race related. Hearing detriment is more impairing than other types of loss according to the study conducted by Duke University. It was noted that hearing loss is related to intelligence quotient reduction, vocabulary loss, and personality changes. A recommendation from this study, emphasizes the importance of counseling in the provision of hearing aids for the elderly.

c. Several project directors noted that in instances where older people may be aware of a hearing loss, often help will not be sought until the impairment becomes acute.

d. The availability of services in connection with the purchase and use of a hearing aid vary in local communities from virtually no resources to extensive programs and resources. In connection with this observation, it was also pointed out that resources were generally less accessible to the poor than those financially able to purchase services and aids.

e. Project directors also expressed concern over the fitting of hearing aids provided older people. The degree of the extent of this problem was not known by project directors.

Under the Title III program of the Older Americans Act, services in connection with hearing loss generally fall within broader health and social services developed at the community level.

Three specific projects which may be of interest to you include:

a. In Minot, North Dakota, the Senior Citizens League of Minot Activity Center has a cooperative program with the speech and hearing facilities at Minot State College where the center provides a full range of testing and follow-up consultation to members of the Center who may require such services.

b. In Chicago, Illinois, the Chicago Hearing Society has recently received a grant to train retired teachers, retired nurses, and housewives with a professional background in teaching speech reading to older people. The project will be conducted in a senior center in Chicago and a nursing home in Rockville, Illinois by the Society with consultation from the faculty of Northwestern University.

c. In Hagerstown, Maryland, the Mayor's Council on Problems of Aging has worked out a combined visual and hearing screening program for older adults in connection with the Washington County Health Department. Washington County Board of Education, and the local Civitan Club. A mobile unit, provided by the Civitan and staffed by the Board of Education, regularly used by the schools, has been made available throughout the year for such screening to members of the Hagerstown Senior Citizens Center, 22 senior citizen clubs in the county, and other older individuals. This activity is in its third year and is part of the overall program of the Mayor's Council and the Hagerstown Senior Center. Referral and follow-up services are made by the center to local physicians.

Question 3: Is any thought now being given to the possibility of including screening for hearing loss as a Medicare benefit?

Answer.—As you know, Congress has requested the Social Security Administration to make a study and report on a program of preventive services under Medicare. We understand that, in this study, the area of prevention and alleviation of hearing loss will very likely be covered. I have been informed that you will also be hearing from the Social Security Administration regarding this question. Since that agency is responsible for the Medicare program, I am deferring to it for a more definite answer to you on the question of whether there is a possibility of including screening for hearing loss as a Medicare benefit.

Sincerely,

WILLIAM D. BECHILL,
Commissioner on Aging.

ITEM 3. OFFICE OF EDUCATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
OFFICE OF EDUCATION,
Washington, D.C., July 17, 1968.

HON. FRANK CHURCH,
Chairman, Subcommittee on Consumer Interests of the Elderly, Special Committee on Aging, U.S. Senate, Washington, D.C.

DEAR SENATOR CHURCH: Thank you for your letter of July 2 concerning the Office of Education training program in speech pathology and audiology.

In response to your specific questions, the Bureau of Education for the Handicapped has provided the enclosed report.

As with all areas of the handicapped, speech and hearing has been of great concern to us in the search for solutions to the problems which have plagued us for years: manpower shortages; comprehensive services to include identification, diagnosis and treatment; continuity of services for the handicapped from birth to adulthood; and the education of the handicapped. Your interest and that of your Committee is greatly appreciated.

Sincerely yours,

HAROLD HOWE II,
U.S. Commissioner of Education.

[Enclosure]

REPORT PREPARED BY THE BUREAU OF EDUCATION FOR THE HANDICAPPED ON THE TRAINING PROGRAM IN SPEECH PATHOLOGY AND AUDIOLOGY FOR THE SUBCOMMITTEE ON CONSUMER INTERESTS OF THE ELDERLY

1. Under the provisions of Public Law 85–926, as amended, we award grants to institutions of higher education and State education agencies for the training of professional personnel in all areas of the handicapped, including the speech impaired, hard of hearing and the deaf. For fiscal year 1969, the Bureau granted 1,727 traineeships and fellowships to 140 colleges and universities and 48 State education agencies. Pertinent literature and reports related to the program are attached. The number of scholarships awarded this year will make some impact on reducing the serious manpower shortage in speech pathology and audiology. Our best estimates indicate that to serve the speech and hearing handicapped in the schools (about 3.5 percent of total school-age (5–17) population or approximately 1,833,000 children), we ideally need 22,900 professional personnel. It has been reported by the American Speech and Hearing Association that approximately 11,000 speech and hearing specialists are currently employed in local school programs and in local agencies to provide speech and hearing services to the school-age population. The difference between the ideal need and the number currently employed is 11,900, which represents the estimate of the manpower shortage in this field. If we allow for (a) an annual increase in the school-age population, (b) attrition rate of 8 percent among professional personnel in the schools, and (c) demand for the provision of better quality services, the ideal need for speech pathologists and audiologists can be expected to rise each year. However, there is some recent evidence which predicts that the ideal need may be reduced substantially by the development of preventive programs (early case finding and treatment) and by the use of new models of services which incorporate educational technology and professional aides. Exact projections of these figures are not available at this time.

In addition to the need for training new professional personnel, there is and will be a continuous need for in-service training for employed professionals who should be given the opportunity to keep informed about the new developments in the field. The likelihood of meeting the ideal needs in speech and hearing within the next 5 years is good if adequate Federal funding were provided to support the efforts in the training programs throughout the Nation. By a stepped-up effort to recruit and train large numbers of speech pathologists and audiologists through the expansion of current training programs and the development of new training programs, the need may be met.

2. One way in which to reduce the need for highly trained professionals is to modify the ways in which speech and hearing services are provided. The use

of professional aides has been one of the most promising solutions to this problem. In September 1967, the Office of Education sponsored an Institute on the Utilization of Supportive Personnel in School Speech and Hearing Programs. A copy of the report of this conference is also attached.

Furthermore, in recognition of the need for training professional aides, the Bureau of Education for the Handicapped and the Bureau of Educational Personnel Development have developed an agreement to utilize funds under the Education Professions Development Act of 1967 for training supportive personnel in the fields of the handicapped. We wish to refer you to the attached letter of agreement which identifies this effort.

3. One new piece of legislation which would broaden our current programs is being considered by the Congress. The "Handicapped Children Early Education Assistance Act" has been introduced as part of the Amendments to the Vocational Education Act, S. 3770, and has been reported favorably by the Senate Committee on Labor and Public Welfare. Hearings on a similar bill H.R. 17829, in the House are currently being held. The bill will establish model pre-school programs for deaf, hard of hearing and speech impaired children. We are attaching a copy of the testimony on this proposal given by Dr. James Gallagher, Associate Commissioner for the Education of the Handicapped.

ITEM 4. SOCIAL SECURITY ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
SOCIAL SECURITY ADMINISTRATION,
Baltimore, Md., July 18, 1968.

DEAR SENATOR CHURCH: This is in further reply to your inquiry in connection with the study of "Hearing Loss, Hearing Aids, and the Older American" to be conducted by the Subcommittee on Consumer Interests of the Elderly. The following comments are numbered to correspond to the numbered questions you raised concerning the extension of Medicare coverage to expenses for hearing aids and for screening to determine hearing loss.

1. I am enclosing a memorandum furnished by the Office of the Actuary of the Social Security Administration, which provides an estimate of the cost of covering care related to hearing loss and hearing aids under the Medicare program. A further consideration with respect to the cost of such a proposal is that I believe that it would be difficult to consider Medicare coverage of expenses for routine care relating to hearing apart from the other types of routine care now similarly excluded from coverage by the program. Thus, if the Medicare program were to cover expenses for hearing tests and hearing aids, it would be difficult to justify the program's not also bearing the costs for routine eye tests, eyeglasses, and other preventive care.

2. There is no doubt that routine hearing examinations, both screening and follow-up tests, and hearing aids make an important contribution to the health of the aged. However, as you know, there were a great many health items and services which could have been covered under the Medicare program, and it was necessary to make choices among them as to what should be included, considering the funds it seemed appropriate to provide for the program. It was generally agreed at an early point that the primary coverage should be coverage of the costs of inpatient hospital and alternative services and coverage of the costs of physicians' services and related services rendered to persons who are ill. Thus, while the Medicare program does not cover expenses for routine care related to hearing loss and hearing aids, its medical insurance plan does cover expenses for diagnostic testing by an audiologist to determine hearing loss in connection with a specific illness or injury when a physician determines that the testing is medically necessary. For example, the physician might order the tests to measure a hearing deficit or to identify the factors responsible for the deficit where such tests are necessary to determine whether otologic surgery is indicated.

The exclusion from Medicare coverage of the costs of routine care related to hearing loss and hearing aids as well as routine eye care and physical check-ups,

was done with the consideration that with insurance protection against the major costs of hospital and physicians' services most older people will be better able to budget for the costs of routine care and other health needs which are not covered under the program.

Also, as you know, several bills have been introduced in the current session of Congress that would amend the Public Health Service Act for the purpose of establishing and operating regional and community adult health protection centers to provide free periodic health appraisal and disease detection services, including detection of hearing loss.

3. As you know, the Committee on Finance, in its report on the Social Security Amendments of 1967, instructed the Secretary of Health, Education, and Welfare to study the possibility of covering under the Medicare program the cost of comprehensive health screening services and other preventive services designed to contribute to the early detection and prevention of disease in old age. It can be expected that screening to determine hearing loss will be part of the comprehensive health screening services to be studied. The Secretary is to report the results of this study, including his findings and recommendations, to the Congress prior to January 1969.

Sincerely yours,

ROBERT M. BALL,
Commissioner of Social Security.

JULY 15, 1968.

MEMORANDUM

To: Mr. Robert J. Myers, Chief Actuary.
From: Gordon R. Trapnell, Actuary for Health Insurance.
Subject: Persons aged 65 or over with hearing impairments.

Data concerning the number of persons aged 65 or over with some hearing impairment are available from the National Health Survey.[1] "Persons with some degree of hearing impairment ranging from difficulty only with faint speech to inability to understand even amplified speech" are identified as those who cannot hear frequencies in the 500–2000 cycles per second range at 15 decibels above "audiometric zero", (i.e., the threshold for normal hearing). Included in this group are those who have only infrequent difficulty with hearing normal speech. Excluded are those who can hear well as long as speech is clear. The data and categorization are summarized in Table 1.

Although the pattern of data from cell to cell indicate that considerable variation from the actual level of the frequency of hearing impairments must be anticipated, the overall percentages by age groups obtained by assuming that ⅓ of those in the first category, ⅔ of those in the second, and all the remaining need hearing aids appear reasonable. Weighing the latter by the 1970 U.S. population (assuming those aged 75 and older have one-third higher frequencies of impairment than those aged 75–79), the overall frequency of obtaining a hearing aid would be 25.8%. Similarly, the weighted average of those with some impairment would be 41.3%.

The frequency of impaired hearing, and the relative severity of impairment increase markedly with age, especially at advanced ages. Thus, it is probable that most persons aged 65 or over who need a hearing aid will need a new one every few years. If the average cost of purchase, maintenance, and replacement (including professional services related thereto) is $100 per year and the proportion of those aged 65 or over who obtain an aid is 25.8%, the charges per year per capita would be $25.80. If a larger percentage of those with some impairment obtain aids, however, this cost could be somewhat higher.

On this basis, the benefit cost under the Supplementary Medical Insurance program would be about $19.35 per capita per year and the total cost including administrative expenses would be about $21.19 per capita per year. This would mean an increase in the premium rate that enrollees pay of about $.88 per month.

[1] National Center for Health Statistics, Series 11, No. 31, May 1968, pp. 2, 20, and 21. Supplemented by additional data supplied by the Public Health Service.

TABLE 1.—DATA ON HEARING CAPABILITY OF PERSONS AGED 65 TO 79

Category	Decibels above normal threshold	Aged 65 to 74		Aged 75 to 79	
		Men (percent)	Women (percent)	Men (percent)	Women (percent)
(1) Difficulty with faint speech	16 to 25	13.8	16.3	18.9	21.4
(2) Frequent difficulty with normal speech	26 to 34	7.0	3.5	11.7	17.5
(3) Continuous difficulty with normal speech	45 to 79	9.3	14.0	18.1	7.4
(4) Unable to hear amplified speech	80 and over	.4	1.0	----------	1.0
(5) Total with impaired speech	16 and over	30.5	34.8	48.7	47.3
(6) 1/8(1)+3/8(2)+(3) (4)		19.0	22.7	32.2	27.2

ITEM 5. FEDERAL TRADE COMMISSION

OCTOBER 11, 1967.

DEAR SENATOR WILLIAMS: Further reference is made to your letter of September 28, 1967, concerning the effectiveness of the Commission's trade practice rules for the Hearing Aid Industry.

The trade practice rules for the Hearing Aid Industry now in effect were promulgated July 20, 1965, and constitute a revision and extension of the rules for this industry promulgated August 7, 1953. As explained therein, such rules are applicable to manufacturers, distributors, and others engaged in the sale of any type of instrument or device designed for or represented as aiding, improving, or correcting defective hearing, or in the sale of parts and accessories therefor. The rules deal primarily with the deceptive practices known to have been employed in this industry and afford guidance as to applicable legal requirements.

While it is not possible to determine precisely how effective the hearing aid rules have been, we do have good indications that they are responsible for a substantial improvement in hearing aid advertising. Clinical audiologists of the Veterans Administration, with whom we have collaborated extensively in the development and administration of the rules, feel that such rules have been of considerable value in eliminating false and deceptive representations made for hearing aids, particularly claims that such products are effective for all persons suffering a hearing loss regardless of the extent of the loss or the cause thereof. Similar opinions have been expressed to us by hearing aid manufacturers and distributors.

Since the issuance of the rules, 51 matters concerning alleged rule infractions were brought to our attention and have received attention under the rules by our Bureau of Industry Guidance. In each instance wherein practices were found to be at variance with the rule provisions, they were brought to the attention of the responsible company and where such practices were voluntarily corrected and it was considered that the public interest would be fully safeguarded by such action, the matter was disposed of under the Commission's informal voluntary compliance procedures. Twenty of such matters have been disposed of under the rules with voluntary corrections made where necessary, two were closed for lack of jurisdiction, and the others are pending in the Bureau in various stages of development. It is pertinent to your inquiry that whereas 36 of such matters were initiated in Fiscal Year 1966, only 15 were opened in Fiscal 1967. The decline in the number of complaints received, in our opinion, further reflects the effectiveness of the rules.

In addition to the matters mentioned, there are 5 similar hearing aid matters now pending in our Bureau of Deceptive Practices and that Bureau has effected informal disposition of 7 other complaints against members of this industry since the present rules were established.

We note the reference in your letter to steps already taken by the Federal Trade Commission, through its office of Federal-State Cooperation, to provide the Council of State Governments with recommendations for uniform consumer laws, in-

cluding a licensing law for hearing aid fitters and dealers. This action of the Commission, together with its issuance of rules for the Hearing Aid Industry and the carrying on of rule compliance work under these rules, should afford considerable consumer protection for the elderly in the hearing aid field.

We are enclosing for your information a pamphlet issued by the Council of State Governments entitled, "Selling and Fitting of Hearing Aids," and Commission release of July 7, 1966, captioned, "FTC Proposes that States Enact Laws to Prevent Consumer Deception and Unfair Competitive Practices, Also to Regulate Hearing Aid Dealers and Correspondence Schools." In this connection, it may be of interest to note that the States of Oregon, Michigan, Tennessee, Indiana, and Florida have enacted laws to license hearing aid fitters and dealers.

Trusting that this is the information desired and with kindest personal regards, I am

Sincerely yours,

PAUL RAND DIXON, *Chairman.*

FEDERAL TRADE COMMISSION,
Washington, D.C., July 16, 1968.

HON. FRANK CHURCH,
Chairman, Subcommittee on Consumer Interests of the Elderly, Special Committee on Aging, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your letter of July 2, 1968, in which you request additional information (a previous letter dated October 11, 1967, having been directed to Senator Harrison Williams, your predecessor as Subcommittee Chairman) relative to your current investigation of Hearing Loss, Hearing Aids, and the Older American. Your letter posed five numbered questions.

1. Responding to your first question, there would be no objection to the inclusion in the record of your forthcoming hearings of the Chairman's letter of October 11, 1967, to Senator Harrison Williams, concerning the effectiveness of the Commission's trade practice rules for the Hearing Aid Industry.

2. From available information the following states have enacted licensing legislation for the hearing aid industry: Michigan, Oregon, Indiana, and Tennessee. In several other states bills have been introduced and referred to committees. Many of these bills, as you probably know, have been based on the Model Bill proposed by the Council of State Governments. Two valuable and detailed discussions of the statutes already enacted and of the bills proposed in the various states may be found in The Hearing Dealer, June 1967, beginning at page 6 and at page 11. Copies of these articles are submitted herewith as Attachments A and B. There has been less activity in this field during the current year, because most state legislatures meet only in odd numbered years.

3. Replying to your third question, the Commission would be pleased to give consideration to making appropriate amendment of its Hearing Aid Trade practice rules should "substantial evidence that clinical audiologists are performing a highly technical and alied function—along with the otologist—in serving the hard of hearing elderly . . ." be made available to it. This would be especially so should the evidence indicate that the hard of hearing are being deceived by persons who designate and hold themselves out as "audiologists" when in fact they are not professionally trained technicians. It is hoped that your forthcoming hearings will develop specifications as to the type and amount of training one should receive to qualify as an "audiologist" as well as evidence of the meaning of the word "audiologist" to the general public.

4. To date no matters involving the advertising of hearing aids have arisen under the FTC District of Columbia Consumer Protection Program. The latest Commission order involving a hearing aid promotion was issued October 12, 1964, in Docket No. C–849, Regal Audio Instruments, et al., Buffalo, New York. See Attachment C.

5. As to the establishment of state commissions similar in function to the FTC, which was mentioned in a Washington Post news story of July 2, 1968, it is logical from an administrative point of view that enforcement of hearing aid legislation at the local level be placed in such commissions. Of course, this would be a matter for the individual state legislatures. In this regard I call your attention to pages 16 through 22 of the FTC's Report on District of Columbia Consumer Protection Program, June 1968. See Attachment D. In the general area

of state protection of consumers the court cases and law review articles cited in this report should prove helpful.

Trusting that this information will be useful in your current hearings and with kindest personal regards, believe me.

Sincerely yours,

EVERETTE MACINTYRE,
Acting Chairman.

[Attachments.]

ATTACHMENT A

[From the Hearing Dealer, June 1967]

INDUSTRY LEADERS REVIEW LICENSING

MICHIGAN STATE HEARING AID DEALERS ASSOCIATION

Four states now have licensing laws, the most recent being Tennessee. Several industry leaders have taken definite stands either "for" or "against" licensing. Some have voiced the opinion that they're for licensing as long as the legislation was "phrased right."

Hearing Dealer, subsequent to the passing of the Tennessee bill, asked leaders from the hearing aid industry who have publicly made known their concern regarding licensing to comment on four pertinent sections taken from the Model Bill by the Council of State Governments and the bills of Oregon, Michigan and Indiana.

The four sections: Advisory Boards, Committees or Councils; the Examination; Prohibited Acts and Unethical Conduct; and Qualifications.

Industry leaders who commented: Roland D. Ross, Sr., chairman, Board of Governors, Michigan State Hearing Aid Dealers Assn.; Carl G. Hoffman, president, Adcomold, Denver; J. C. Lucke, Belton, Miami; J. W. Manny, New York; John H. Payne, past president, Indiana Hearing Aid Assn., Chester K. Barnow, general manager, Beltone Electronics Corp., Chicago; and M. W. Shoup, manager, Telex Hearing Center, Chicago.

In Michigan, Public Act 265 which was signed by Governor Romney last fall has been now superseded by HB 2613 which attempts to clear up the unconstitutional features of 3133 by correcting the grandfather clause, but it does nothing else to make the bill equitable and workable and livable.

Our suggested amendments were ignored by the House and HB 2613 passed incorporating no change except the grandfather clause.

ROLAND D. ROSS, SR.

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ADCOMOLD, DENVER, COLO.

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I feel that much of the variance in proposed licensing bills is pure quibbling about minor matters. The Model Bill seems to eliminate most objections. Trying to write a bill that would be pleasing in all states is like trying to write specifications for a wife or husband. You would get a million different opinions.

About the best that can be hoped for is to make available to those who want it a bill that is fair to all concerned, is a very moderate bill allowing room for improvement and tightening up in future years.

Whatever is presented to any group formulating their own bill will be changed a dozen times before it is presented and this is all right, too, as every state does not have the same problems.

Model Bill: Qualifications. "Has an education equivalent to a four-year course in a standard high school or has continuously engaged in the practice of fitting hearing aids in the State during the three years preceding the effective date of this act." Two years should be ample.

Model Bill: Prohibited Acts and Unethical Conduct. Why not include "subscribe to the FTC Industry Ethics Code?"

Model Bill: Examination. No one knows what the future will be in hearing rehabilitation. Therefore a clause should be in here allowing changes to be made as the Act is developed.

Model Bill: Advisory Boards. Committees or Councils. "[One member shall have at least four years of paid work experience in audiology, shall hold a certificate of clinical competence in audiology from the American Speech and Hearing Assn. and shall be a member in good standing of that association.]" Good. The four year clause should be imperative.

CARL G. HOFFMAN.

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BELTONE, MIAMI, FLA.

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I have been so closely identified with licensing bills for years, I've come to the conclusion I cannot see the trees for the forest. And oh how I appreciate the brevity of the Ten Commandments, which attempts to regulate things far more complex than a hearing aid industry.

My latest study was this article and after many hours of outlining and study I came across this joker in the Model Bill, which in turn had been copied from the Oregon Bill. Forget the later bill, but the Model Bill reads under Advisory Council ". . . three members shall be persons experienced in the fitting of hearing aids . . ." Unless I am legally illiterate, four audiologists and an otologist could make up the five member council.

J. C. LUCKE.

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NEW YORK

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Let us first consider the matter of Advisory Boards, Committees, or Councils. It is interesting to note that although it is certainly the desire of dealers to retain control of these councils, not one bill that has been passed, so far, permits them to do so. (Mr. Manny's comments were written prior to the passing of the Tennessee Bill—Ed.)

Qualifications. Requiring one to be a resident of the state could very well jeopardize a dealer who has been operating a substantial, reputable business of interstate nature for many years. It could also be a deterrent to the sale of a business. The Michigan Bill, Sec. 7, Para. 3, gives the board considerable latitude as to what they may require in the way of additional training and education in the future.

Examinations. Of course, the Model Bill and the Oregon Bill are identical. The Michigan and Indiana bills leave much to be desired. They simply place the final requirements into the hands of the boards which are not controlled by the dealers.

Prohibited Acts and Unethical Conduct. There is nothing in any one of these four bills that protects the public as well as a good voluntary code of ethics.

In conclusion, let me say that I have yet to see a bill that would persuade me to stampede the legislators in favor of licensing.

J. W. MANNY.

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INDIANA HEARING AID ASSOCIATION

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Advisory Boards, Committees or Councils. I feel that the provisions of the Model Bill do have merit, in respect to its Advisory Council. The Oregon Bill is quite similar to the Model Bill, and I have the same observations. In the Michigan Bill there is a Board of Hearing Aid Dealers, seven in number. This is more desirable because it appears to place the dealers more in control of the situation. However, I notice in the Michigan Bill that the word "shall" is used in a number of places—Section 6, Items 1, 2, 3, and 4—in such a manner that it seems to me that the actions of the board may well be nullified.

In the matter of the composition of the Indiana Hearing Air Dealers Advisory Committee: since I was able to get the Indiana Academy of Otolaryngology and Ophthalmology to support reasonable legislation concerning our field, and through their cooperation, was also able to get the support of the Indiana State Medical Assn., we were in a position of having to compromise on various portions of the proposed legislation. The representatives of the medical groups working with us made it very clear that they were interested in seeing the testing, selection, fitting and servicing of hearing instruments for the hard of hearing public kept in the hands of those engaged in the free and competitive enterprise system. It

was also felt that the otolaryngologist's participation on the board and the objectivity which he would have concerning licensing would bring in an association which would improve and upgrade the image of our field in the eyes of the general public. It was felt that possibly after a few years, when the Hearing Aid Dealers prove that they can properly fulfill their role, the composition of the board can be gradually changed to give the hearing aid people a greater proportionate representation on the advisory committee.

The Examination. The matter of providing a specific scope of examination was purposely left out of the Indiana bill. This allows for a gradual development in the area of administering the bill and provides for flexibility, should new methods and techniques of testing, selection, fitting and adaptation of hearing instruments be developed. In the initial phases of regulation, it seemed reasonable to provide for qualifications and standards that would not drastically disturb the present balance of services and those who have been engaged in it.

Qualifications. I feel that the qualifications in the Model Bill, the Oregon Bill and the Indiana Bill are all reasonable. I am not in agreement with the stipulations for the qualification of applicants outlined in the Michigan Bill, particularly as outlined in Section 7, paragraph 3. The last three lines in that subsection could involve restrictive situations which could seriously disturb the present balance of services available to the hard of hearing public through established hearing aid dealers. It is my positive feeling that in the beginning, qualifications of applicants should be adequate but not so restrictive as to unduly impair the present balance of services in our field.

Prohibited Acts and Unethical Conduct. It seems to me that the provisions of the Model Bill and the Oregon Bill are reasonable. I feel that there are sections of the Michigan Bill which are unduly restrictive. In the Indiana Bill, through hard negotiation on the part of the legislative committee just prior to and during the legislative session, a provision requiring the recommendation of a doctor before anyone under 16 or over 70 could be fitted with a hearing instrument was removed. There was also deleted a solicitation restriction which would have worked a severe hardship on dealers in many areas and in certain types of operations.

One of the advantages in Indiana was the fact that the Indiana Hearing Aid Assn. worked very closely for two years with a state legislative study commission prior to the introduction of the bill, during which time the need for such legislation was explored and legislation developed. During this time the Indiana Hearing Aid Assn. also developed the interest of the Indiana Academy of Otolaryngology and Ophthalmology and the Indiana State Medical Assn. toward the proposed legislation.

In my opinion, the same efforts to create confusion and a bad bill or no bill at all that occurred in Michigan and other surrounding states were also attempted in Indiana. I think this is unforunate. Fortunately, due to the length of time, careful development and a tremendous amount of work for licensing in Indiana, it did not succeed.

JOHN H. PAYNE.

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BELTONE ELECTRONIC CORP., CHICAGO

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The excerpts of the three state licensing bills and the Model Bill offer excellent examples of why we (Beltone Electronics) have continued to be opposed to the concept of licensing. Presumably, the underlying philosophy of such bills is to assure competency and ethical behavior on the part of the hearing aid fitter and to protect the hard-of-hearing consumer. However, as indicated by these examples, licensing bills become excessively restrictive on dealers and salesmen in areas that have nothing to do with the practical requirements of the hearing aid business, hearing aid fittings or the hard-of-hearing public.

Qualifications. The Model Bill sets up a requirement that an applicant must be a resident of the state. From a practical standpoint, such a restriction means that any established ethical hearing aid dealer or salesman who lives in one state, but whose territory of operations extends into the adjacent state, would be deprived of the right to earn his living in the adjacent state. It is my opinion that such a requirement is unconstitutional because it discriminates against citizens of other states. This opinion is borne out by the fact that this particular requirement was removed by court order from the Oregon bill.

The Model Bill, as well as the Oregon Bill, requires the equivalent of a high school education or that the person has fitted hearing aids during a specified period of time. This is in the nature of a grandfather clause and, after the specified period of time, all applicants will be required to have the equivalent of a high school education. I think it is a laudable and desirable goal that everybody in this country should have at least a high school education. But, if the real purpose of the bill is to set up requirements for the fitting of hearing aids, then the true criteria for qualification should be adequate knowledge of the fitting of hearing aids and not an artificial requirement that is unrelated to the subject of the law.

The Model Bill also requires that the applicant be free of contagious or infectious disease. This language is so broad as to be capable of interpretation that an applicant must not have a cold in order to be registered. I am sure this is not the intent, but it is an example of the kind of careless wording which creeps into many of the bills and could be to the detriment of the hard of hearing and the dealer and salesmen under certain circumstances.

It is my understanding that, at the present time, efforts are being made to amend the Qualifications section of the Michigan Bill. However, since the bill has not yet been amended as of the writing of these comments, I shall comment on the language of the bill as passed and signed by the governor (which is the law of Michigan until it is changed). Under the language of the Michigan Bill, there is no provision for licensing any hearing aid dealer during 1967 and 1968 unless he has been continuously engaged in the business for two years prior to Jan. 1, 1967. Thus, any dealer who entered the hearing aid business after Jan. 1, 1965, will automatically and arbitrarily be deprived of his property without due process of law—even though he may be the most honest, legitimate and sincere businessman in the state—and even though he may have invested his life's savings in such a business.

The Michigan Act also specifies that, after Jan. 1, 1969, a dealer license shall not be issued unless the applicant shall have served as a licensed salesman for a period of two years under the direction of a licensed hearing aid dealer. However, under the wording of the other subsections, the applicant will not be able to start serving as a licensed trainee salesman until Jan. 1, 1969. This means that any dealer who lost his business because he entered the business after Jan. 1, 1965, will not be able to qualify to become a licensed hearing aid dealer again until Jan. 1, 1971.

PROHIBITED ACTS AND UNETHICAL CONDUCT

Model Bill

(6) "Unethical conduct" means—

(a) The obtaining of any fee or the making of any sale by fraud or misrepresentation.

(b) Employing directly or indirectly any suspended or unregistered person to perform any work covered by this Act.

(c) Using or causing or promoting the use of any advertising matter, promotional literature, testimonial, guarantee, warranty, label, brand, insignia or any other representation, however disseminated or published, which is misleading, deceiving, improbable or untruthful.

(d) Advertising a particular model, type or kind of hearing aid for sale when purchasers or prospective purchasers responding to the advertisement cannot purchase or are dissuaded from purchasing the advertised model, type or kind where it is established that the purpose of the advertisement is to obtain prospects for the sale of a different model, type or kind than that advertised.

(e) Representing that the services or advice of a person licensed to practice medicine will be used or made available in the selection, fitting adjustment, maintenance or repair of the hearing aids when that is not true, or using the word "doctor," "clinic" or other like words, abbreviations or symbols which tend to connote the medical profession when such use is not accurate.

(f) Habitual intemperance.

(g) Gross immorality.

Oregon

694.145 Prohibited acts and practices. No person shall—

(1) Sell, barter or offer to sell or barter a certificate of registration.

(2) Purchase or procure by barter a certificate of registration with intent to use it as evidence of the holder's qualification to practice the fitting of hearing aids.

(3) Alter materially a certificate of registration with fraudulent intent.

Michigan

SEC. 12. Unethical conduct means—

(a) The obtaining of any fee or the making of any sale by fraud or willful and material misrepresentation.

(b) Employing directly or indirectly any suspended or unlicensed person to perform any work covered by this act.

(c) Using or causing or promoting the use of any advertising matter, promotional literature, testimonial, guarantee, warranty, label, brand, insignia or any other representation, however disseminated or published, which is willful and materially misleading, deceiving or untruthful.

(d) Advertising a particular model, type or kind of hearing aid for sale when purchasers or prospective purchasers responding to the advertisement cannot purchase or are dissuaded from purchasing the advertised model, type or kind where it is established that the purpose of the advertisement is to obtain prospects for the sale of a different model, type or kind than that advertised.

(e) Representing that the services or advice of a person licensed to practice medicine, or certified in audiology, will be used or made available in the selection, fitting, adjustment, maintenance or repair of hearing aids, when that is not true, or using the word "doctor," "audiologist," "center," "society," "clinic," or other like words, abbreviations or symbols which tend to connote the medical profession when such use is false . . .

(h) Representing, advertising or implying that the product is guaranteed without a reasonable disclosure of the identity of the guarantor, the nature and extent of the guarantee, and any conditions or limitation imposed.

(i) Selling a hearing aid intended to be used by a person 16 years of age or less without both an Otologic and Audiologic evaluation and recommendation.

(j) Canvassing from house to house or place of business either in person or by agents for the purpose of selling a hearing aid without prior referral or request.

(k) Failure to properly and reasonably accept responsibility for the actions of the licensed trainees.

Indiana

SEC. 22. Prohibited Trade Practices. Prohibited trade practices or acts which constitute grounds for suspension or revocation of the registration are:

1. Employing any person directly or indirectly to fit or dispense hearing aids who does not have a valid, unexpired and unrevoked registration.

2. Conviction of a felony, or of a misdemeanor involving moral turpitude.

3. Obtaining a fee or making any sale of a hearing aid by fraud or gross misrepresentation.

4. Using the words "doctor," "clinic," "clinical audiologist," "state licensed clinic," "state registered," "state certified," "state approved," or any other term, abbreviation, costume or symbol when it would falsely give the impression that one is being treated medically or professionally or that the registrant's service has been recommended by the state.

5. Offering for sale any hearing aid when the offer is not a bona fide effort to sell the product so offered as advertised and at the advertised price.

6. Using or causing or promoting the use of any advertising matter, promotional literature, testimonial, guarantee, warranty, label, brand, insignia, or any representation, however disseminated or published, which is misleading, deceiving or untruthful.

7. Completing the sale or transfer of a hearing aid to any person under sixteen (16) years of age or over seventy (70) years of age without having present an adult with normal hearing, other than the hearing aid dealer.

8. Habitual intemperance or immorality, or practicing while suffering from a contagious or infectious disease, as specified by the board.

9. Representing, advertising or implying that the product is guaranteed with a clear and concise disclosure of the identity of the guarantor, the nature and extent of the guarantee and any conditions or limitiations imposed in the guarantee.

10. Failure of the registrant supervising or employing a student registrant to assume close, careful and direct supervision of the student registrant at all times.

QUALIFICATIONS

Model bill

SEC. 5. Qualifications of Applicants for Registration; Fee.

An applicant for registration shall pay a fee of ($50) and shall show to the satisfaction of the (appropriate state agency) that he—

(1) Is a resident of this State.

(2) Is a person of good moral character.

(3) Is 21 years of age or older.

(4) Has an education equivalent to a four-year course in a standard high school or has continuously engaged in the practice of fitting hearing aids in this State during the three years preceding the effective date of this Act.

Oregon

694.055 Qualifications of applicants for registration; fee. An applicant for registration shall pay a fee of $50 and shall show to the satisfaction of the board that he—

(1) Is a resident of this State. (This requirement was removed by court order, January 15, 1960.)

(2) Is a person of good moral character.

(3) Is 21 years of age or older.

(4) Has an education equivalent to a four-year course in a standard high school or has continuously engaged in the practice of fitting hearing aids in this state during the three years preceding January 15, 1960.

Michigan

SEC. 6. (1) Any person wishing to sell hearing aids or to fit hearing aids in connection with the sale thereof as a dealer shall make application to the board on forms prescribed by it accompanied by a fee of $100.00. Any person employed by a dealer as a hearing aid saleman shall make application to the board on forms prescribed by it accompanied by a fee of $50.00.

(2) Any applicant for a license as a hearing aid dealer during the years 1967 and 1968 shall not be issued a license unless he is of good character, over 21 years of age, has continuously engaged in the sale or fitting of hearing aids in connection with the sale thereof as a dealer or salesman during the 2 years immediately preceding January 1, 1967.

(3) An applicant for a license as a hearing aid dealer after January 1, 1969, shall not be issued a license unless he is of good moral character, over 22 years of age and a graduate of an accredited high school or secondary school. In addition, he shall have served as a licensed salesman for a period of 2 years under the direction of a licensed hearing aid dealer and shall pass a written examination as prescribed by the board.

(4) Any applicant for a license as a hearing aid salesman during the years 1967 and 1968 shall not be issued a license unless he is of good character, over 21 years of age, has continuously engaged in the sale or fitting of hearing aids in connection with the sale thereof as a dealer or salesman during the 2 years immediately preceding January 1, 1967.

(5) Any applicant for a license as a hearing aid salesman after January 1, 1967, shall not be issued a license unless he is at least 18 years of age, a graduate from an accredited high school or secondary school and successfully completes such additional training and education as may be required by the board and passes a written examination as prescribed by the board and has served 6 months as a trainee licensed by the board and shall have complied with the provisions of section 10.

Indiana

SEC. 3. Hearing Aid Dealer Certificate of Registration. In compliance with Acts 1961, Chapter 79, requiring two (2) year licenses, the provisions of which to the extent applicable are incorporated in this act by reference, the board shall issue a Hearing Aid Dealer Certificate of Registration to any person who makes application on forms provided by the board if the board has determined to its satisfaction that the applicant is twenty-one (21) years old or older; is of good moral character; has not been convicted of any crime involving moral turpitude; does not have any communicable disease that is specified by the board and has passed the examination prepared by the committee and given by the board to determined that the applicant has the qualifications to properly fit hearing aids.

ADVISORY BOARDS, COMMITTEES OR COUNCILS

Model bills

SEC. 15. Advisory Council on Hearing Aids.

(a) There hereby is created the Advisory Council on Hearing Aids. The Council shall consist of five members to be appointed by the Governor (with the advice and consent of the Senate). The Governor shall designate one member as chairman.

(b) Members of the council shall be residents of this State. One member shall be a person licensed to practice medicine in this State who holds a certificate of qualification from the American Board of Otolaryngology. (One member shall have at least four years of paid work experience in audiology, shall hold a certificate of clinical competence in audiology from the American Speech and Hearing Association and shall be a member in good standing of that association.) Three members shall be persons experienced in the fitting of hearing aids, who possess the qualifications provided in Section 5; but all successors to the position of such members, who are appointed to the council after the date on which the (appropriate state agency) first issues a certificate of registration as provided in Section 8, shall be persons who hold valid certificates of registration under this Act. No member of the council shall be a member or employee of the (appropriate state agency).

SEC. 16. Duties of Council.

(a) The council shall have the responsibility and duty of advising the (appropriate state agency) in all matters relating to this Act, shall prepare the examinations required by this Act subject to the approval of the (appropriate state agency) and shall assist the (appropriate state agency) in carrying out the provisions of this Act.

Oregon

694.155 Powers and duties of State Board of Health. The powers and duties of the board are as follows:

(1) To authorize all disbursements necessary to carry out the provisions of this chapter.

(2) To supervise and administer qualifying examinations to test the knowledge and proficiency of applicants for registration.

(3) To register persons who apply to the board and who are qualified to practice the fitting of hearing aids.

(4) To purchase and maintain or rent audiometric equipment and facilities necessary to carry out the examination of applicants for registration.

(5) To issue and renew certificates of registration * * *.

(7) To appoint representatives to conduct or supervise the examination of applicants for registration.

(8) To designate the time and place for examining applicants for certificates of registration * * *.

(10) To require the periodic inspection of the audiometric testing equipment and to carry out the periodic inspection of facilities of persons who practice the fitting of hearing aids.

694.165 Advisory Council on Hearing Aids. (1) There hereby is created the Advisory Council to the State Board of Health on Hearing Aids. The council shall consist of five members to be appointed by the Governor.

(2) Members of the council shall be residents of this state. One member shall be a person licensed to practice medicine in this state who holds a certificate of qualification from the American Board of Otolaryngology. One member shall

hold advanced certification with the American Speech and Hearing Association and shall be a member in good standing of that association. Three members shall be persons experienced in the fitting of hearing aids, who possess the qualifications provided in ORS 694.055; but all successors to the position of such members, who are appointed to the council after the date on which the board first issues a certificate of registration as provided in ORS 694.085, shall be persons who hold valid certificates of registration under this chapter. No member of the council shall be a member or employee of the board.

694.170 Duties of council. (1) The council shall have the responsibility and duty of advising the board in all matters relating to this chapter, shall prepare the examinations required by this chapter subject to the approval of the board and shall assist the board in carrying out the provisions of this chapter.

(2) The board shall consider and be guided by the recommendation of the council in all matters relating to this chapter.

64.175 Meetings of council. The council shall meet at least once each year at a place, day and hour determined by the council. The council shall also meet at such other times and places as are specified by the board.

Michigan

SEC. 3 (1) The board of hearing aid dealers is created to consist of 7 members. Members shall be qualified hearing aid dealers who have been actively engaged in the sale of hearing aids for at least 3 years. The term of members shall be for 4 years or until their successors are appointed and qualified, except that of the members first appointed, 1 shall be appointed for 1 year, 2 for 2 years, 2 for 3 years and 2 for 4 years. Members of the board shall be geographically representative of the state * * *.

(3) Each member of the board shall be a resident of this state. No more than 2 members of the board shall be employees of, or franchised by or associated exclusively with the same hearing aid manufacturer.

(4) Each member of the board * * *.

SEC. 4 * * *.

(f) The board shall appoint from within its membership an ethics committee to carry out the provisions of this act and to investigate irregularities in the sale and fitting of hearing aids and report to the board of action.

(g) Appoint an advisory council consisting of 4 members for a term of 3 years to assist the board in carrying out the provisions of this act. The advisory council shall include 2 members who shall be persons holding at least a masters degree in audiology who have been actively engaged in the field of audiology, 1 member who is an optometrist and licensed in this state, and 1 member who is a medical or osteopathic physician licensed to practice in this state whose practice is devoted to persons who have sustained a hearing loss or hearing impairment. * * *

SEC. 5. The board shall formulate the examinations it proposes to use to test applicants for a license at least 60 days prior to the date on which the examination shall take place. The council shall advise the board as to whether the test meets proper professional standards.

SEC. 6. (1) The council shall advise the board in matters relating to this act.

(2) The council shall assist the board in carrying out the provisions of this act.

(3) The board shall consider the recommendations of the council in matters relating to this act * * *.

(4) The board shall submit to the council the examination it proposes to use to test applicants for a license at least 60 days prior to the date on which the examinations shall take place. The council shall advise the board as to whether the tests meet proper standards.

Indiana

SEC. 7. Hearing Aid Dealer Advisory Committee. There is hereby created a committee to be known as the "Hearing Aid Dealer Advisory Committee." This committee shall be composed of seven (7) members to be appointed by the governor as follows:

Two (2) members who are physicians licensed to practice in Indiana, and who hold certificates from the American Board of Otolaryngology;

One (1) member who shall hold a "Certificate of Clinical Competency in Audiology" issued by the American Speech and Hearing Association;

Three (3) members who shall be hearing aid dealers from three (3) different Indiana counties, no more than two (2) of whom shall be associated with the same hearing aid manufacturer. The Commissioner of the State Board of Health

by virtue of his office shall be the seventh (7th) member of the Committee and shall serve as its secretary.

THE EXAMINATION

Model bill

Section 6. Examination. (a) An applicant for registration who is notified by the (appropriate state agency) that he has fulfilled the requirements of Section 5 shall appear at a time, place and before such persons as the (appropriate state agency) may designate, to be examined by written and practical tests in order to demonstrate that he is qualified to practice the fitting of hearing aids.

SEC. 7. Scope of Examination. The examination provided in subsection (a) of Section 6 shall consist of:

(1) Tests of knowledge in the following areas as they pertain to the fitting of hearing aids—

(i) Basic physics of sound.

(ii) The human hearing mechanism, including the science of hearing and the causes and rehabilitation of abnormal hearing and hearing disorders.

(iii) Structure and function of hearing aids.

(2) Tests of proficiency in the following techniques as they pertain to the fitting of hearing aids—

(i) Pure tone audiometry, including air conduction testing and bone conduction testing.

(ii) Live voice or recorded voice speech audiometry, including speech reception threshold testing and speech discrimination testing.

(iii) Effective masking,

(iv) Recording and evaluating of audiograms and speech audiometry to determining hearing aid candidacy.

(v) Selection and adaption of hearing aids and testing of hearing aids.

(vi) Taking earmold impressions.

Oregon

694.065 Examination of applicants. (1) An applicant for registration who is notified by the board that he has fulfilled the requirements of ORS 694.055, shall appear at a time, place and before such persons as the board may designate, to be examined by written and practical tests in order to demonstrate that he is qualified to practice the fitting of hearing aids.

(2) The board shall give one qualified examination provided in subsection (1) of this section before January 15, 1960, and beginning in July of 1960 shall give a qualifying examination during the second full week in January and during the third full week in July of each year.

694.075 Scope of examination. The qualifying examination provided in subsection (1) of ORS 694.065 shall consist of:

(1) Tests of knowledge in the following areas as they pertain to the fitting of hearing aids:

(a) Basic physics of sound.

(b) The human hearing mechanism, including the science of hearing and the causes and rehabilitation of abnormal hearing and hearing disorders.

(c) Structure and function of hearing aids.

(2) Tests of proficiency in the following techniques as they pertain to the fitting of hearing aids:

(a) Pure tone audiometry, including aid conduction testing and bone conduction testing.

(b) Live voice or recorded voice speech audiometry, including speech reception threshold testing and speech discrimination testing.

(c) Effective masking.

(d) Recording and evaluation of audiograms and speech audiometry to determine hearing aid candidacy.

(e) Selection and adaption of hearing aids and testing of hearing aids.

(f) Taking earmold impressions.

Michigan

SEC. 10. The written examination provided for in section 6, as a minimum, shall test the applicant's knowledge of hearing aids and other abilities as outlined by the board and approved by the council. There shall be a practical demonstration of the potential seller's abilities in giving basic audiometric tests, in taking an earmold impression and in following the prescribed regulations and rules with regard to fitting and referral to Otologic examinations.

Indiana

SEC. 11. Examination. The board shall administer an examination as directed by the committee: standards for licensing shall be determined by the Advisory Committee who may require examination by written and practical tests in order to demonstrate that the applicant is qualified to fit and dispense hearing aids; Provided, further that it not be conducted in such a manner that college training be required in order to pass the examination. Nothing in this section shall imply that the applicant shall possess the degree of medical competence normally expected by physicians.

LICENSING IN TENNESSEE

The Tennessee Hearing Aid Dealers Association, without the blare of a publicity horn, last month successfully sponsored and saw passed into law a bill to license the state's hearing aid dealers. Several pro licensing associations currently considered the sponsoring of their own licensing legislation are already reviewing this bill, it was learned. (See also a Tennessee association report on page 16.)

"Our primary aim was to simply define who we are and what we do," said James F. Wallace, association president. "We tried to keep in mind the hard of hearing, the hearing aid dealer and the hearing aid manufacturer in addition to establishing a legal status for what we have been doing all along.

"Our first action," Mr. Wallace recalled, "was to seek the advice of several legislators who had, in the past, shown an interest in our welfare. Their advice was that we would probably have a better chance of getting an unchanged bill through the 1967 Assembly than ever again. We then consulted a legislative attorney who advised us that we should take the Council of State Governments Model Bill, change it as little as possible, and use this as the basic act. He felt that the simpler we kept it, the less chance there would be that it would be amended."

The avoiding of advance publicity relative to licensing in Tennessee was by design. The association's legislative committee and executive council felt that this action was in the best interest of the bill.

"Whatever restrictions have been placed on the Tennessee dealer," Mr. Wallace emphasized, "are the restrictions which the ethical dealer placed on himself years ago. We tried to give the hard of hearing public some protection against the unethical dealer without any penalty to the legitimate dealer.

"By the same token," he said, "we have tried to understand the position of the manufacturer. We realize that in order for him to continue to operate he must be able to appoint dealers for the dispensing of his product."

The Tennessee bill did in fact pass with very few changes. One of the more pertinent amendments was the appointing of a three-member advisory council to consist of "a person licensed to practice medicine in the state of Tennessee who holds a certificate of qualification from the American Board of Otolaryngology, to be appointed from nominees submitted to the governor by the Tennessee Medical Assn.," and "two members holding advanced certification with the American Speech and Hearing Assn., to be appointed from nominees submitted to the governor by the Tennessee Speech and Hearing Assn."

The advisory board will "assist the board—Tennessee Board of Hearing Aid Dispensers composed of five NHAS certified dealers—in carrying out the provisions of this act."

ATTACHMENT B

[From the Hearing Dealer, June 1967]

WHAT ARE THE DEALERS SAYING ABOUT LICENSING?

Four states now have some form of legislation regulating the sales of hearing aids by dealers. Several legislatures are still considering this controversial subject. Here's a report on what the dealer associations are doing.

Licensing! All are talking about it.—some loudly, some in whispers. Even persons indirectly associated with the hearing aid industry are now cocking an interested ear when licensing is mentioned. One thing for sure, licensing is now a *must* topic being discussed at industry meetings and conventions.

Not all, however, have committed themselves publicly as to what side of the fence they wish to take. Many are riding that licensing fence.

Hearing Dealer, in an attempt to seek out the feelings of those who will be affected the most by state-level licensing bills (the hearing aid dealers), recently sent out a legislative roundup questionnaire to state associations to record the present pulse of the licensing legislation movement.

As this year's legislative sessions draw to a close, there have been various forms of licensing bills considered in the following states: Connecticut, Massachusetts, Michigan (bill signed into law in 1966, not enforced this year, now being revised and apparently scheduled for enactment in 1968), Missouri, Nebraska, Ohio, Oregon, Pennsylvania, Rhode Island and Tennessee (passed in May of this year and scheduled for enactment on July 31, 1967).

Licensing bills have been tabled in Massachusetts and Maryland, passed in Indiana, killed in North and South Dakota, and relegated to subcommittee action in Connecticut, Missouri and Ohio.

Not all the licensing activity, however, is openly being debated before legislative bodies. Model bills are presently being authored by many industry factions (including HAIC) in preparation for further licensing bouts in states considering such laws.

As of presstime, dealers and an audiologist in Florida have each written a bill; a model bill is being constructed in Kentucky by a special interest group; a Mississippi audiologist is preparing a bill; hearing aid dealers in Montana are writing a bill; an otologist in Virginia is considering the authoring of a bill; the medical profession in Wisconsin has authored a model bill; and in Colorado a small group of doctors, audiologists and hearing aid dealers have joined hands in writing a bill for introduction next year.

What are the hearing aid dealer associations saying about licensing?

ARKANSAS—ARKANSAS HEARING AID DEALERS ASSOCIATION

Arkansas reports that there *hasn't been a licensing bill proposed* in its state and that the association hasn't yet taken a firm stand regarding licensing. Thomas LeBlanc, association president, did state, however, that his group is thinking about sponsoring a model bill. Talk within the association hints toward supporting licensing legislation.

COLORADO—ROCKY MOUNTAIN HEARING AID SOCIETY

No hearing aid licensing bill has been proposed to the state's legislature, but RMHAS's president and legislative committee chairman, G. D. Taylor, reports that a group of audiologists and otolaryngologists have proposed that such a bill be made ready. *Principal proponents:* audiologists, ENT's and otologists. *Principal opponents:* hearing aid dealers.

Although no firm stand for or against licensing has been made by this association, Mr. Taylor says that "most are against, but a few do want licensing now." When asked by Hearing Dealer to consider the prospects for the success or the defeat of licensing proposals in his state, he stated, "It would pass if submitted."

This association's plans regarding licensing are to be discussed at its July meeting, according to Mr. Taylor.

CONNECTICUT—CONNECTICUT HEARING AID DEALERS ORGANIZATION, INC.

The licensing of hearing aid dealers has been proposed at biennial sessions of the Connecticut legislature since 1961 ('61, '63, '65 and '67), reports CHADO President Joseph M. Pulin, *Principal proponent:* A hearing aid dealer, not a CHADO member, arranged for the introduction of a licensing bill. *Principal opponents:* CHADO and the Connecticut Speech & Hearing Assn.

CHADO has voted as an association to oppose licensing at this time but did, however, submit a model bill in 1961. Mr. Pulin felt that the model bill didn't influence the state legislature one way or the other.

Mr. Pulin stated at presstime that the bill was not reported out of committee during this legislative session and that a resolution was proposed for a commission consisting of two otologists, two audiologists, two hearing aid dealers and representatives from the state Dept. of Health and the Consumer Protection Bureau to develop a hearing aid bill for legislation in 1969.

Mr. Pulin stated that his association's legislative committee, under chairman Seymour Sloan, Beltone, Bridgeport, has engaged legal counsel and is working with HAIC's legislative committee for the purpose of killing or tabling a licensing bill.

"Initial reaction of Connecticut General Law Committee Chairman, Representative Al Webber, was that the bill was 'innocuous' and would be 'emasculated'," reports Mr. Pulin. The CHADO president also stated that Representative Webber further intimated that there was pressure for a dealer regulatory bill from "leadership."

Among legislative proposals made at state hearings was an amendment by the Connecticut Speech and Hearing Association that would make otological examinations and audiological (clinical) evaluations a mandatory prerequisite to obtaining a hearing aid. Another proposed amendment would have the majority of advisory board members consisting of otologists and audiologists, says Mr. Pulin.

GEORGIA—GEORGIA HEARING AID DEALERS ASSOCIATION

John W. Keel, President, GHADA, reports that no licensing bills have been proposed in his state. The Georgia association, at its September 1966 meeting, however, did pass a resolution opposing any form of licensing. According to Mr. Keel, it is the general opinion of GHADA members that after the national NHAS convention in Chicago in October, the group "should be prepared to take a course that best suits our future in the business and at the same time does not deny the hard of hearing public the privilege of seeking help that they so rightfully deserve and need."

GHADA has completed a model bill to be presented "if and when the time arises." The association's legislative committee, headed by Don Skaarer, Decatur, has also reviewed the present Tennessee licensing act, reporting that it "fulfills our needs better than anything we have seen so far."

Licensing will be one of the key topics at GHADA's semi-annual meeting on June 24 and 25. "At that time," Mr. Keel feels, "our members will want to take a second look at licensing." Robert E. Winslow, chairman of the HAIC legislative committee, is slated to address them on June 25.

ILLINOIS—ILLINOIS HEARING AID DEALERS ASSOCIATION

Two licensing bills have been presented to the Illinois legislature, one in 1963, the other in 1965. *Principal proponents:* hearing aid dealers, manufacturers and some audiologists. *Principal opponents:* audiologists. According to Charles A. Lowe, president of the Illinois association, his group has taken a "neutral" stand regarding licensing. Although no licensing activity is included in this year's association agenda, Mr. Lowe reported to Hearing Dealer that the group would support licensing legislation. Legislative committee chairman for the Illinois association is R. LaMontagne of Springfield.

INDIANA—INDIANA HEARING AID DEALERS' ASSOCIATION, INC.

A hearing aid dealers' licensing bill was passed in March of this year in Indiana. (See special report, page 17, by Representative John A. Shea of the Indiana General Assembly who co-chairmaned committee hearings on licensing during the 1965–66 legislative session.)

According to John C. Kenwood, association president, proponents for licensing were the legislative body. Dealers opposed licensing "until it was determined what the mood of the legislature was in passing a bill."

The Indiana association didn't sponsor a model bill but was able to modify and help make necessary amendments to make the bill more acceptable to dealers, Mr. Kenwood stated.

LICENSING AT A GLANCE

[Associations in the following States have indicated to Hearing Dealer what their present stand regarding licensing is. Placement was determined from questionnaires completed by their respective presidents]

State	For	Against	Undecided or neutral
Arkansas			X
Colorado		X [1]	
Connecticut		X	
Georgia		X	
Illinois			X
Indiana		X [2]	
Kansas		X	
Maryland, Washington, D.C., and Delaware		X	
Massachusetts		X	
Michigan (HADAM)	X		
Minnesota		X	
Missouri		X	
New Mexico		X	
New York		X	
North Carolina			X
Ohio		X	
Oklahoma			X
Pennsylvania (Erie Association)			X
South Carolina			X [3]
South Dakota			X
Tennessee		X [4]	
Texas		X	
Virginia		X	
Wisconsin		X	
Washington		X	

[1] Most against but a few want licensing now.
[2] Licensing legislation passed Mar. 11, 1967.
[3] Neutral with strong leanings toward licensing.
[4] Licensing legislation passed May 8, 1967.

KANSAS—KANSAS HEARING AID DEALERS' ASSOCIATION

No licensing bill has been proposed in Kansas, although, according to A. L. Nothern, association president, his group has taken a firm stand against licensing. At the present time dealers in Kansas aren't entertaining the thought of sponsoring a model bill.

Even though no actual licensing bills have been presented to the Kansas legislature, the Kansas association is attempting to convince its legislative body that licensing is not beneficial or needed.

Legislative committee chairman is Miss Dorthea Klein of Topeka.

MARYLAND—HEARING AID DEALER ASSOCIATION OF MARYLAND, D.C., AND DELAWARE

A licensing bill affecting dealers in these three locales was defeated this year, reports Louis Thibault, association president. *Principal proponent:* a legislative delegate. *Principal opponent:* Hearing Aid Dealers Association of Maryland Washington, D.C., and Delaware. This association has taken a firm stand against licensing.

According to Mr. Thibault, his association plans to combat legislation through the "continuous encouragement and support of education in hearing aid audiology by every dealer and consultant involved in the fitting of hearing aids." A continued maintenance of high ethical standards is also planned.

No model bills have been proposed by the group. Heading the association's legislative committee is A. W. Hagedorn, chairman.

MASSACHUSETTS—MASSACHUSETTS HEARING AID DEALERS ASSOCIATION, INC.

Several *licensing bills have been proposed* in this state, the latest in January of this year. *Principal proponent:* Representative Jack Backman of Brookline, Mass. *Principal opponents:* audiologists, Guild for the Hard of Hearing, and Massachusetts Hearing Aid Dealers Association.

Attorney Gerald E. Josephson of Boston, at the request of Massachusetts Hearing Aid Dealers Assn. President Robert Freeman, prepared a detailed report for Hearing Dealer relative to this year's licensing activity in Massacuhsetts. His report follows:

"Upon notification that a legislative bill was being introduced into our General Court, Mr. Freeman convened a legislative committee headed by Barry Levow of Boston to examine legislation of the past that had been unsuccessful in the legislature and to concentrate on drafting its own bill.

"A bill was finalized and passed to the president who was authorized by the membership to hold it in abeyance and use at his discretion.

"The legislative committee discussed the Oregon Bill, proposed legislation in Michigan and Indiana and other states. They constantly advised the membership of legislative trends throughout the nation.

"It indirectly became my duty," said Mr. Josephson, "to weigh and evaluate the various bills that were pending or had been enacted. Based upon the information received and the confusion created by the very term licensing, I attempted to prepare my case against the Backman Bill, which had then been introduced to the General Court and was scheduled for hearing sometime in January of this year.

"The Backman Bill is more or less a copy of the Oregon Bill and was discussed by Mr. Backman and the association's legislative committee. It was the feeling of those who met with the legislator that several aspects of the bill could be altered, amended and compromised. This was reported to the membership and was fully debated. The membership voted not to support this legislation and subsequently advised the Committee Chairman of Public Health that this House Bill was not in the public interest.

"Upon being asked to represent the Massachusetts Hearing Aid Dealers Assn. at the Joint Committee Hearing on Public Health, I stated our opposition to the Backman Bill. The case in chief was based on a prepared statement that has since been forwarded to the offices of Sonotone, Maico and Dahlberg, as well as HAIC.

"So that this letter may be of assistance to Hearing Dealer and the industry, I have set forth a brief outline summarizing the salient points.

"1. If the legislature is not well informed on the use of hearing aids, problems of the hard of hearing public, physics of the ear, the technical skill and knowledge possessed by the dealer in Massachusetts in the measurement of human hearing and the dispensing of hearing aids . . . then how could the legislature legislate intelligently!

"2. There being no 'mischief' or public demand relative to the hearing aid industry . . . then no legislation was needed.

"3. The emphasis of the skill, technical knowledge of the dealer.

"4. The close cooperation between various better business bureaus and our organization.

"5. The emphasis on continuing education.

"6. Emphasis on various codes and industry trade regulations.

"Yet, after this analysis of how our stand was successfully made," Mr. Josephson admitted, "I am still not advised of the situations that have caused legislation to be enacted and the introduction of other bills throughout the nation.

"President Freeman, on behalf of the board of directors, has indicated his desire to have me attend the fall meeting of NHAS in Chicago (Oct. 26–28) for the purpose of meeting with other attorneys and state leaders who have been or will be confronted with licensing. At that time the Massachusetts Hearing Aid Dealers Assn. can familiarize itself with licensing problems confronting the industry, exchange ideas and make a contribution that hopefully will benefit our industry."

MICHIGAN—HEARING AID DEALERS ASSOCIATION OF MICHIGAN

Michigan was the *first state to pass licensing legislation* and did so in 1966. Fred M. Heinemann, HADAM president, in his letter to Hearing Dealer asked that his report be reviewed *not* as from the president of HADAM but as from "an individual who was present at all sessions of importance that covered the passage of the Michigan Licensing Bill through the senate."

Principal proponents: Michigan Medical Society, Michigan Osteopathic Physicians & Surgeons, Detroit Society of Otolaryngology, Detroit League for the Handicapped, Detroit Hearing Center, Michigan Speech and Hearing Association, numerous boards of education, Michigan House of Representatives and Senate, and Hearing Aid Dealers Assn. of Michigan *Principal opponents:* a

splinter group of dealers made up principally of Beltone dealers, according to Mr. Heinemann.

Mr. Heinemann indicated that a model bill did influence the legislature and that he, personally, favored legislation. "Licensing those who sell and fit hearing aids," he said, "is a state problem and should be decided by those within the state and the philosophies of those outside the state whose ambitions are far removed from the real welfare of the hard-of-hearing should not be permitted."

MINNESOTA—MINNESOTA HEARING AID DEALERS' ASSOCIATION

No licensing activity is reported in Minnesota, states Max Kraning, association president. The group, however, has taken a firm stand against licensing and as yet hasn't considered sponsoring a model bill.

Mr. Kraning went on to say that the association would be gathering "as much opposition support as possible" in preparation to combat any licensing activity that may appear before the Minnesota legislature in 1969. He did add the thought that if it weren't possible to defeat licensing in the state, the association "would help write a good bill."

MISSOURI—MISSOURI HEARING AID ASSOCIATION

To date three licensing bills have been presented in the Missouri legislature; one in 1963 and two this year. As of presstime, Willis Krueger, president of the Missouri association, voiced his belief that a bill to license hearing aid dealers in Missouri would not pass this session.

Principal proponents: audologists. *Principal opponents:* hearing aid dealers. This group has taken a firm stand against licensing and has, according to Mr. Krueger, "an active and alert committee" headed by K. R. Cunningham of St. Louis to combat licensing legislation. Detailed plans on how the association would combat licensing depend, however, on the type of bill and when and where it originates, he said.

The Missouri association hasn't sponsored a model bill.

NEW MEXICO—ASSOCIATION OF HEARING AID DEALERS OF NEW MEXICO

No licensing activity is reported by Eldon Coffman, president. The group has, however, taken a firm stand against licensing, he said. Association plans at presstime were to ask for HAIC assistance to combat any licensing proposals.

No legislative committee chairman has been named by the group.

NEW YORK—NEW YORK STATE HEARING AID DEALERS ASSOCIATION, INC.

A licensing bill was presented to the New York state legislature in March 1966, states Maurice Lassman, association president.

Principal proponents: Joint Legislative Committee on Mental Retardation and Physical Handicap. *Principal opponents:* hearing aid dealers, manufacturers and some users, according to Mr. Lassman. The group has taken a firm stand against licensing.

Licensing will be discussed at the association's annual meeting June 16–18 at Lake George, N.Y., at which time plans relative to licensing legislation will be formulated. No legislative committee chairman has been named.

NORTH CAROLINA—NORTH CAROLINA HEARING AID DEALERS' ASSOCIATION

As of presstime, Leonard Lasecki, associate president, reports that there's no licensing activity in North Carolina's general assembly. No definite stand relative to licensing has been taken by the group but the topic is slated for discussion at a future association meeting.

A combined meeting of the Virginia Hearing Aid Dealers' Assn. and the North Carolina dealers is tentatively scheduled for July 15 in Danville, N.C., said Mr. Lasecki. One of the speakers invited to address the group in Melvin Levy of the Tennessee Hearing Aid Dealers Assn.

Legislative Committee chairman for the North Carolina association is R. Cator Maddrey of Raleigh.

OHIO—OHIO HEARING AID DEALERS ASSOCIATION

A licensing bill, House Bill #106 with a few constructive changes, according to Don Faehnle, association president, was still in subcommittee at HEARING DEALER presstime. He didn't have any idea as to when it would be presented on the floor of the Ohio General Assembly. The bill was proposed to the legislative body in January.

Principal proponents: majority of dealers in Ohio. *Principal opponents:* Retail Merchants Assn. and "a few Beltone dealers."

OKLAHOMA—OKLAHOMA HEARING AID DEALERS ASSOCIATION

"As a group, we haven't taken a strong stand either way regarding licensing," reports association president Joseph K. Shippen. "We have given some thought to developing a model bill, the substance of which will probably be pursued this year." Mr. Shippen further reported to HEARING DEALER that the Oklahoma association wouldn't "initiate any bill but would like to have one ready in the event that licensing or other controls become imminent."

No licensing activity was presented in the Oklahoma legislature this year.

"At present it doesn't appear that we will have licensing in the near future, but legislatures and their respective committees are prone to examine legislation proposed or passed elsewhere. This is a possibility we face at all times.

"While it must be recognized that legislation could come 'out of the blue,' " Mr. Shippen continued, "it seems that in our field it has been largely some real and alleged ugly practices by some dealers and manufacturers that have invited legislation in several states.

"It must be said that a number of us view 'licensing' as one might view 'sex.' We aren't opposed to it, per se, but we observe that elsewhere there is too much pre-occupation with it," added the association president.

LEGISLATIVE COMMITTEE CHAIRMEN

(Taken from questionnaire response)

State	*Chairman*
Arkansas	None Appointed.
Colorado	G. D. Taylor.
Connecticut	Seymour Sloan, Bridgeport.
Georgia	Don Skaarer, Decatur.
Illinois	R. La Montagne, Springfield.
Indiana	John Payne, Indianapolis.
Kansas	Dorthea Klein, Topeka.
Maryland, Washington, District of Columbia and Delaware.	A. W. Hagedorn.
Massachusetts	Barry Levow.
Michigan (HADAM)	None appointed.
Minnesota	Board of Governors.
Missouri	K. Cunningham.
New Mexico	None appointed.
New York	Do.
North Carolina	R. Cator Maddrey, Raleigh.
Ohio	Louis McLean.
Oklahoma	None appointed.
Pennsylvania (Erie)	Max Elbaum, Erie.
South Carolina	John Young, Columbia.
South Dakota	None appointed.
Tennessee	James F. Wallace, Memphis.
Texas	Charles Know.
Virginia	None appointed.
Washington	Vern Thompson, Seattle.
Wisconsin	Larry Pew, Oshkosh.

PENNSYLVANIA—ERIE HEARING AID DEALERS GUILD

Licensing was introduced in the Pennsylvania general assembly in March of this year. According to Erwin L. Sayles, association president, his feelings, at presstime, were that the bill will be defeated. Although opinions regarding a firm stand for or against licensing are divided in this group, plans to combat or support legislation are being left up to individual members who in turn are contacting their respective local representatives.

Principal proponents: a senatorial faction in the General Assembly.

Principal opponents: Pennsylvania Hearing Aid Dealers Assn. and the Erie Hearing Aid Dealers Guild, although the latter group's stand isn't unanimous.

The association's legislative committee chairman is Max Elbaum of Erie.

SOUTH CAROLINA—SOUTH CAROLINA HEARING AID DEALERS ASSOCIATION

With no licensing activity being considered in his state, H. H. Plemmons, association president, reports that a legislative committee headed by John Young of Columbia, S.C., is "watching closely" licensing developments, both in South Carolina and in other states. Mr. Plemmons further stated that his group, at present, has taken a neutral stand toward licensing but that there are members in the organization having "strong leanings" toward no licensing.

SOUTH DAKOTA—SOUTH DAKOTA HEARING AID DEALERS ASSOCIATION

This association, formed in April of this year, reports that a licensing bill was introduced in the South Dakota legislature in 1966, but was not passed. According to John Roland, association president, licensing feelings of South Dakota dealers are mixed and his group hasn't taken a firm stand for or against. He did, however, indicate to Hearing Dealer that licensing may have a good chance for passage in 1968 with changes to the 1966 bill. No legislative committee chairman has been named as yet, Mr. Roland said.

"The introduction of licensing brought the South Dakota dealers together," Mr. Roland went on to explain. "Licensing also brought into the open those persons who are against licensing sellers of hearing aids. This is significant as it came as a mild surprise to find opponents to regulation of the 'fast buck artist' and minimum standards of education."

TENNESSEE—TENNESSEE HEARING AID DEALERS ASSOCIATION

Tennessee just last month became the fourth state to pass into law a bill licensing hearing aid dealers. However, according to James F. Wallace, association president, Tennessee may be the "first" state in fact to enact a "licensing" bill as the others are only "registration" acts, he said. The Tennessee act becomes effective July 31, 1967.

Highlights of the Tennessee licensing act: A "Board of Hearing Aid Dispensers * * * shall consist of five qualified dispensers and fitters of hearing aids * * * All such members of the board shall hold certification from NHAS * * *. An applicant for licensing shall pay a fee of $50 and shall show to the satisfaction of the Board that he is a person of good moral character, is 21 years of age or older, has an education equivalent to a four-year course in an accredited high school or has continuously engaged in the practice of fitting and dispensing hearing aids during the three years preceding the effective date of the act * * * be examined by written and practical tests in order to demonstrate that he is qualified to practice the fitting of hearing aids (A deailed examination is provided in the act—Ed.) * * *. Upon payment of $20 the Board shall register each applicant who satisfactorily passes the examination * * * and issue a license to be effective for one year.

A reciprocal feature pertaining to other states having licensing requirement "equivalent to or higher" than those in Tennessee is included in the act.

A quasi-grandfather clause in the act provides that "Every person engaged in the practice of fitting and dispensing hearing aids upon the effective date of

this act shall be registered and given a license by the board, if he shall present satisfactory evidence to the board that he has the requisite skill, is a person of good moral character, 21 years of age or older, and has been engaged in the practice of fitting and dispensing in the state for at least two years prior to the effective date of this act, provided such persons pays the fee specified for such license to the board." (See page 7, this issue for further details about Tennessee's licensing act).

TEXAS—TEXAS HEARING AID ASSOCIATION

Charles H. Know, association president and legislative committee chairman, thinks licensing, if again proposed in Texas, would be defeated unless the dealers themselves ask for it. Licensing was proposed in 1966 at which time the association took a firm stand against it.

VIRGINIA—VIRGINIA HEARING AID DEALERS ASSOCIATION

A firm stand supporting licensing has been taken by this group, reports A. V. Mayes, association president. Plans to support legislation will be mapped out when legislative committee findings become available. A committee chairman was to have been named this month. No licensing legislation was proposed in Virginia this year, Mr. Mayes added.

WASHINGTON—HEARING AID DISTRIBUTORS OF WASHINGTON, INC.

No licensing legislation has been proposed in Washington this year, was the report from Daniel E. Bruner, association president. The group has, however, taken a firm stand against licensing and has as its legislative committee chairman, Vernon Thompson of Seattle.

WISCONSIN—HEARING AID DEALERS ASSOCIATION OF WISCONSIN

A firm stand for licensing was decided by this group at its general membership meeting last month, says Arthur A. Peterson, association president. He further reports that a model bill is being drafted by the association's legislative committee, chairmaned by Larry Pew of Oshkosh.

No licensing legislation is reported in Wisconsin.

ATTACHMENT C

UNITED STATES OF AMERICA BEFORE FEDERAL TRADE COMMISSION

Docket No. C–849

IN THE MATTER OF REGAL AUDIO INSTRUMENTS, ULTIMA AUDIO, INC., AND ENDEL ARE, INDIVIDUALLY AND AS AN OFFICER OF SAID CORPORATIONS

Complaint

Pursuant to the provisions of the Federal Trade Commission Act, and by virtue of the authority vested in it by said Act, the Federal Trade Commission, having reason to believe that Regal Audio Instruments, a corporation, Ultima Audio, Inc., a corporation, and Endel Are, individually and as an officer of said corporations, hereinafter referred to as respondents, have violated the provisions of said Act, and it appearing to the Commission that a proceeding by it in respect thereof would be in the public interest, hereby issues its complaint stating its charges in that respect as follows:

PARAGRAPH ONE. Respondent Regal Audio Instruments, is a corporation organized, existing and doing business under and by virtue of the laws of Canada, with principal places of business at Fort Erie, Ontario, Canada, and at 505 Pearl Street, in the City of Buffalo, State of New York.

Respondent Ultima Audio, Inc., is a corporation organized, existing and doing business under and by virtue of the laws of the State of New York, with its office and principal place of business located at 505 Pearl Street, in the City of Buffalo, State of New York.

Respondent Endel Are is an individual and an officer of both corporate respondents He formulates, directs and controls the acts and practices of the said corporate respondents, including the acts and practices hereinafter set

forth. His offices and principal places of business are located at the above stated addresses.

PARAGRAPH TWO. Respondents are now, and for some time last past have been, engaged in the advertising, offering for sale, sale and distribution of hearing aids which come within the classification of a device as "device" is defined in the Federal Trade Commission Act. This device is sold and distributed under the name "Ultima".

PARAGRAPH THREE. In the course and conduct of their business respondents now cause, and for some time last past have caused, their said product, when sold, to be transported from their place of business in the State of New York to purchasers thereof located in various other states of the United States and in the District of Columbia. Respondents maintain, and at all times mentioned herein have maintained, a substantial course of trade in said product in commerce, as "commerce" is defined in the Federal Trade Commission Act.

PARAGRAPH FOUR. In the course and conduct of their said business, respondents have disseminated, and caused the dissemination of, certain advertisements concerning the said Ultima hearing aid by the United States mails and by various means in commerce, as "commerce" is defined in the Federal Trade Commission Act, for the purpose of inducing and which were likely to induce, directly or indirectly, the purchase of said device; and have disseminated, or caused the dissemination of, advertisements concerning said device by various means, including, but not limited to, the aforesaid media, for the purpose of inducing, and which were likely to induce, directly or indirectly, the purchase of said device in commerce, as "commerce" is defined in the Federal Trade Commission Act.

PARAGRAPH FIVE. Among and typical of the statements and representations contained in said advertisements disseminated as hereinabove set forth are the following:

(a) "____each Ultima is fully guaranteed."

(b) "There is a full refund made if it does not give complete satisfaction."

(c) "For many years a scientist with the United States National Aeronautical Space Administration (NASA), Mr. Are was responsible for the development of the Molecular Electronic Amplifier for Space Capsules of Project Mercury."

(d) "No batteries used in Ultima."

(e) "The Power Generator in the Ultima is a permanent device which never needs replacement."

(f) "—the Ultima is powered by a Thermocell, more simply known as a power generator. Power is now generated to make the Ultima operate indefinitely with heat from your body."

(g) "The Ultima when binaurally fitted, will correct losses up to 85%."

(h) "—It covers easily up to 65 db hearing loss without any feedback problem."

(i) "Volume Controlled Automatically—The Ultima has a built in volume control—"

(j) "The Ultima gives the exact volume and frequency response to bring your hearing to the normal level."

(k) "No distortion.—"

(l) "We have supplied to the Federal Trade Commission working models of the Ultima, Circuit Diagrams, Technical Data, Information of our production and fitting methods in order to prove that we have accomplished A Major Breakthrough in the hearing aid industry. The original correspondence with the FTC and all information is available in our files for inspection."

PARAGRAPH SIX. By and through the use of the aforementioned statements and representations, and others of similar import and meaning, not specifically set out herein, respondents have represented and are now representing, directly and by implication that:

(1) The Ultima hearing aid is unconditionally guaranteed.

(2) The full price will be refunded to any purchaser who is not satisfied with the Ultima hearing aid.

(3) Endel Are, represented as the inventor and developer of the Ultima hearing aid, was an employee of the National Aeronautics and Space Administration (NASA) for many years and actively participated in the development of equipment for Project Mercury space capsules.

(4) The Ultima hearing aid requires no batteries for its operation.

(5) The Ultima hearing aid has a built-in automatic device providing a permanent source of power and never needing replacement.

(6) The Ultima hearing aid operates on power generated from body heat and will continue to operate in this fashion indefinitely.

(7) When fitted binaurally the Ultima hearing aid will enable an individual with an 85% hearing loss to hear normally.

(8) The Ultima hearing aid will cover a 65 decibel hearing loss.

(9) The Ultima hearing aid contains an automatic device for the control of volume.

(10) The Ultima hearing aid will bring every wearer's hearing up to normal levels.

(11) The Ultima hearing aid does not distort voices and other sounds.

(12) The Ultima hearing aid was submitted to the Federal Trade Commission for approval, and accepted, approved and endorsed by the Commission.

PARAGRAPH SEVEN. In truth and in fact:

(1) The Ultima hearing aid is not unconditionally guaranteed nor is the full purchase price refunded in all cases of dissatisfaction; the advertising does not disclose the manner of performance under the guarantee nor that there are terms and conditions limiting the guarantee and the refund offer; the identity of the guarantor is not disclosed in the advertising and some purchasers are unable to secure performance under the guarantee from either the respondents or their dealers.

(2) Endel Are was never employed by the National Aeronautics and Space Administration (NASA), nor did he have any part in the development of equipment for Project Mercury space capsules.

(3) The power source of the Ultima hearing aid is a cadmium cell battery which must be recharged at frequent intervals.

(4) However fitted, the Ultima hearing aid will not substantially improve the hearing of an individual with an 85% hearing loss.

(5) The Ultima hearing aid will not cover a 65 decibel hearing loss, or substantially improve the hearing of an individual with such a loss.

(6) The Ultima hearing aid does not contain an automatic volume control.

(7) The Ultima hearing aid will not substantially improve the wearer's hearing if the individual has more than a minor hearing loss.

(8) The Ultima hearing aid will cause distortion of voices and other sounds.

(9) The Ultima hearing aid was submitted to the Federal Trade Commission by proposed respondents in the course of an official investigation to determine the truth or falsity of the advertising. The Commission has neither approved nor endorsed the Ultima hearing aid.

Therefore, the advertisements referred to in Paragraph Five were and are misleading in material respects and constituted, and now constitute, "false advertisements" as that term is defined in the Federal Trade Commission Act.

PARAGRAPH EIGHT. The dissemination by the respondents of the false advertisements, as aforesaid, constituted, and now constitutes, unfair and deceptive acts and practices in commerce, in violation of Sections 5 and 12 of the Federal Trade Commission Act.

Wherefore, the premises considered, the Federal Trade Commission, on this 12th day of October A.D., 1964, issues its complaint against said respondents.

By the Commission.

[SEAL] JOSEPH W. SHEA, *Secretary.*

UNITED STATES OF AMERICA BEFORE FEDERAL TRADE COMMISSION

Commissoners:
Paul Rand Dixon, *Chairman,*
Philip Elman,
Everette MacIntyre,
John R. Reilly.

Docket No. C–849, Decision and Order

IN THE MATTER OF REGAL AUDIO INSTRUMENTS, ULTIMA AUDIO, INC., AND ENDEL ARE, INDIVIDUALLY AND AS AN OFFICER OF SAID CORPORATIONS

The Commission having heretofore determined to issue its complaint charging the respondents named in the caption hereof with violation of the Federal Trade Commission Act, and the respondents having been served with notice of said determination and with a copy of the complaint the Commission intended to issue, together with a proposed form of order; and

The respondents and counsel for the Commission having thereafter executed an agreement containing a consent order, an admission by respondents of all the jurisdictional facts set forth in the complaint to issue herein, a statement that the signing of said agreement is for settlement purposes only and does not constitute an admission by respondents that the law has been violated as set forth in such complaint, and waivers and provisions as required by the Commission's rules; and

The Commission, having considered the agreement, hereby accepts same, issues its complaint in the form contemplated by said agreement, makes the following jurisdictional findings, and enters the following order:

1. Respondent Regal Audio Instruments is a corporation organized, existing and doing business under and by virtue of the laws of Canada, with principal places of business at Fort Erie, Ontario, Canada, and at 505 Pearl Street, in the City of Buffalo, State of New York.

Respondent Ultima Audio, Inc. is a corporation organized, existing and doing business under and by virtue of the laws of the State of New York, with its office and principal place of business located at 505 Pearl Street, in the City of Buffalo, State of New York.

Respondent Endel Are is an individual and an officer of both corporations, and his address is the same as that of said corporations.

2. The Federal Trade Commission has jurisdiction of the subject matter of this proceeding and of the respondents, and the proceeding is in the public interest.

ORDER

Part I

It is ordered that respondents Regal Audio Instruments, a corporation, Ultima Audio, Inc., a corporation, and their officers and Endel Are, individually and as an officer of said corporations, and respondents' representatives, agents and employees, directly or through any corporate or other device, in connection with the offering for sale, sale or distribution of any hearing aid device or any component thereof do forthwith cease and desist from directly or indirectly—

1. Disseminating, or causing the dissemination of, by means of the United States mails or by any means in commerce, as "commerce" is defined in the Federal Trade Commission Act, any advertisement which represents directly or by implication that—

(a) The said product is guaranteed unless, in immediate conjunction therewith, there is a clear and conspicuous disclosure of the nature and extent of the guarantee, the identity of the guarantor, and the manner in which the guarantor will perform, and unless the guarantor does, in fact, perform in accordance with the guarantee as so represented.

(b) The purchase price of the said product will be refunded unless, in immediate conjunction therewith, there is a clear and conspicuous disclosure of all terms and conditions required for such refund, the identity of the refunder and the procedure necessary to secure the refund, and unless the purchase price is in fact refunded to all persons complying with such terms, conditions and procedure.

(c) The said product was invented or developed by any individual who was at any time employed by the National Aeronautics and Space Administration (NASA) or participated in the development of equipment for Project Mercury space capsules or any other equipment for space exploration; or that respondents' products have been invented or developed by any individual or organization, or by any individual or organization possessed of specified scientific qualifications or experience, unless respondents can establish such to be the facts.

(d) Said hearing aid has been endorsed or approved by the Federal Trade Commission.

Part II

It is further ordered that respondents Regal Audio Instruments, a corporation, Ultima Audio, Inc., a corporation, and their officers, and Endel Are, individually and as an officer of said corporations, and respondents' representatives, agents and employees, directly or through any corporate or other device, in connection with the offering for sale, sale or distribution of the hearing aid device known as Ultima, or any other device of substantially the same construction or

possessing substantially similar properties, or any component thereof, do forthwith cease and desist from directly or indirectly—

1. Disseminating, or causing the dissemination of, by means of the United States mails or by any means in commerce as "commerce" is defined in the Federal Trade Commission Act, any advertisement which represents directly or by implication that—

(a) The said hearing aid operates on power from any source other than a battery which needs to be recharged at frequent intervals.

(b) The said hearing aid contains an automatic volume control.

(c) The said hearing aid, whether fitted monaurally or binaurally will improve the hearing of any individual unless specifically limited to those persons having only a minor hearing loss.

(d) The said hearing aid does not distort voices or other sounds.

Part III

It is further ordered that respondents Regal Audio Instruments, a corporation, Ultima Audio, Inc., a corporation, and their officers, and Endel Are, individually and as an officer of said corporations, and respondents' representatives, agents and employees, directly or through any corporate or other device, in connection with the offering for sale, sale or distribution of any hearing aid device, or any component thereof, do forthwith cease and desist from directly or indirectly—

1. Disseminating, or causing to be disseminated, any advertisement, by any means, for the purpose of inducing, or which is likely to induce, directly or indirectly, the purchase of respondents' products, in commerce, as "commerce" is defined in the Federal Trade Commission Act, which contains any of the representations prohibited in Part I or II hereof.

It is further ordered that the respondents herein shall, within sixty (60) days after service upon them of this order, file with the Commission a report in writing setting forth in detail the manner and form in which they have complied with this order.

By the Commission.

[SEAL]

JOSEPH W. SHEA, *Secretary.*

Issued: October 12, 1964.

ATTACHMENT D

FEDERAL TRADE COMMISSION REPORT ON DISTRICT OF COLUMBIA CONSUMER PROTECTION PROGRAM, JUNE 1968

III. COMMISSION'S ECONOMIC STUDY OF D.C. SALES AND CREDIT PRACTICES: EXCERPTS

* * * * * * *

Legislative Proposals

Our experience in the District of Columbia Consumer Protection Program including over two years of concentrated effort in nearly 100 different formal and investigational matters, exposure to countless consumer complaints, and extensive study of the credit practices of local retailers—convinces us that if the battle to restore competition for the benfit of the low income consumer is to be won, if such consumers are to have the same opportunity to purchase quality goods at prices comparable to those paid by their more affluent neighbors, if the huckster and the cheat who prey on the poor, the sick, and the elderly are to be driven from the marketplace and their victims made whole, strong new federal and local consumer protection legislation is necessary.

We do not suggest that legislation is the exclusive means for eliminating the evils that now flourish in the marketplace. Anyone having even a casual acquaintance with these problems knows that enlightened consumer legislation is only part of the answer. It is also essential to develop and expand consumer counseling services designed to enable the low-income consumer to allocate his scant income more wisely and to eliminate the ignorance that the huckster exploits. Similarly, educational programs for legitimate low-income market retailers may

encourage them to stop using the inefficeint and expensive marketing techniques that the Commission's economic study found to be reflected in their high prices.[13] It should be clear that none of these methods of approach is by itself sufficient, that they are complementary and not mutally exclusive. Legislation, counseling, and a great many other remedies will all have to be used if we are to restore competitive vigor to the low-income market.

However, in view of our experience in this program and in view of the declaration of the National Advisory Commission on Civil Disorders that "there can be no higher priority for national action and no higher claim on the nation's conscience" than the need to develop programs to "change the system of failure and frustration that now dominates the ghetto and weakens our society," [14] We believe it would be appropriate for government at all levels, federal,[15] state, and local, to examine existing consumer protection programs and legislation in order to improve and strengthen them. In the hope that we may stimulate this effort, the Commission offers the following legislative proposals for consideration.[16]

A. State Proposals

1. Application of the holder in due course doctrine to consumer instruments has led to many abuses. It is simply unfair to permit a vendor to sell shoddy or defective goods, which sometimes are not even delivered, coax, wheedle or coerce the buyer into signing a negotiable instrument, disappear or dissipate the funds, and, by assigning the instrument, prevent the deceived or defrauded consumer from asserting his legitimate defenses in an action on the note. Legislation similar to that enacted in Massachusetts and Vermont,[17] and currently proposed for the District of Columbia [18] providing that commercial paper must be labeled as such and is not negotiable, and that the holder of such a note takes subject to all contract defenses and to all rights that the buyer would have under the state's consumer fraud law, is both reasonable and necessary.

We recognize that some courts have grown increasingly reluctant to confer holder in due course status in cases where they find that the connection of the assignee to the actual sales transaction is too close or that the assignee has knowledge or should have known of the dealer's misconduct.[19] But a case-by-case approach might cast unnecessary doubts on the negotiability of commercial paper without affording adequate protection for the consumer with modest means, since the legal expenses involved in investigating and proving the connection or the knowledge are often prohibitive.

Legislation along the lines we propose avoids any undue interference with the policy favoring free negotiability of commercial paper while protecting the consumer against abuses that have been spawned by indiscriminate application

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[13] Our study disclosed that on the average goods purchased for $100 at wholesale sold for $255 in the low-income stores, compared with $159 in general market stores. Higher bad debt losses accounted for only about one quarter of this difference but higher expenses attributable to the less efficient selling methods of ghetto retailers accounted for almost 40 percent of the difference. See Federal Trade Commission Economic Report on Installment Credit and Retail Sales Practices of District of Columbia Retailers 17–20 (1968).

[14] Report of the National Advisory Commission on Civil Disorders 1–2 (1968).

[15] In this connection we note that the Truth in Lending Act establishes a National Commission on Consumer Finance to study the consumer finance industry and consumer credit practices. We are hopeful that our proposals will be of assistance to the new Commission as it begins its important work.

[16] Several recent articles discuss the problem of consumer fraud, the impact of fraudulent practices on the victimized consumer, especially the poor, and the adequacy of existing consumer protection efforts. See Note, *Consumer Legislation and the Poor*, 76 Yale L. J. 745 (1967) ; Note, *State Consumer Protection: A Proposal*, 53 Iowa L. Rev. 710 (1967) ; Note, *Translating Sympathy for Deceived Consumers Into Effective Programs for Protection*, 114 U. Pa. L. Rev. 395 (1966) ; see also, Report of the National Advisory Commission on Civil Disorders 274–77 (1968) ; Hearings on S. 1599, 90th Cong., 2d Sess. (1968) ; Hearings on H.R. 7179, 89th Cong., 2d Sess. (1966) ; D. Caplovitz, *The Poor Pay More* (1963) ; O'Connell, *Consumer Protection in the State of Washington*, 39 State Gov't 230 (1966) ; Mindell, *The New York Bureau of Consumer Frauds and Protection—A Review of its Protection Activities*, 11 N.Y.L.F. 603 (1965). We have drawn freely from these sources in formulating these legislative proposals.

[17] Mass. Gen. Laws ch. 255, § 12c (Supp. 1966) ; Vt. Stat. Ann. tit. 9, § 2455 (Supp. 1967).

[18] See § 4.102 of S. 2589, introduced on October 26, 1967, along with three other bills (S. 2590, S. 2591 and S. 2592) and referred to the Senate Committee on the District of Columbia.

[19] See *Norman* v. *World Wide Distrib., Inc.*, 202 Pa. Super. 53, 195 A. 2d 115 (1963) and *Stroudsbury* v. *Security Trust Co.*, 145 Pa. Super. 44, 48–49, 20 A. 2d 890, 892 (1941).

of the holder in due course doctrine. Moreover, by eliminating the right to cut off defenses the proper allocation of the risk of seller insolvency and irresponsibility will be realized. At the present time the consumer bears this risk; by changing the law the assignee, who is certainly better able to do so, will bear the risk. It is the financial institution which gives the dealer or the fly-by-night the capital with which to operate and it is the financial institution which derives benefit from the sale. Surely it should also assume the responsibility to customers of the dealer for adverse consequences of the transaction attributable to failings of the seller. In short, the consumer should be able to raise his defenses against the assignee and it should be the assignee—who has notice that he is dealing with a consumer note—and not the consumer, who should look to the seller for reimbursment.

2. Each state should consider enacting its own statute expressly declaring that unfair methods of competition and unfair or deceptive acts or practices in the conduct of any trade or business are unlawful. In the appendix as Attachment A is a copy of the Commission's proposal in this regard, drafted and first disseminated on July 7, 1966. To date this proposal has been adopted in four States: Washington, Hawaii, Vermont and Massachusetts.[20] The need for this kind of legislation; and for adequate administrative provisions and monetary resources effectively to enforce such a statute, is immediate and compelling.[21]

In addition to the remedies prescribed in that proposal, serious consideration should be given to according the Attorney General more sweeping power. Besides being authorized to sue for an injunction, he should, in appropriate cases, be permitted to request the court to appoint a receiver to manage the defendant's assets and to dispose of such assets at the direction of the court so as to provide restitution for aggrieved consumers. He should be enabled to obtain a judgment holding the defendant liable to specific individuals or classes of persons, and the court should be empowered to reject an assurance of voluntary compliance if it does not provide adequate redress for deceived or defrauded consumers.

These provisions would be helpful to all consumers who are victimized by fraudulent practices but would be especially helpful to the poor because of the prevalence of fraud and deception in the low-income market. Too often the deceived consumer is unable to get legal redress. Unaware of his rights, too poor to pay for legal assistance, and unable to get help from undermanned legal aid or neighborhood legal services offices, he is likely to bear his loss in silence.[22] The present proposal would provide at least partial financial restitution for all victims of sharp practices and should help to drive the huckster out of the marketplace without interfering with the rights of the great majority of honest businessmen.

3. Even as the poor are unable at the present time to obtain redress in the courts, there is persuasive evidence that low-income area merchants and finance companies regularly resort to the courts with great success. The Commission's study of retail practices in the District of Columbia disclosed that for some low-income merchants legal action is a normal order of business. This group obtained one court judgment for every $2,200 in sales against one suit for every $232,000 in sales by general market retailers.[23] At the same time, the overwhelming number of default judgments in cases brought against low-income consumers suggests that in most cases the defendant never receives the summons [24] and first hears of the proceeding when his property it attached or wages garnisheed.

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[20] Wash. Rev. Code, § 19.86.020, approved March 20, 1961; Hawaii Rev. Laws, § 205A–1.1, approved June 16, 1965; Mass., Gen. Laws ch. 93A, approved December 26, 1967; Vt. Stat. Ann. tit. 9, §§ 2451–62, approved April 17, 1967.

[21] For a discussion of the need for such legislation and a review of the mechanics of its operation, see pp. 1–5 of Attachment A. Nine additional states have given their Attorneys General power to investigate and enjoin deceptive practices in trade or commerce: Arizona, California, Delaware, Illinois, Iowa, Maryland, Missouri, New Jersey and North Dakota. Three more states enjoin specific kinds of deceptive practices and others which "similarly" mislead the public: Connecticut, New Mexico and Texas.

[22] See Note, *Consumer Legislation and the Poor*, 76 Yale L. J. 745, 764–65 (1967); Note, *State Consumer Protection: A Proposal*, 53 Iowa L. Rev. 710, 712–16 (1967); Note, *Translating Sympathy for Aggrieved Consumers Into Effective Programs for Protection*, 114 U. Pa. L. Rev. 395, 398–403 (1966).

[23] Federal Trade Commission Economic Report on Installment Credit and Retail Sales Practices of District of Columbia Retailers, xii, 33–34 (1968); See Note, *Consumer Legislation and the Poor*, 76 Yale L. J. 745, 765–67 (1967).

[24] See Report of the National Advisory Commission on Civil Disorders 276–77 (1968); Note, 2 Colum. J. L. & Soc. Prob. 1, 9–11 (1966).

Legislation restricting rights of attachment and garnishment is desirable and already exists in many states[25] and is included in the recently enacted federal Truth in Lending Act. States not having such legislation, and states that do not regulate these practices closely, should act now to circumscribe more narrowly the right of creditors to garnish a debtor's wages or repossess his goods. However, we believe that the states ought to go further and reexamine the rules governing reopening of default judgments. If "sewer service" is to permitted, a defendant ought to have a reasonable opportunity to reopen a judgment obtained in a proceeding of which he had no notice. We make no specific recommendation but believe it desirable that these rules be reexamined now.

For similar reasons we believe that legislation should be enacted voiding any contract provision that requires a consumer to sign a cognovit note or otherwise waive his rights in order to obtain credit. Recent legislation regulating retail installment practices[26] includes these and similar provisions designed to insure that the consumer is fully apprised of his rights and obligations before signing a contract, thereby protecting the consumer from abuses without unduly interfering with the rights of honest businessmen. The Commission endorses such legislation and supports the efforts of the National Conference of Commissioners on Uniform State Laws and the Counsel of State Governments to formulate uniform national standards governing retail installment contracts so that the present pattern of patch-work regulation confronting the multi-state seller may be replaced by a single, simple, clear, and fair standard.

B. Federal Proposals

1. Our experience suggests that many goods are sold by door-to-door peddlers in the low-income market, that often these merchants use high pressure techniques, sell shoddy, inferior goods and disappear after a sale is made leaving the consumer no remedy if he finds that the goods do not conform to his legitimate expectations. These findings are overwhelmingly corroborated by the testimony adduced at hearings held on the Door-to-Door Sales Bill.[27] Enactment of strong legislation regulating door-to-door sales, providing a reasonable cooling off period during which the buyer can rescind the contract, and requiring that the buyer be fully apprised of his rights, would be an important affirmative step in helping to rid the low-income market of the fraud that now permeates it, and in according all consumers more adequate protection from unfair practices.

2. Finally, we recommend to the appropriate agencies and to Congress that action be taken designed to revive competition in the low-income market so that it will no longer be influenced by unscrupulous operators, and that there also should be available quality goods at a fair price. To this end we make the following proposals:

(1) That subsidies, low-cost loans, insurance guarantees or tax incentives be granted to firms entering the low-income market, including special incentives for the local resident who wishes to start a business in the low-income market;

(2) That existing management and clerical training programs for residents of low-income areas be expanded and new ones established;

(3) That educational programs for low-income market retailers be established to enable them to run their businesses more economically and efficiently and to pass the savings on to consumers;

(4) That improved and expanded educational programs be designed to stimulate the low-income consumer to comparison shop, to seek reasonable credit terms, and generally to allocate his scant resources more wisely, and to look for assistance instead of remaining silent when he is bilked;

(5) That the feasibility of federally financed (or private) insurance programs to protect from undue losses retailers extending low-cost credit to residents of low-income areas be investigated.

Immediate and dramatic steps like these are necessary if vigor is to be restored to the low-income market and if low-income consumers are to be assured the same benefits of competition that their affluent neighbors take for granted.

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[25] See e.g., N.Y. CPLR §§ 5205, 5231.

[26] See, e.g., Mass. Gen. Laws ch. 255 D, §§ 1–31 (Supp. 1967); Wash. Rev. Code §§ 63.14[1]–63.14.180 (Supp. 1967).

[27] Hearings on S. 1599 Before the Consumer Subcommittee of the Senate Committee on Commerce, 90th Cong., 2d Sess. (1968).

ATTACHMENT E

FEDERAL TRADE COMMISSION, WASHINGTON

TRADE PRACTICE RULES FOT THE HEARING AID INDUSTRY AS PROMULGATED JULY 20, 1965

Statement by the Commission

Trade practice rules for the Hearing Aid Industry as hereinafter set forth are promulgated by the Federal Trade Commission under the trade practice conference procedure. Such rules constitute a revision and extension of the rules for this Industry as promulgated by the Commission on August 7, 1953, and supersede the 1953 rules.

The rules are directed to the prevention and elimination of various unfair practices deemed to be violative of laws administered by the Commission. They are to be applied to such end and to the exclusion of any acts or practices which suppress competition or otherwise restrain trade.

The industry for which these rules are established is composed of persons, firms, corporations, and organizations engaged in the manufacture, distribution, or sale of instruments or devices designed for or represented as aiding, improving, or correcting defective hearing, and parts and accessories therefor.

Proceedings to revise the existing trade practice rules for the Hearing Aid Industry as promulgated August 7, 1953, were instituted upon application of the manufacturers and dealers in industry products. Drafts of proposed revised and extended rules were published by the Commission and made available to all industry members and other interested or affected parties upon public notices whereby they were afforded opportunity to present their views, suggestions, objections, or amendments respecting the rules, and to be heard in the premises. Pursuant to public notice, a hearing was held in New York, N.Y., on April 29, 1965, and all matters there presented, or otherwise received in the proceedings, were duly considered by the Commission.

Following such hearing and upon full consideration of the entire matter, final action was taken by the Commission whereby it approved the rules hereinafter set forth.

Such rules become operative thirty (30) days from the date of promulgation.

The rules

These rules promulgated by the Commission are designed to foster and promote the maintenance of fair competitive conditions in the interest of protecting industry, trade and the public. It is to this end, and to the exclusion of any act or practice which fixes or controls prices through combination or agreement, or which unreasonably restrains trade or suppresses competition, or otherwise unlawfully injures, destroys, or prevents competition, that the rules are to be applied.

Definitions

Industry Products consist of all instruments and devices designed for or represented as aiding, improving, or correcting defective hearing, and parts and accessories therefor.

Industry Members are persons, firms, corporations, and organizations engaged in the manufacture, distribution, or sale of any industry products as defined above.

Rule 1—Misrepresentation in General

It is an unfair trade practice for any industry member to use, or cause or promote the use of, any trade promotional literature, advertising matter, testimonial, guarantee, warranty, mark, insignia, depiction, brand, designation, or representation however disseminated or published which has the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers, or of aiding, abetting, or causing sales agents, dealers, distributors, or other marketers to mislead or deceive the purchasing or consuming public—

(a) with respect to the grade, quality, quantity, origin, novelty, price, cost, terms of sale, use, construction, size, composition, dimensions, type, design, development, visibility, durability, performance, fit, appearance, efficacy, benefits, cost of operation, resistance to climatic conditions, or

physiological benefits of any industry product, or the psychological well-being induced by an industry product; or

(b) with respect to any service or adjustment offered, promised, or to be supplied to purchasers of any industry product; or

(c) with respect to the manufacture, distribution, or marketing of any industry product; or

(d) with respect to the scientific or technical knowledge, training, experience, or other qualifications of an industry member, or of any of his employees, relating to the selection, fitting, adjustment, maintenance, or repair of industry products; or

(e) in any other material respect.

NOTE: This rule shall be construed as prohibiting the false advertisement of hearing aids or devices as the term "false advertisement" is defined in Section 15 of the Federal Trade Commission Act.)

Rule 2—Guarantees, Warranties, Etc.

It is an unfair trade practice to represent in advertising or otherwise that a product is "guaranteed" without clear and conspicuous disclosure of—

(a) the nature and extent of the guarantee, and

(b) any material conditions or limitations in the guarantee which are imposed by the guarantor, and

(c) the manner in which the guarantor will perform thereunder, and

(d) the identity of the guarantor. (The necessary disclosure requires that any guarantee made by the dealer or vendor, which is not backed up by the manufacturer, must make it clear that the guarantee is offered by the dealer or vendor only.)

Representations that a product is "guaranteed for life" or has a "lifetime guarantee," in addition to meeting the above requirements, shall contain a conspicious disclosure of the meaning of "life" or "lifetime" as used (whether that of the purchaser, the product or otherwise).

Guarantees shall not be used which under normal conditions are impractical of fulfillment or which are for such a period of time or are otherwise of such nature as to have the capacity and tendency of misleading purchasers or prospective purchasers into the belief that the product so guaranteed has a greater degree of serviceability, durability or performance capability in actual use than is true in fact.

This rule has application not only to "guarantees" but also to "warranties," to purported "guarantees" and "warranties," and to any promise or representation in the nature of a "guarantee" or "warranty."

Rule 3—Bait Advertising

It is unfair trade practice for an industry member to offer for sale any industry product when the offer is not a bona fide effort to sell the product so offered as advertised and at the advertised price.

(NOTE: In determining whether there has been a violation of this rule, consideration will be given to acts or practices indicating that the offer was not made in good faith for the purpose of selling the advertised product, but was made for the purpose of contacting prospective purchasers and selling them a product or products other than the product offered. Among acts or practices which will be considered in making that determination are the following:

1. The creation, through the initial offer or advertisement, of a false impression of the product offered in any material respect;

2. The refusal to show, demonstrate, or sell the product offered in accordance with the terms of the offer;

3. The disparagement, by acts or words, of the product offered, or the disparagement of the guarantee, credit terms, availability of service, repairs or parts, or in any other respect, in connection with it;

4. The showing, demonstrating, and in the event of sale, the delivery, of a product which is unusable or impractical for the purpose represented or implied in the offer;

5. The refusal, in the event of sale of the product offered to deliver such product to the buyer within a reasonable time thereafter;

6. The failure to have available a quantity of the advertised product at the advertised price sufficient to meet reasonably anticipated demands.

It is not necessary that each act or practice set forth above be present in order to establish that a particular offer is violative of this rule.)

Rule 4—Misrepresentation of Earnings of Salesmen or Agents

It is unfair trade practice for any industry member to make or publish, or cause to be made or published, any advertisement, offer, statement, or other form of representation, which directly or by implication is false, misleading or deceptive—

(a) concerning the salary, commission, income, earnings, or other remuneration which agents, canvassers, solicitors, or sales representatives receive or may receive; or

(b) concerning any conditions or contingencies affecting such remuneration or the opportunities therefor.

Rule 5—Misrepresentation as to Character of Business, Etc.

It is unfair trade practice for any industry member falsely to represent, directly or indirectly, through the use of any word or term in his corporate or trade name, in his advertising or otherwise—

(a) That he is a manufacturer of hearing aids or devices, or of batteries, parts, or accessories therefor; or

(b) That he is the owner or operator of a factory or producing company manufacturing such products; or

(c) That he owns or maintains a laboratory devoted to hearing aid research, testing, experimentation, or development; or

to misrepresent in any other material respect the character, extent, or type of his business.

Rule 6—Deception as to Benefit of Services or Advice of a Physician, Etc.

(a) In connection with the sale or offering for sale of industry products, it is an unfair trade practice for any industry member to represent, directly or by implication, that the services or advice of a physician have been used in the designing or manufacturing of industry products, or will be used or made available in the selecting, fitting, adjusting, or testing of industry products relative to the individual needs of consumer-purchasers, when such is not the fact.

(b) The prohibitions of this rule are applicable to the use of the terms "doctor," "physician," "otologist," or "otolaryngologist"; to any abbreviations, variations, or derivatives of such terms; and to the use of any symbol, depiction, or representation having a medical connotation.

(c) It is also an unfair trade practice to use, in advertising or otherwise, the words "prescribe" or "prescription," or any abbreviation, variation or derivative thereof or symbol therefor, in referring to or describing any industry product, unless such product was made pursuant to a prescription given by a physician; *Provided, however*, That the word "prescription" or words of similar meaning may be used to refer to or describe an industry product which was specially made to compensate for the hearing loss of a particular purchaser in accordance with directions furnished by a qualified person other than a physician, when such words are accompanied by a clear and conspicuous disclosure that the "prescription" was not based on a medical examination and that the person issuing it was not a physician.

Rule 7—Deception as to Visibility, Construction, Etc.

It is an unfair trade practice for any industry member—

(a) to represent, directly or by implication, through the use of such words or expressions as "invisible," "hidden," "hidden hearing," "completely out of sight," "conceal your deafness," "hear in secret," "unnoticed even by your closet friends," "no one will know you are hard of hearing," "your hearing loss is your secret," "no one need know you are wearing a hearing aid," "hidden or out of sight when inserted in the ear canal," or by any other words or expressions of similar import, that any hearing aid, device, or part is hidden or cannot be seen unless such is the fact;

(b) to use in advertising the words or expression, "no cord," "cordless," "100% cordless," "no unsightly cord dangling from your ear," "no wires," "no tell-tale wires," or other words or expressions of similar import, unless such representations are true and unless, in close connection therewith and with equal prominence, a clear and adequate disclosure is made that a plastic tube (or similar device) runs from the instrument to the ear if such is the fact;

(c) to use in advertising the words or expressions, "no button," "no ear button," "no buttons or receivers in either ear," or other words or expressions of similar import, unless such representations are true and unless, in close connection therewith and with equal prominence, a clear and adequate disclosure is made that an ear mold or plastic tip is inserted in the ear if such is the fact; or

(d) to represent, directly or by implication, that a hearing aid utilizing bone conduction has certain specified features such as the absence of anything in the ear, or leading to the ear, or the like, without disclosing clearly and conspicuously that the instrument operates on the bone-conduction principle and that in many cases of hearing loss this type of instrument may not be suitable.

Rule 8—Deception as to Availability of Suitable Batteries

It is an unfair trade practice for any industry member to represent, directly or by implication, that batteries sold only by such industry member or other specified person or concern, or bearing a specified brand, label, or other identifying mark, are the only ones suitable for use in a particular type or make of hearing aid or device when such is not the fact.

Rule 9—Deception Respecting Novelty of Products

It is an unfair trade practice to use any advertisement or other representation which has the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers into the belief that any hearing aid or device, or part or accessory thereof, is a new invention or involves a new mechanical or scientific principle, when such is not the fact.

Representations of the following or similar types, when not fully justified by the facts, are among those prohibited by this rule: "amazing new discovery," "revolutionary new invention," "radically new and different," "sensational new laboratory development," "remarkable new electronic device," "brand-new invention," "marvelous new hearing invention," "new scientific aid," and "mircale."

Rule 10—Misrepresenting a Commercial Hearing Aid Establishment

It is an unfair trade practice for an industry member to represent, directly or by implication, that a commercial hearing aid establishment is a government or public one, or is a nonprofit medical, educational, or research institution, through the use of terms having a medical, professional, or scientific connotation, such as, "Hearing Center," "Hearing Institute," "Hearing Bureau," "Hearing Clinic," "State's Hearing Clinic," "State's Speech and Hearing Center," or similar representations.

Nothing in this rule is understood to preclude an industry member from representing if such be the fact, that he owns, operates, or controls a "Hearing Aid Center," or from using other words or expressions which clearly and nondeceptively identify the member's establishment as a commercial hearing aid enterprise.

Rule 11—Deceptive Advertising of Hearing Aid Parts, Accessories, or Components

It is an unfair trade practice for an industry member to use or cause to be used, any type of advertising or promotional literature depicting or describing only a single part, accessory, or component of any hearing aid or device, such as a battery on the finger, a transistor held in the hand, etc., in such manner as to have the capacity and tendency to mislead or deceive purchasers or prospective purchasers into the erroneous belief that the said part, accessory, or component is all that needs to be worn or carried.

Rule 12—Misrepresenting Installment Sales Contracts.

It is an unfair trade practice for an industry member falsely to represent an installment sales contract respecting hearing aids, devices, parts or accessories as a lease or rental plan.

Rule 13—Deceptive Endorsements, Testimonials, etc.

It is an unfair trade practice for an industry member to advertise or otherwise represent—

(a) That a particular individual, organization, or institution endorses, uses, or recommends such member's hearing aids, devices, or other industry products when such is not the fact; or

(b) That a particular individual wears such member's hearing aids or devices when such is not the fact.

Rule 14—Deception as to Used or Rebuilt Products

(a) It is unfair trade practice for any industry member to represent, directly or indirectly, that any industry product or part thereof is new, unused, or rebuilt, when such is not the fact.

(b) In the marketing of an industry product which has been used, or which contains used parts, it is an unfair trade practice to fail to make full and nondeceptive disclosure of such fact in all advertising and promotional literature relating to the product, on the container, box, or package in which such product is packed or enclosed and, if the product has the appearance of being new, on the product itself. The required disclosure may be made by use of such words as "Used," "Secondhand," "Repaired," or "Rebuilt," whichever is applicable to the product involved.

(c) It is an unfair trade practice to misrepresent the identity of the rebuilder of an industry product. If the rebuilding of an industry product was done by other than the original manufacturer, it is also an unfair trade practice to fail to disclose such fact wherever the original manufacturer is identified.

Rule 15—Deception Respecting Tests, Acceptance, or Approval

In the sale, distribution, or promotion of hearing aids or devices, it is unfair trade practice for any industry member—

(a) to represent or to use any seals, emblems, shields, or other insignia which represent, directly or by implication, in any manner that a hearing aid or device has been tested, accepted, or approved by any individual, concern, organization, group, or association, unless such is the fact and unless the hearing aid or device has been tested by such individual, concern, organization, group or association in such manner as reasonably to insure the quality and performance of the instrument in relation to its intended usage and the fulfillment of any material claims made, implied, or intended to be supported by such representation or insignia; or

(b) to represent that a hearing aid or device tested, accepted, or approved by any individual, concern, organization, group, or association has been subjected to tests based on more severe standards of performance, workmanship, and quality than is in fact true; or

(c) to make any other false, misleading or deceptive representation respecting the testing, acceptance, or approval of a hearing aid or device by any individual, concern, organization, group, or association.

(NOTE: Under this rule, it is not necessary for each individual hearing aid or device to be tested where the method employed is a sample testing and full and nondeceptive disclosure of this fact is given in all advertising and otherwise.)

Rule 16—Defamation of Competitors or False Disparagement of Their Products

(a) It is an unfair trade practice to defame competitors by falsely imputing to them dishonorable conduct, inability to perform contracts, questionable credit standing, or by other false representations, or falsely to disparage the products of competitors in any respect, or their business methods, selling prices, values, credit terms, policies, or services.

(NOTE: The use of "bait" or "blind" advertisements as a means of accomplishing such defamation or false disparagement is deemed to be within the prohibitions of this rule.)

(b) Under this rule, it is an unfair trade practice for an industry member—

(1) to display competitive products in his show window, shop, or in his advertising in such manner as falsely to disparage them; or

(2) to represent falsely that competitors are unreliable but that the disparager is not; or

(3) to quote prices of competitive hearing aids or devices without disclosing that they are not the present current prices, or to show, demonstrate, or represent competitive models as being the current models when such is not the fact.

Rule 17—Deceptive Use or Imitation or Simulation of Trade or Corporate Names, Trademarks, etc.

It is an unfair trade practice for any industry member—

(a) to imitate or simulate the trademarks, trade names, brands, or labels of competitors, with the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers; or

(b) to use in his advertising the name, model name, or trademark of a particular manufacturer of hearing aids in such manner as to imply a relationship with the manufacturer that does not exist or otherwise to mislead or deceive purchasers or prospective purchasers; or

(c) to use any trade name, corporate name, trademark, or other trade designation, which has the capacity and tendency or effect of misleading or deceiving purchasers or prospective purchasers as to the name, nature, or origin of any product of the industry, or of any material used therein, or which is false, deceptive, or misleading in any other material respect.

Rule 18—Procurement of Competitor's Confidential Information

It is an unfair trade practice for any industry member to obtain information concerning the business of a competitor by bribery of an employee or agent of such competitor, by false or misleading statements or representations, by the impersonation of one in authority, or by any other unfair means, and to use the information so obtained so as substantially to injure competition or unreasonably restrain trade.

Rule 19—Unfair Threats of Infringement Suits

The circulation of threats of suit for infringement of patents or trademarks among customers or prospective customers of competitors, not made in good faith but for the purpose or with the effect of harassing or intimidating such customers or prospective customers, or of unduly hampering, injuring, or prejudicing competitors in their business, is an unfair trade practice.

Rule 20—Inducing Breach of Contract

It is an unfair trade practice for any industry member knowingly to induce or attempt to induce the breach of existing lawful contracts between competitors and their customers or between competitors and their suppliers, or to interfere with or obstruct the performance of any such contractual duties or services, under any circumstance having the capacity and tendency or effect of substantially injuring or lessening competition.

Nothing in this rule is intended to imply that it is improper for any industry member to solicit the business of a customer of a competing industry member; nor is the rule to be construed as in anywise authorizing any agreement, understanding, or planned common course of action by two or more industry members not to solicit business from, or sell to, the customers of either of them, or the customers of any other industry member.

Rule 21—Commercial Bribery

It is an unfair trade practice for an industry member, directly or indirectly, to give, or offer to give, or permit or cause to be given, money or anything of value to agents, employees, or representatives of customers or prospective customers, or to agents, employees, or representatives of competitors' customers or prospective customers, without the knowledge of their employers or principals, as an inducement to influence their employers or principals to purchase or contract to purchase products sold or offered for sale by such industry member, or to influence such employers or principals to refrain from dealing in the products of competitors or from dealing or contracting to deal with competitors.

Rule 22—Prohibited Forms of Trade Restraints (Unlawful Price Fixing, Etc.).[1]

It is an unfair trade practice for any member of the industry, either directly or indirectly, to engage in any planned common course of action, or to enter into or take part in any understanding, agreement, combination, or conspiracy, with one or more members of the industry, or with any other person or persons, to fix or maintain the price of any goods or otherwise unlawfully to restrain trade; or to use any form of threat, intimidation, or coercion to induce any member of the

[1] The prohibitions of this rule are subject to Public Law 542, approved July 14, 1952—66 Stat. 632 (the McGuire Act, commonly referred to as the Fair Trade Amendment) which provides that with respect to a commodity which bears, or the label or container of which bears, the trademark, brand, or name of the producer or distributor of such commodity and which is in free and open competition with commodities of the same general class produced or distributed by others, a seller of such a commodity may enter into a contract or agreement with a buyer thereof which establishes a minimum or stipulated price at which such commodity may be resold by such buyer when such contract or agreement is lawful as applied to intrastate transactions under the laws of the State, Territory, or territorial jurisdiction in which the resale is to be made or to which the commodity is to be transported for such resale, and when such contract or agreement is not between manufacturers, or between wholesalers, or between brokers, or between factors, or between retailers, or between persons, firms, or corporations in competition with each other.

industry or other person or persons to engage in any such planned common course of action, or to become a party to any such understanding, agreement, combination, or conspiracy.

Rule 23—Arrangements To Exclude Sale of Competitors' Products

It is an unfair trade practice for any member of the industry to sell or contract for the sale of any industry products, whether patented or unpatented, for use or resale, or to fix a price charged therefor, or discount from, or rebate upon, such price, on the condition, agreement, or understanding that the purchaser thereof shall not use or deal in new, used, or rebuilt products of a competitor or competitors of such industry member where the effect of such sale or contract for sale, or such condition, agreement, or understanding, may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

Rule 24—Aiding or Abetting Use of Unfair Trade Practices

It is an unfair trade practice for any person, firm, or corporation to aid, abet, coerce, or induce another, directly or indirectly, to use or promote the use of any unfair trade practice prohibited by these rules.

Promulgated by the Federal Trade Commission July 20, 1965.

JOSEPH W. SHEA, *Secretary.*

ITEM 6. DEPARTMENT OF MEDICINE AND SURGERY, VETERANS ADMINISTRATION

The committee chairman addressed the following letter to the Veterans' Administration:

JULY 2, 1968.

DEAR DR. ANDERMAN: The Subcommittee on Consumer Interests of the Elderly is conducting a study of "Hearing Loss, Hearing Aids, and the Older American." Our purpose is to gather information in three major areas: (1) Extent of hearing loss among older Americans and the possibility of even wider hearing loss within the next decade; (2) Availability of hearing aids and needed services by those who have hearing loss; and (3) Suggestions for changes in government policy or programs that may be helpful to older Americans with hearing loss.

To help us in this inquiry we would like to have the following information from you:

1. On November 22, 1967, Dr. G. Donald Causey was good enough to give to Senator Harrison Williams (whom I have since succeeded as Chairman of this Subcommittee) information regarding the Veterans' Administration program for hearing aid evaluation and measurement. He also described services provided to veterans suffering service-connected hearing disabilities. May we include this material in our hearing record as presented to us at that time, or will revisions be necessary?

2. Is the VA now receiving a larger number of hearing aid models from which to test? Do any new models make use of technological innovations that may significantly change the prices or design of hearing aids in general?

3. Is any thought now being given to the possibility of including screening for hearing loss as a Medicare benefit?

We would like to have this information, if at all possible, in time for hearings that will begin on July 18.

Sincerely,

FRANK CHURCH, *Chairman.*

The following reply was received:

VETERANS ADMINISTRATION,
DEPARTMENT OF MEDICINE AND SURGERY,
Washington, D.C., July 10, 1968.

DEAR SENATOR CHURCH: Regarding your recent inquiry, the statement submitted by Dr. G. Donald Causey is a good summary of the Veterans Administration's program in hearing aids and related services. There is no need for a revision and the statement may be entered as it stands.

The number of hearing aid models which we evaluate has not been rising and, in fact, there was a decrease for fiscal year 1969 as compared to fiscal year 1968. Likewise, we have not seen evidence of technological changes that might significantly affect hearing aid design or their prices.

The question concerning screening of hearing as a Medicare benefit would be a matter under the jurisdiction of the Department of Health, Education, and Welfare. The American Speech and Hearing Association, however, recently reported that the Social Security Administration has authorized payment for audiological examinations incident to medical diagnosis.

I am sure that the forthcoming hearings will provide a good deal of valuable information in this important area of concern.

Sincerely,

BERNARD M. ANDERMAN, ED.D.,
Chief, Audiology and Speech Pathology.

The letter from Senator Williams to Dr. Causey and his reply follow:

SEPTEMBER 28, 1967.

DEAR DR. CAUSEY: As Chairman of the Subcommittee on Consumer Interests of the Elderly of the Senate Special Committee on Aging, I would like to invite you to submit a statement in advance of our hearing on the subject of hearing aids.

In view of the long-term experience of the VA Acoustical Research Audiology division in this field, your comments would be most helpful. While I realize that your program is restricted to service-connected hearing disabilities, I am hopeful that you can share with us the benefits of the application of specific standards and services in a hearing conservation program.

Your observations on recent studies concerning the calibration of audiometric equipment would also prove of real interest.

It would be appreciated if your prepared statement could be available by October 13, 1967.

With kind regards,

Sincerely,

HARRISON A. WILLIAMS, JR.,
Chairman, Senate Special Committee on Aging.

VETERANS ADMINISTRATION HOSPITAL,
Washington, D.C., October 23, 1967.

DEAR SENATOR WILLIAMS: In response to your request for information concerning the Veterans Administration Hearing Aid Measurement Program and my comments on application of specific standards and services in a hearing conservation program, the following statement is submitted.

During World War II, the Armed Services established centers where hearing handicaps could be studied and methods of rehabilitation developed. The individuals seen in these programs included recent inductees discovered with auditory impairments as well as servicemen returned from overseas with hearing losses resulting from wounds, drugs, and other causes. These centers were made responsible for the development of diagnostic and prognostic hearing tests and methods of rehabilitation that would best minimize the social and economic effects of hearing impairment on veterans returning to civilian life.

In the wake of the many hearing-impaired veterans returning to civilian life, the Veterans Administration Hospitals and Outpatient Clinics had to devise methods of furthering the rehabilitation services that originated in the military hospitals and centers. A logical outgrowth of this need was the development of regional audiology clinics capable of rendering audiological assessments of hearing, hearing aid evaluations, and aural rehabilitation.

When the Veterans Administration programs were first initiated, all veterans were referred to local hearing aid distributors for hearing aid fittings and the Federal Government would defray the cost of the hearing aid selected. The lack of adequate measurement instrumentation, the absence of formal training in audiology, the complexity of hearing loss problems, the inability to provide concomitant counselling and training, and the understandable failure to separate vested interest from consumer concern were factors that often precluded correct evaluations. With the establishment of audiology clinics staffed with qualified audiologists, the veteran was afforded not only an impartial evaluation of hearing aids, but also the much needed aural rehabilitation services required to ensure maximum benefits from the hearing aid. During this period when comparatively

few hearing aids were marketed, most manufacturers were represented in Veterans Administration clinic stocks.

The problem of procuring an adequate variety of high quality hearing aids on a competitive basis for clinic stock was one of the most significant aspects in the development of the Veterans Administration hearing aid evaluation program. It was not until 1956 that acceptable methods and procedures for testing and evaluating hearing aids on the basis of performance and cost were developed. In collaboration with the National Bureau of Standards, procedures for the evaluation of hearing aids were developed that proved advantageous to both the Instrument manufacturers and the Veterans Administration.

In brief, the current program is one whereby the Veterans Administration submits to the National Bureau of Standards models of hearing aids obtained from eligible hearing aid manufacturers or their authorized distributors. It is the responsibility of the National Bureau of Standards to measure the electroacoustic performance of each instrument. The results of these tests are then submitted to the Veterans Administration for a series of comprehensive statistical and comparative analyses. Both the quality of the electroacoustic performance and the bid price for each hearing aid submitted are factors considered in determining contract awards. Although some of the tests and methods of evaluating the hearing aids have remained unchanged, improvements and refinements have been incorporated as new experience and knowledge were gained.

An outline of the essential aspects of the program whereby the Veterans Administration procures hearing aids is enclosed. A full description appears in the Invitation, Bid, and Award for Fiscal Year 1969, a Supply Contract which is in preparation as of this date.

The selection of hearing aids for contract is not the only unique feature of the Veterans Administration audiology program. The Veterans Administration procedures employed prior to, during, and after the actual hearing aid evaluation are also worthy of consideration.

Any veteran with a service-connected hearing impairment is eligible to apply for a hearing aid through his regional Veterans Administration Outpatient Clinic. After the entitlement is verified, the veteran is directed to one of the Veterans Administration staff otologists for a complete otologic examination. The otologic examination is performed to determine whether the hearing handicap is amenable to medical treatment. Following the medical examination and possible treatment, the veteran is directed to the Audiology Clinic. Here, the veteran undergoes a series of examinations to determine the type and severity of hearing loss, an evaluation with a number of hearing aids, issuance of the specific aid deemed most beneficial, an orientation in the use of the hearing aid, and, in most instances, auditory training and speech reading instruction.

The variability of performance between aids of the same model is widely recognized. For this reason the hearing aid that performs best during the evaluation is the actual instrument issued to the veteran. The issued hearing aid is replaced with another instrument from Hines Supply Depot.

Private clinics, generally, are unable to provide the hearing loss patient with the exact instrument used during the hearing aid evaluation. Hearing aids are typically placed in clinics of this type on consignment from local distributors. The make and model of hearing aid found to be most beneficial in an evaluation is recommended for purchase by the patient from the local dealer. The degree to which the aid purchased resembles the instrument that performed best during the hearing aid evaluation is largely unknown. The local distributor should provide the patient with necessary instruction in use of the hearing aid.

A common misconception is that a hearing aid will restore normal or near-normal hearing to the wearer. However, the hearing aid is only a means of making sounds louder. The hearing aid has a limited frequency response and quite often has distortion products which impose an unnatural quality to sounds amplified. An aural rehabilitation program is designed to assist the hearing aid user in learning to recognize sounds heard in a manner never before experienced.

All Veterans Administration Audiology Clinics employ highly trained individuals proficient in the measurement of hearing, hearing aid evaluation, and techniques of aural rehabilitation. All full-time employees, with few exceptions, hold a doctoral degree in the field of speech and hearing science. The academic qualification coupled with specified post-doctoral years of experience assures a high caliber of service to the veteran population.

Of interest to your committee might be my views on audiometer calibration. A Public Health Service survey has indicated that rather loose standards are prevalent throughout the country. The audiometer is a precision electronic instrument which, unfortunately, is regarded by many who use it as a device somewhat akin to a radio. It would appear that unsophisticated users of audiometers believe that the equipment can be used with confidence as long as some type of signal is being generated through the headphones. The increased reliance which the field of medicine places upon audiological evaluations makes it imperative that all audiological instruments be kept in a constant state of calibration.

In major audiology clinics engaged full-time in conducting professional examinations of the auditory function, there is full realization of the need for periodic calibration of all equipment. Throughout daily testing audiologists are alert to the possibility that an audiometer can drift out of calibration, resulting in inaccurate measurements.

Unfortunately, this attitude regarding the posssibility of audiometer instability does not generally pervade the medical, paramedical, or commercial milieus in which these instruments are utilized. This lack of awareness can be detrimental to the patient who requires accurate assessment of his auditory impairment. Examinations to determine need for a hearing aid, to determine the degree of hearing disability for compensation purposes, to determine otologic surgical candidacy, to evaluate post-operative results, to assist in evaluations of neurologic conditions are but a partial listing of the examinations that exemplify the importance of maintaining the calibration of audiometric equipment.

The recommended methods of audiometer calibration and criteria for adequacy are specified in publications of the American Standards Association, Incorporated, 10 East 40th Street, New York, New York 10016. In major audiology clinics, calibration of equipment is conducted generally on a biweekly basis. These periodic calibration checks ensure the standardization of test results that are being reported.

The material published by audiometer manufacturers states that their audiometers meet American Standards Association specifications, but usually does not indicate a continuing need to verify calibration. This leads the unsophisticated user to assume that the initial calibration has a degree of permanency. Consequently, some audiometers are recalibrated only when returned to the factory because of break down. It is recommended that realistic treatment of calibration be included by the manufacturers in their accompanying literature concerning care and use of the instrument.

Further, the manufacturer should consider ease of field calibration to be a desirable design objective. In most instances, purchasers are required to return the instrument to the factory, thus creating delays, higher costs, and likelihood of damage in shipment.

I hope the information presented above will be of value to the committee.

Sincerely yours,

G. DONALD CAUSEY, Ph. D.,
Chief, Central Audiology and Speech Pathology Program.

[Enclosure]

OUTLINE OF ESSENTIAL ASPECTS OF VETERANS ADMINISTRATION HEARING AID MEASUREMENT PROGRAM

I. *Submission of aids by manufacturers*

A. Samples and quotations will be considered only from those hearing device manufacturers who: (1) have been actively engaged in the business of manufacturing hearing aids for a period of not less than three (3) years; (2) have established bona fide dealers or distributors in most of the major cities in the United States, with not less than seven (7) such dealers or distributors located within each of the five (5) VA-designated geographic regions for dealer representation; (3) have submitted samples for test in accordance with the provisions listed below; and (4) are in a position and willing to render factory repair services.

B. United States distributors of foreign-made hearing aids may participate in the program. However, distributors and manufacturers must meet the same requirements which have been established for domestic manufacturers.

C. In order to control the number of hearing aid samples to be tested, manufacturers are limited to five different models, and one bone conduction eyeglass

aid. Three complete sample hearings aids of each model except the bone conduction eyeglass aid are required in order to adequately represent the model under consideration. It is the responsibility of the Veterans Administration to send an audiologist to the factory where he selects the samples at random from the manufacturers' stock. Each hearing aid will be tested as received from the factory. It is the manufacturer's responsibility to determine which items, settings, or adjustments will enable his hearing aids to yield a gain versus frequency response curve closest to what the Veterans Administration considers to be the most desirable curve (i.e., a five decibel-per-octave rise) and perform most satisfactorily under the tests to be conducted.

D. In addition to the performance data obtained at the National Bureau of Standards, audiologists from the VA Hospital, Washington, D.C. carefully review the aids for clinical acceptability. Only clinically acceptable hearings aids are considered for contract. Clinical unacceptability is based on (1) poor physical characteristics as related to use in a clinical situation, and/or (2) poor physical characteristics of an instrument as related to its use by the wearer. Such factors as exposed batteries, obscure or inaccessible external controls, objectionable or grotesque design features, etc., are examples of criteria used in judging clinical acceptability.

II. *Hearing aid measurements made by the National Bureau of Standards for the Veterans Administration (October 1967)*

A. Definition of random-noise signal.

The random noise signal used in this procedure is one which has an essentially constant energy per unit bandwidth from 200 Hz to 900 Hz. The signal is rolled off with a single RC time constant of 17μ seconds which places the 3 dB down point at 900 Hz. Below 200 Hz the response is rolled off at a rate of 12 dB/oct. From 200 Hz to 5000 Hz, the acoustical pressure developed will not deviate from this defined curve by more than $\pm 2\frac{1}{2}$ dB.

1. *Maximum power output*

With the volume control turned full on, the random noise signal is applied and the input level is increased until no further increase in the output is noted. The input and output levels are noted.

Comment: This method of measuring the maximum output gives, on the average, an output of 1.2 dB less than the previously used three frequency average. For this reason, the category limits for MPO have been lowered one dB from what they were in FY 1968.

2. *Gain*

With the random-noise input signal at a level of 70 dB, the volume control setting is reduced until the output is three dB below saturation. If the hearing aid does not have sufficient gain to reach this level with a 70 dB input, the maximum gain setting is used. The gain at 1 kHz with an input level of 62.5 dB is noted.

Comment: With the volume control set by this method, signals of typical speech levels (60–65 dB long time RMS) will cause only occasional saturation with its attendant distortion of the hearing aid output. The gain as set by this method is, on the average, 1.5 dB less than the gain as set by the previously used 10% distortion criterion. For this reason, the category limits for gain have been reduced one dB from what they were in FY 1968.

3. *Response versus frequency*

With the volume control set as in section 2 above and a sound input level of $62\frac{1}{2}$ dB plus or minus $2\frac{1}{2}$ dB, an automatic recording will be made of the gain versus frequency curve from 200 to 5000 Hz, in order to measure gain and frequency response.

4. *Battery drain*

With the volume control set as in No. 2 above, the battery drain will be determined both with a 62.5 dB sound input level at 1 kHz and with no sound input.

5. *Harmonic distortion with volume control set as for response curve*

With the volume control set as in No. 2 and an input sound pressure of 75 dB, the nonlinear distortion of the sound output of the hearing aid will be measured at the frequencies 500, 700, and 900 Hz, and at that frequency above 500 Hz where maximum distortion occurs, in order to determine the harmonic distortion likely to occur with loud speech.

6. *Signal-to-noise ratio*

With the volume control and input level as in No. 3 the sound pressure output of the hearing aid for a 1000 Hz signal will be noted. Next, the output sound pressure level due to electrical self-noise will be noted in the absence of a signal.

7. *Signal-to-hum ratio*

With the volume control and input level as in No. 3 the sound pressure output of the hearing aid for a 1000 Hz signal will be noted. Next, the RMS output sound pressure level due to magnetic field pick-up in the most sensitive direction will be noted at various levels of magnetic field strength. The magnetic field will be composed of a mixture of 60, 180, and 300 Hz in the relative proportions of 100, 25, and 10 respectively. The sound output and field strength will be noted for which it is determined that the hearing aid is operating in a linear region. This sound pressure output will be extrapolated back to a field of the composition noted above, in which the strength of the 60 Hz components would be 1 milligauss.

8. *Random-noise nonlinear distortion measurement*

With the random noise signal described above applied to the input of the hearing aid at a level of 70 dB, a filter 100 Hz wide is scanned through the output of the hearing aid. The output of this filter is automatically recorded as a function of frequency. This recording shows the random noise output of the hearing aid as a function of frequency. A second curve is run, similar to the first, but with a hole in the input spectrum 300 Hz wide, centered at the same frequency as the recording filter. Since the frequency being recorded is not present in the input signal, it follows that the signal recorded is that due to non-linear distortion of the input signal. The spacing between the two curves run is a measure of the non-linear distortion produced, compared to the total signal output. The measurement is repeated for input levels of 65 and 60 dB.

The spacing between the two curves is taken at frequencies of 200, 400, 600, 800, 1000, 1250, 1550, 2000, 2500, and 3000 Hz.

B. A discussion of the reasons for making this type of random-noise nonlinear distortion measurement, and the instrumentation used will be found in this reference: E. D. Burnett, "A New Method for the Measurement of Non-Linear Distortion Using a Random Noise Test Signal," Bulletin of Prosthetics Research, Spring, 1967.

C. An extension discussion of random noise distortion is found in C. A. Brockband and C. A. A. Wass, "Non-Linear Distortion in Transmission Systems," J. Inst. Elec. Engrs. (London) Pt. 3, V 92, 45–56 (1945).

III. *Performance Standards*

A. General.

1. For purposes of these tests, the performance of "a model" will be considered as the average performance of the three samples submitted, not just the performance of a single instrument.

2. In instances where all three of the original individual sample instruments of a given model are considered by the VA to be "defective," that "model" shall be immediately disqualified and rejected for further consideration and no replacements requested. In instances where less than 3 of the original individual sample instruments are considered by the VA to be defective, a replacement will be requested for each individual instrument concerned. However, under *no* circumstances will replacements be permitted for more than two defective individual instruments of any given "model" submitted.

B. Performance requirements

1. Gains.—A "model" must have not less than 29 decibels of gain.

2. Maximum power output.—A "model" must have a maximum power output of not less than 97 decibels.

3. Signal-to-noise ratio.—Any "model" hearing aid must have a signal-to-noise ratio of at least 32 decibels. However, a tolerance of minus two decibels (—2 db) will be allowed.

4. Signal-to-hum ratio.—Any "model" hearing aid must have a signal-to-hum ratio of at least 32 decibels. However, a tolerance of minus two decibels (—2 db) will be allowed.

5. Power categories.—These criteria have been evolved solely by VA use in the selection of hearing aids for treatment of deafened veterans. The power

category to which a given model is assigned will be based on the test results for average gain and average maximum power output without regard to the power category claims of the manufacturer. The average of the test results for the three instruments of any given model must satisfy the requirements for gain and maximum power output for one of the following categories.

POWER CATEGORIES FOR VA HEARING AIDS

Category	Average gain (1,000, 1,500, 2,000 cps)	Average maximum power output (500, 1,000, 2,000 cps)
Mild	29 to 50 decibels.	97 to 119 decibels.
Moderate	39 to 60 decibels.	120 to 129 decibels.
Strong	56 decibels or above.	130 to 139 decibels.

The tolerance limit for average gain and average maximum power output is plus or minus two decibels. This tolerance has been included in the figures shown.

NOTE.—These are *not* mutually exclusive categories. Aids whose average gain and average maximum power output are such as to place them in two categories will be evaluated in *both* categories.

IV. *Evaluation procedures*

A. The raw score.—The raw score obtained on each test item will be statistically treated and assigned weighting factors determined by a group of nationally recognized audiologists and physicists serving the VA on a consultant basis. For example, one test item might be given a weighting factor of 100 while another might be assigned a factor of 50.

B. The weighted scores.—The weighted scores obtained by three hearing aids of each sample model are averaged for each test. The average score represents the performance of that model on each of the individual tests.

C. Quality point score.—The average weighted scores on each of the tests are summed to give the measure of total performance achieved by the hearing aid model. This score is designated as the quality point score.

D. Defective instrument score.—A score will be assigned for each sample instrument found to be defective. These scores will be summed for the model concerned and the total subtracted from the quality point score for that model. The resultant score will be the adjusted quality point score.

V. *Selection for contract negotiation*

A. The VA will negotiate contracts for a variety of instruments in each "power" category, as follows:

1. Strong power.—Approximately five different models consisting of on-the-body or qualified head-worn instruments. *Ordinarily head-worn hearing aids will not be considered in this category because of the practical considerations involved in their use.*

2. Moderate power.—Approximately six different models, four of which may be on-the-body type or head-worn instrument other than eyeglass hearing aids and two of which may be eyeglass hearing aids.

3. Mild power.—Approximately six different models, one of which may be a body type instrument.

B. Within the limitations set forth in Section A above, only one model of any one type will be eligible for completition in the same category. For example, if a manufacturer has two on-the-body models which qualify in the same category, only one of these will be selected by VA for competition with other manufacturer's products in the same category. On the other hand, if a manufacturer has an on-the-body model and an over-the-ear (or an eyeglass type) model which qualify in the same category, both models will be acceptable for competition against other instruments of the same respective type in the same category.

VI. *Summary and conclusions*

A. The Veterans Administration has developed these tests and criteria expressly for the stated purpose of providing a means whereby quality hearing aids may be procured for treatment of deafened veterans. The results of these tests and the evaluations based thereon are primarily for VA use only, without regard to any other governmental or private agency.

B. It must be clearly understood that any hearing aid model accepted for testing purposes does not automatically qualify for consideration for acceptance on a VA contract. On the other hand, any hearing aid model not specifically rejected and the manufacturer so notified shall be judged acceptable to the VA from the standpoint OF QUALITY, whether it is or it is not finally accepted on contract.

C. At the discretion of the VA each manufacturer may be furnished the raw test data on the instruments he submitted.

ITEM 7. SPECIAL ASSISTANCE TO THE PRESIDENT FOR CONSUMER AFFAIRS

THE WHITE HOUSE,
Washington, August 23, 1968.

DEAR MR. CHAIRMAN: I am grateful for the opportunity to comment on hearing loss in the older American, a subject of serious concern to my office. Approximately 30–50 percent of our population over 65 years of age has a hearing problem resulting from the aging process. The direct relationship between aging and loss of hearing is borne out in statistics prepared by the National Center for Health Statistics, a unit of the Public Health Service. 3.5 persons per 1,000 population under 17 years of age suffer from binaural hearing loss while 132 persons per 1,000 are affected in the 65 years and older category. Approximately 80 percent of those people with binaural hearing loss are 45 years of age or older and 55 percent are 65 years of age or older.

The possibility of increased instances of hearing loss within the next decade is a real one. Because of lengthened life spans, more people are now included within the age group most affected by hearing loss. In addition, we have reason to believe that the increasing noise level will take its toll as today's youth become tomorrow's geriatric population.

The first step for a person with a suspected hearing problem is to have a competent examination to determine the cause and extent of any possible hearing loss. Utilization of a hearing aid is merely one form of assistance which may or may not be desirable. The National Center for Health Statistics study revealed that the elderly person is less likely to have an examination prior to the purchase of a hearing aid. Only 34 percent of the persons in the 65 years and older category were examined as compared to 66 percent of those persons in all age groups.

Dr. Joseph L. Stewart, Consultant in Speech Pathology and Audiology, National Center for Chronic Disease Control, Public Health Service, has stated that a number of factors must be considered in determining whether a hearing aid is needed, including test scores, clinical judgment, and the patient's own impressions of "comfort" and "clarity." In addition, a number of follow-up services are required and counseling may be needed to help the individual work out any physiological or psychological adjustment problems. In short, individuals with hearing losses need comprehensive rehabilitative services performed by trained personnel.

In some cases, however, disbursement of hearing aids is merely a commercial enterprise. There is evidence to indicate that some persons are purchasing hearing aids who do not actually need them and worse yet, some serious diseases are never diagnosed because the search for assistance stops with the purchase of the hearing aid. The type of hearing loss most amenable to help through a hearing aid is also the kind most susceptible to beneficial surgery.

A dealer interested in selling his product is not in the best position to objectively evaluate and advise an individual with regard to his hearing problem. In fact, a professional code of ethics prohibits audiologists from selling hearing aids because of this conflict of interests. In addition, handicapped persons are particularly susceptible to any high-pressure advertising and sales techniques promising to remedy their handicaps.

Hearing aids are not readily available to many senior citizens. Unfortunately, this particular age group may be less able to afford hearing aids and other needed services because of retirement and the subsequent lower income. Although hearing aids are not expensive to produce, there is a very large mark-up in many cases since, in comparison with sales of such items as automobiles and televisions, the total number of hearing aids sold per year is not large. In

addition, much time is often required for adjustments and service calls. Many dealers compensate for this expense in the original cost.

This office has long been concerned with the need for additional consumer education and wider dissemination of information in this area. Serious consideration should be given to the proposal of the American Speech and Hearing Association that a national education program be established through the combined efforts of government agencies and private organizations. The chief focus of such a program would be to promote additional utilization of audiological and medical services and to help the hearing handicapped discover where to go for needed services. For example, there are approximately 800 non-profit centers throughout the country. At these centers, diagnoses may be made, treatment recommended, and counseling provided. Attention must be focused, however, on increasing the number of speech and hearing services. Ninety-six major communities in the country have been cited as lacking such facilities.

In summary, this office feels that there are distinct problems which need further study. In addition to increased emphasis on consumer education and wider dissemination of information, we would encourage the drafting and enactment of a model state law covering the dispensing of hearing aids. Further study must be given to the subject of licensing and the establishment of standards of technical competence. We must strive to achieve adequate numbers of trained personnel. There is a need for standards, additional programs and facilities for testing hearing aids and audiometers, and publication of test results. Attention should be given to consumer environmental concerns, such as the development of a code of concepts on the "bodily rights" of the person including freedom from noise and intensified efforts for noise control and abatement.

Sincerely,

BETTY FURNESS,

Special Assistant to the President for Consumer Affairs.

Appendix 3

LETTERS FROM ORGANIZATIONS AND INDIVIDUALS

The following replies were received by the committee chairman in response to a request for additional information:

OREGON STATE BOARD OF HEALTH,
Portland, Oreg., July 10, 1968.

DEAR SENATOR CHURCH: Thank you for your letter of July 3, 1968, requesting additional information on our Registration Act for Hearing Aid Dealers. Please feel free to include my letter of September 28, 1967, in your hearing record.

In response to your question on inspection of hearing testing equipment we have no plans for implementing an inspection of equipment used by hearing aid dealers. ORS 694 was amended during the last State legislative session and the reference to an audiometer was taken out of the definition of dealing in hearing aids. The word, "fitting," was also dropped from the definition. The purpose of these changes was to make the law clearly a registration act for the commercial aspects of hearing aid sales. Incidentally, there is absolutely no requirement in our statute stipulating that the hearing aid dealer use an audiometer or any other specific test instrument to evaluate hearing. We are not aware that the dealer has legal or any other status relative to audiological testing and it was surprising to hear of the suggestion to the Subcommittee that the Oregon law implies that individuals who pass the examination are fully competent to administer audiological tests. Although it is true that the dealers must demonstrate some basic knowledge of audiometric testing during their qualifying examination we have not known that this has had any implications in terms of an impression of highly skilled professionalism in audiologic testing. If this were the case an attempt would be made to modify the situation.

Many dealers possess audiometers and other types of test equipment some of which is sold by the hearing aid manufacturers and used in hearing aid promotion and sales. It has been noted that some of this equipment is of poor quality and calibration checks would be of little value in establishing its adequacy. The fact that the equipment was checked by an official agency might well infer some qualitative aspect which may or may not exist. It would seem that the checking of equipment would do more to give the dealer the cloak of professionalism in terms of audiologic testing than any single function short of legislative definition.

Please feel free to contact our office if you need additional information.

Sincerely yours,

DUANE ANDERSON, D. Ed.,
Administrator, Hearing Aid Program.

OREGON STATE BOARD OF HEALTH,
Portland, Oreg., September 28, 1967.

DEAR SENATOR WILLIAMS: Your letter inquiring about Oregon's legislation regulating hearing aid dealers has been referred to our agency for reply. As you may know, the statute was passed during the 1959 State Legislature and the law was implemented by the Oregon State Board of Health beginning January, 1960.

In your first question you asked if the number of complaints against dealers has been reduced. The best answer to this question comes from Mr. Robert R. Blyth of the Portland Better Business Bureau who stated, "As discussed in our telephone conversation of this date I wish to advise that since the passage of legislation relative to hearing aid dealers and hearing aid salesmen our over-

all complaint volume in this category has dropped some 80 to 90%. Objectionable and 'bait' advertising has also been practically eliminated". Mr. Blyth's statement also answers your sixth question on advertising of hearing aids. Currently, our agency receives about two or three complaints each month concerning the sale of hearing aids by registered dealers. In most cases these complaints are not covered by our statute and the complaint must seek advice from his legal advisor. A surveillance of advertising practices is made through a state-wide clipping service. Any questionable advertisement which is reviewed by this office is then discussed with the responsible dealer. In almost all situations the dealer cooperates by making the necessary adjustments or modifications in his advertising.

In your second question you asked how this legislation has been received by the dealers. It was reported that during the passage of the bill and its first year there was great deal of negative feeling on the part of the dealers. In the last few years, however, most of the dealers feel very comfortable with the legislation and will generally prefer it over no regulation. A copy of an independent survey of the Oregon dealers is enclosed for your information.

In reply to question three we would not try to hazard a guess on the increased competency of Oregon's hearing aid dealers. We would say that the gross lack of knowledge of those who are taking the examination for the first time is sometimes appalling. It is assumed that those who do pass the examination are more competent than those who do not.

In question four you asked what percentage of applicants passed the qualifying examination. Currently, we find that thirty to forty percent of the individuals who take the examination pass. Each dealer can hold a temporary certificate up to sixteen months and in that time can take the examination three times. Only about two to three percent of the dealers fail to pass the examination on the third time; therefore, very few dealers have ever been excluded from continuing in the business of dealing in hearing aids in Oregon.

You asked if the Advisory Council has been requested to recommend specific improvements in testing or other procedures for hearing aid dealers. The Advisory Council members have been invited to observe the examinations and other aspects of the administration of the Hearing Aid Law. To date, we do not recall any specific improvements in testing recommended by the Council.

The volume of hearing aid sales was claimed by the industry to be markedly reduced immediately following the passage of the hearing aid law. Their figures may be somewhat misleading as other individuals have stated that this reduction in sales reported by the industry was not valid. Most Oregon dealers would concede that the legimate business man who operated in an ethical manner had no decrease in volume as a result of the hearing aid regulation.

In question eight you inquired about the periodic inspection of testing equipment. Although provisions were made for this inspection, we have not carried on any specific type of program designed to inspect the equipment of the hearing aid dealer. There are several reasons for this: No. 1—the law does not require that a dealer use any type of audiometer for the purpose of evaluating the hearing aid in preparation for the sale of a hearing aid. No. 2—numerous individuals travel and carry on their sales on a door to door basis and, therefore, a sales office is not maintained which would make it difficult to carry out a calibration check.

For your information we are enclosing two reprints which should answer many of the questions that you may have concerning Oregon's Hearing Aid Law. If you have additional questions please feel free to contact our office.

Sincerely yours,

DUANE ANDERSON, D.Ed.,
Administrator, Hearing Aid Program.

THE HUDSON GUILD,
New York, N.Y., July 26, 1968.

DEAR SENATOR CHURCH: I am sorry that we are unable to provide specific information for your study on *hearing problems of the elderly.* We have not concentrated in this area and as a result can only provide very general information.

Hearing care is not a priority with our older people and we do not often hear people say that they are going to have their hearing tested or their ears examined. This may be because there is little effort directed toward informing the older public of the need for periodic examinations as there is toward the need for

eye examinations for glaucoma or cataracts for example. Even though such examinations are necessary because of wax accumulation which may accompany progessive hearing loss, as well as diseases which affect the middle and outer ear. Or it may be that hearing loss is not considered as serious a handicap as blindness or that hearing loss is considered one of the normalities of old age.

We have found that older people have difficulty admitting their own hearing deterioration. As a result, many slowly withdraw from Center activities. I believe also that staff has difficulty relating to those with hearing loss. It is easier to smile than to go through the difficult business of making oneself understood in everyday amenities. So staff, in a sense, helps those with hearing loss to withdraw.

We have one very intelligent member with severe hearing loss who refuses to wear a hearing aid because he doesn't want to wear the cumbersome appliance and because he doesn't want people to pity him. Others don't wear hearing aids because they are so expensive, ranging in price from $175 to $300. Others don't feel hearing aids help them to hear better even if the sound is turned up because they haven't had the re-training often necessary to help them discriminate between sensory and audial perceptions.

Your letter to us has certainly helped us to consider the need for further work in this area such as: encouraging regular hearing check ups; helping our older population to determine the correct followup care required after a hearing aid is purchased; and information about what is reliable care. I would think that such a program is important to consumer information programs for senior citizens.

There is no central hearing aid advertisement and production control to insure safety and reliability. There is a bill HR 10726, introduced as an amendment to the Federal Food, Drug and Cosmetic Act of June 8, 1967 which has been referred to the Committee on Interstate and Foreign Commerce. The bill requires premarket clearance of medical devices intended to be secured in a body cavity, and which is intended to be left in the body cavity for substantial periods. We would encourage the sub-committee's support of this legislation.

Of further interest to the Committee is that under present law, expiration dates are not required for most over-the-counter and prescription drugs. Expiration dates are required for all anti-biotics and some new drugs. As you are aware, this can be a real problem for elderly people, many of whom are dependent on these drugs. Too, most druggists do not indicate the dosage instructions on refills of drugs. Older people on maintenance drugs who receive refill after refill and who may have several drugs very often forget the instructions for proper use. This problem is serious for any older person but can be dangerous for those who are beginning to deteriorate.

We hope that this information will be helpful to the Sub-Committee on Consumer Interests of the Elderly.

Sincerely,

PATRICIA G. CARTER,
Director, Consumer Education Project for Older People.

PILGRIM TOWER,
PILGRIM SENIOR CITIZENS HOUSING DEVELOPMENT CORP.,
Los Angeles, Calif., August 8, 1968.

DEAR MR. CHURCH: *In replying* to your letter of July 15, 1968 and especially to the questions which you listed:

1. Our reasons and purposes for the need of a #202 Project primarily for deaf people:

a. Isolation, loneliness, unable to socialize with hearing neighbors, because of lack of convenient means of communication.

b. Poor invironment in which many deaf people are living with no concern or protection for them in their deafness in case of emergency.

c. The need of keeping contact with them to help and advise with problems as they are scattered all over the greater Los Angeles area, too much time is consumed in travel time to makes calls—now will have 100 to 125 under one roof. They are in constant need for help and advice on Social Service problems.

d. Special innovations:

1. A manager and custodian who is hearing but proficient in sign-language communication.

2. The use of light signals i.e. door bell lights; signal lights to and from the manager's office to each individual apartment, all emergency warning signals by lights instead of sound.

3. Closed circuit television whereby sign language messages can be sent from the office to TV sets in each apartment on a separate, or selected channel.

The light signals and T.V. communications are a substitute for phone communication.

There must be sign-language communication supplied to the manually communicating deaf wherever possible to help them understand many of the forms, questionnaires etc. which they must fill out for assistance in programs.

2. We have received inquiries from a group in New York and another group in Texas to cover an eight state area, who wish to construct similar projects for the deaf. We hear rumors of interest in the San Francisco-Oakland, Calif Bay area, who also wish to build such a project.

3. The answer to question number 3 is "No." We leave the prevention of deafness, and for its cure to the Medical and Neurological professions. The "Hear" foundation is doing research work to obtain more information on the hearing apparatus with aid to these goals in mind.

4. To make these type units more practical, we suggest close supervision to see that the light signaling systems, are of the correct kind and intensity and that the architect fully understands their use and purpose. Our experience showed a lack of imagination and true understanding by the electrical engineering dept. to give us what we wanted. As a result, these features which we had planned were not in the project or not usable.

Also, we find that the lounge or recreation area is a much used area by the deaf and should be large and adequate enough to accommodate the number of deaf tennants. There should also be adequate office space provided for interviewing and for counselling. The business office is not suitable unless it is large enough and has privacy.

In general, deaf people need help in understanding the different programs in which they may be involved. This is also true of hearing people. There is difficulty in making decisions, because of lack of knowledge and understanding of the programs for elderly. For the deaf, more interpreters are needed to be involved in helping to fill this lack of understanding of programs and written forms to which they must give reliable answers.

Sincerely,

ARNOLD T. JONAS, *Chaplain.*

AMERICAN ASSOCIATION OF RETIRED PERSONS,
NATIONAL RETIRED TEACHERS ASSOCIATION,
Washington, D.C., July 15, 1968.

DEAR SENATOR CHURCH: Since Cyril F. Brickfield, Executive Director, National and International Affairs, is on vacation, it is my pleasure to respond to your inquiry of July 3, 1968, regarding "Hearing Loss, Hearing Aids, and the older American".

We are providing, as fully as possible, the information you have requested and offer our fullest cooperation to your Subcommittee in connection with the scheduled hearings on this subject.

As you are aware, in 1962 AARP–NRTA entered into an agreement with Dictograph Products Inc., manufacturer of Acousticon hearing aids, to provide certain Acousticon models to members at a price substantially below the manufacturer's suggested retail price. Unfortunately, this arrangement was found to be unsatisfactory, and the agreement was terminated by AARP–NRTA in the Fall of 1965. The agreement was terminated because it generated a substantial number of problems concerning members' dealing with local Acousticon hearing aid dealers. It was impossible for our Association to resolve these problems at the national level.

We do have on file correspondence received from members relating to the arrangement with Acousticon and also a few relating to members' dealing with distributors of other hearing aids. Copies of some of these are here in Washington, but others are in our Long Beach, California offices. We are presently consolidating our files and will make available to the Subcommittee copies of pertinent letters upon request.

AARP–NRTA does not have available any scientific research data relating to the subject of your investigation. We do receive many letters per week concerning the need for adequate hearing aids at reasonable cost.

Although we have been approached from time to time by other hearing aid companies offering similar programs, we do not have any present plans to reinstitute a national hearing aid program. This decision is based on our belief, which also bears on the relation of Medicare and other federal programs to this problem, that there is inadequate control exercised by hearing aid manufacturers over the marketing practices of their dealers and an unwillingness by manufacturers to accept responsibility for such practices. Therefore, we do not believe we would be able to enter into such an arrangement with the necessary assurance that our members would be treated in a way which would not tend to discredit our associations.

As I am sure you are aware, the marketing of hearing aids is generally accomplished through franchise arrangements between manufacturers and local dealers. Although these franchise agreements may provide the manufacturer with broad legal authority to control the marketing practices of local dealers (See: *Kahn* v. *Maico Co.*, 216 F. 2d 233 (4th Cir. 1954)), it appears that in practice many manufacturers disclaim such authority and refer customer problems back to local dealers for satisfaction. Dr. Andrus' testimony in 1962, to which your letter refers, contains this language from an industry spokesman: "Since all of our dealers and distributors are 'free agents' in the true sense of the word . . .". While many of these "free agents" are unquestionably businessmen of the best reputation with sincere concern for those who seek their services, there appears to be an element whose business ethics and practices are, at the least, questionable.

Were such problems nonexistent, we would probably have few reservations about including the cost of hearing aids as a covered medical expense under Medicare or other federal programs. The high cost of hearing aids is a substantial burden on older persons, most of whom live on fixed incomes subjected to an ever-increasing inflationary spiral. However, we are concerned that inadequate industry policing may result in unethical hearing aid dealers reaping a windfall at the expense of older persons and the nation's taxpayers. Therefore, we can support a proposal to include the cost of hearing aids in Medicare or other federal programs only if the law is strictly drafted so as to eliminate the danger of abuse by the unscrupulous. I would also add that such support would be conditioned on approval of our Legislative Council which has not yet considered this specific issue.

There is great need for improved effectiveness in the consumer education area regarding the problem of hearing loss and hearing aids. We again call your attention to the problems outlined by Dr. Andrus in her testimony in 1962. At a minimum, consumers should be made aware of the following points:

1. Not all forms of hearing loss can be remedied with the use of a hearing aid.
2. Those affected with, or who suspect they are affected with, a hearing loss should obtain an unbiased expert opinion as to the extent and cause of hearing loss and whether it can be remedied by a hearing aid. Such an opinion is readily obtainable from a medical specialist and, in many communities, from non-profit independent hearing clinics.
3. The fitting of a hearing aid is a highly personalized matter, just like the proper fitting of eye glasses. Satisfactory results may take time and several visits to the dealer.
4. The pricing of hearing aids is often a question of "what the traffic will bear," and discounts and other promotional devices may be fictitious.

The above points and other appropriate information which may be developed should be made available to consumers through the widest means possible, including both government and non-government information channels.

We hope you will find the information provided herein helpful and that you will call upon us if we can be of further assistance. We recognize the serious hearing problems faced by many older persons and the difficulties they experience in seeking solutions to those problems.

Respectfully yours,

CARL ROBERTS,
Director, Programs and Research.

CENTRAL INSTITUTE FOR THE DEAF,
St. Louis, Mo., October 12, 1967.

DEAR SENATOR: Please accept my apologies for the tardiness of this statement regarding hearing aids for the elderly. I hope that it reaches your desk by October 16 as you requested.

To be a successful hearing aid user, whether he be young or old, the person must—

1. have a hearing impairment;
2. need a hearing aid;
3. select a hearing aid that enables him to hear better than he does unaided;
4. adjust to the aid.

The above four factors may appear, at first glance, to be quite elementary in nature and tell us nothing more than what all of us already know. Yet in my opinion, most, if indeed not all, of the problems we encounter in the area of hearing aids for the elderly are present because we either forget these factors or choose to ignore them. Permit me to elaborate.

The first two deal with hearing assessment, hearing evaluation and hearing aid evaluation. The person's hearing is tested, various test scores are obtained and someone must decide what they mean, in short he evaluates. It is an accepted fact that this is an extremely difficult process in the case of young children. What is not accepted so readily is that the process is perhaps just as difficult with the elderly. It is possible to test an elderly patient on two consecutive days and come up with two different sets of data, each of which might prompt the evaluator to make difficult recommendations.

Obviously the tester's skills and abilities are directly related to the number of times this ambiguity occurs. The person whose knowledge about testing comes from reading manuals and/or observing another work with patients on several occasions cannot be expected to be able to evaluate anyone's hearing. In all likelihood he will not be able to determine if the patient does, indeed, have an impairment much less be able to make appropriate recommendations regarding any type of rehabilitation, hearing aids included. On the other hand, the person who has considerable knowledge about the hearing process, worked with a variety of hearing impaired individuals under the close supervision of a skilled clinician, can be expected to accurately assess and evaluate a person's hearing abilities and disabilities and thus make appropriate rehabilitative recommendations.

The third factor deals with hearing aid selection. As you know, there is much disagreement about this, some believing that it is possible, others taking the opposite point of view. My own opinions are stated in the two articles sent to Mr. Gibbons on September 15, 1967, and I, therefore, shall not express them in detail here. I wish to point out, however, that even though I do not believe that "the current measures of speech audiometry are sufficiently reliable for hearing aid selection," they do offer much information regarding the need for amplification, and when used by the skilled clinician they enable him to make a number of judgments concerning the needs of the hearing impaired individual relative to a hearing aid. Information, such as the amount of power the patient needs in an aid, maximum acoustic output, whether an air or bone conduction aid is necessary, in which ear an aid should be worn, whether it must be body-worn or can be of the ear-level type, to name a few, can be provided with the use of current materials.

The fourth deals with rehabilitation. The patient who understands the limitations of his instrument (and there always will be limitations) and learns how to use it appropriately, will probably be a satisfied user. The person who expects perfection either because he was led to expect it or he was not informed of the true facts will probably not like his aid and ultimately put it to rest.

The above information, I believe, answers most of the questions you raised in your letter of September 29, 1967, but permit me to react to them individually.

Q. 1. Do I hold that the use of speech audiometry by hearing aid dealers is subject to the same limitation? Do I see any dangers in the use of such test methods?

A. I do not believe that many hearing aid dealers are abut to accurately assess hearing. Most do not have the knowledge and/or the equipment to do this. Current materials must be used with equipment in sound-treated rooms that are rarely found in hearing aid dealer's offices. The information obtained with these materials in unsuitable acoustic environments or with poor equipment, is of no value

whatsoever. The danger lies in arriving at the wrong conclusions, and therefore, making inappropriate recommendations.

Q. 2. Would it be helpful to the clinical patient to have available reference specification data illustrating the characteristics, performance and potentials of each hearing aid line, at least on the basis of the information in our article's Appendix C Check Sheet?

A. Without an explanation of what this information means, definitely not. Even with an explanation I question that the information would prove beneficial. The real purpose of our check sheet is to provide information to the dealer; what, in our opinion, the patient needs in an aid and to also give him some information about the patient's hearing impairment.

Q. 3. Can I explain why hearing aid dealers are not using our clinic facilities more than they had previously?

A. I believe that the reasons you cited in your letter are probably the most typical ones. Another reason, I suspect, is that many hearing aid dealers do not wish to chance losing a sale. There is always the possibility that the clinic will not believe an aid is warranted, and thus advise against its purchase.

Q. 4. Prior to this particular study, what percentage of the local hearing aid dealers ordinarily used the facilities of the clinic?

A. I am unable to answer this question. We did not keep the type of records that would make this information readily accessible.

Thank you for your interest in my opinions, and I sincerely hope the above proves to be of value to you.

Sincerely,

IRVIN SHORE,
Director of Hearing Clinics, Coordinator of Clinical Services.

SIEMENS MEDICAL OF AMERICA INC.,
HEARING INSTRUMENT DIVISION,
Union, N.J., November 14, 1967.

DEAR SENATOR WILLIAMS: We appreciate the opportunity to react in response to your letter of October 26, 1967. I particularly, since having the opportunity to meet you and hear you as a speaker at the Eastern States Convention of Hearing Aid Organizations in Atlantic City in 1965.

Siemens Medical of America located here in Union is a Company distributing its manufacturers products in the United States. Over the last five years we have produced and distributed two types of eyeglass hearing aids, one model 343 and other model 349, as well as the following models of the behind-the-ear or post-auricular instruments, model 341, model 345, model 346T, model 347 AVC, model 348 FF, model 354, model 370, model 371 F, model 372 AVC, model 373 CC/1, model 373 CC/2, model 374, and model 360. And also four models of the conventional body type model 324, model 357, model 358, and model 335. In the last year we have introduced one all-in-the-ear insert type instrument model 339.

The wholesale and retail prices of all of these instruments are very consistent and the wholesale range between $95 and $119 giving the dealer an approximate 20% discount in the way of the bonus instrument in the event he purchases five instruments in the previous calendar month. The retail suggested list price ranges between $339 and $349 which gives the volume dealer an approximate $230 profit if he supplies the ear mold which he fabricates and does not take a trade in or give a discount.

We work primarily with the non-exclusive dealer and we furnish no exclusive franchise agreement since this is generally in conflict with the Federal Trade Commission laws. However, we do maintain a gentleman's agreement with many dealers who hnadle our products on a regular basis. We do not sell directly to the consumer, but we do sell to the states agencies such as purchased through the states bodies, such as crippled children's, welfare organizations, U.S. Government Veteran's Administration, etc. Outside of those specific cases, which are few, we supply only to the recognized hearing aid dealer.

In the last few days the Hearing Aid Industry Conference has produced a pamphlet entitled "Legislative Information." The pamphlet contains both pro and con on the subject of Hearing Aid Dealer legislation. If you would like to have a copy I would be glad to provide it for you.

Our personal thought is affirmative in the area of the need for a legislation which would not only protect the public against unscrupulous dealers, but protect the dealer against himself as well as the alleged eleemosynary organizations.

I will gladly supply any materials or contribute any time necessary to the best interests of your committee and you may count on my personal support in anyway whatsoever.

Sincerely,

J. BYRON BURTON,
General Manager.

ALEXANDER GRAHAM BELL ASSOCIATION
FOR THE DEAF, INC.,
Washington, D.C., August 23, 1968.

DEAR SENATOR CHURCH: Thank you very much for your letter of August 16, 1968, inviting us to submit a statement by August 25 to be included in the printed hearing record.

I enclose a statement by Joseph E. Wiedenmayer, a member of my staff, who is a long-time hearing aid user. I hope Mr. Wiedenmayer's remarks will be helpful to your committee.

Sincerely yours,

GEORGE W. FELLENDORF,
Executive Director.

[Enclosure]

STATEMENT BY JOSEPH E. WIEDENMAYER, SPECIAL ASSISTANT, A. G. BELL ASSOCIATION FOR THE DEAF

I respectfully submit for the record my statement as an older (age 63) hearing aid *wearer.*

Mr. Chairman, to introduce myself to you, I was born hard of hearing; my hearing loss was progressive over the years until I was unable to hear any speech sounds—in either ear—without a hearing aid in my better ear. About 1910 or so I tried ear trumpets without benefit. I have worn hearing aids since the 1920's.

Despite my hearing impairment I served about 22 years as a career Foreign Service Officer of the Department of State. Upon retirement in 1965 I joined the professional staff of the Bell Association.

Mr. Chairman, hearing aids made my life full. Were it not for the development of and the continuing advance in the production of hearing aids, people like me would have been obliged to live a life of isolation. Certainly, I could never have entered and remained in the Diplomatic service.

With that background, I wish to state that I have found through the years that the vast majority of earing aid dealers are scrupulous. But as in any business there is a minority of people who are either unethical or unknowledgeable about the problems and true needs of older hearing impaired persons. Conversely, there are dealers who will *not* recommend or sell a hearing aid to a person whose loss is so mild that he doesn't really need a hearing aid yet.

All hearing impaired people should always obtain an audiogram before they purchase a hearing aid.

To an increasing extent hearing aid "consultants" are becoming educated in the field of audiometric testing through the efforts of the industry and State hearing aid dealer associations. Such education is of very great importance to the hard of hearing.

The older person, who becomes hard of hearing rather late in life, knows virtually nothing about the proper use of his first hearing aid. Nor, does he know all the many things that he and his relatives and friends can and should do to supplement his understanding with a hearing aid.

The older hard of hearing person needs to understand very much more about adjusting to his hearing impairment and as well as to his hearing aid—than can be provided today by the busy hearing aid dealer. These older people often need continuing consultation with knowledgeable and experienced persons, because part of their problem is psychological—not the hearing aid.

These people need to be reached and informed just where they can obtain such guidance and encouragement so that they *can* utilize *all* available resources.

TAYLOR HEARING SERVICE,
Salt Lake City, Utah, July 16, 1968.

DEAR SENATOR CHURCH: Only today did I notice in the CR of 2 Jul 68 that a hearing will be held on "Hearing Loss, Hearing Aids, and the Older American" on 18 Jul 68. Thereby, this very hastily contrived effort and epistle. I testified on 19 Apr 68 at the Kefauver investigation into hearing aid prices. I would appreciate very much having this letter read at your hearings and to also have this letter in exhibit as a part of the hearings record.

The untimely death of the great Senator Estes Kefauver precluded any corrective legislation to result from his investigations. It is to be hoped that the hearings to be held by your committee would eventuate into actions so necessary to protect all hearing impaired persons. State licensing is finally coming about but federal legislation is requisite.

The prices of hearing aids are still out of reach of the majority of hearing impaired persons. More publicity should be given as to what constitutes the makeup of the profit margin grosses. There would be less "salesmen's" commissions paid out if people realized that a major factor in pricing is sales promotions and not quality. More people would be inclined to visit offices if they realized that "house" calls *added* from $75.00 to $125.00 to their costs of hearing aids.

Bait advertising is still the mode for luring the hearing impaired. The accompanying advertisement enclosure * is a sample ad that has a tendency to mislead the majority of hearing impaired persons. Most "all-in-the-ear" aids are for use in very mild hearing loss cases—*if* the aids can serve these cases at all. Most mildly impaired persons are not very good prospects for prosthesis of this type since most prefer to get "along". The ad should advise that this type aid is currently for the very mild loss cases.

"Hear but do not understand" ads also are misleading in that the ad leaves the impression that all that is necessary is the aid itself when in fact auditory re-education is the prime requisite. Advertisements appealing to the logic of better hearing would eventually be more effective in convincing the hearing impaired persons to resort to the immediate use of hearing aids.

Government agencies have been misled by those attempting to establish themselves as audiologists. Government literature advising that hearing impaired persons visit so-called "Hearing Aid Evaluation" centers for hearing aid selections are guilty of misadvice—in fact, bad advice. I have not known of one audiologist who can prove that a certain brand and model of hearing aid can do more for a given individual than another brand and model hearing aid—quality for quality. "Hearing Aid Evaluation" centers perpetrate and perpetuate a fraud. This has been so since their establishment in the late 40s.

All hearing interpretation results from within the brain centers of the individual. Many factors including age; duration and type and degree of loss; mental, physical, emotional attributes of the indiivdual; listening opportunities all have a bearing on the interpretive skills of the hearing impaired persons. Brand has absolutely nothing to do with this skill. The hearing aid is only an amplifier. What the person does with the sound coming to his brain is one of training and practice . . . and more practice. The best authority on this (of those who have studied this problem) is Dr. Victor L. Browd, New York, and author of the book—"The New Way to Better Hearing—Thru Hearing Re-Education."

Among other things, federal legislation is necessary to require manufacturers to accept for repairs hearing aids (of their manufacture) sent by dealers other than franchised holders. The manufacturers of the following brands—Beltone, Maico, Sonotone, Zenith—have refused to accept hearing aids of their manufacture from other than their franchised holders. This makes the user-owner of the hearing aids "captives" of the franchised dealers regardless whether the user-owner wishes to continue relationships with the dealers for whatever reasons.

There are many other considerations which the committee should make inquiries about but time is of the essence and this letter should be mailed at the earliest time in order to arrive in your hands in time for the hearings. This letter is a first draft and has had no corrections.

Sincerely,

SAMUEL S. TAYLOR.

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*Retained in committee files.

STATE OF CALIFORNIA,
OFFICE OF THE ATTORNEY GENERAL,
DEPARTMENT OF JUSTICE,
CONSUMER FRAUD UNIT,
Los Angeles, March 8, 1968.

Re hearing aid sales.

DEAR SENATOR WILLIAMS: For the past six months we have been investigating the sales of hearing aids to the elderly in this state. Several cases have been brought and we are about to file a complaint for an injunction against a company operating in Southern California. However, we have been faced with several problems:

1. We do not have any specific legislation in regard to the hearing aid industry.
2. There is no licensing of hearing aid salesmen.
3. The complaints have come from elderly customers who often make poor witnesses in court.
4. In many instances there is no outright fraud; there is only intensive high pressure on elderly customers who are susceptible to such pressure.

We believe that certain methods of selling involve acts constituting the practice of medicine under the present California law and in our proposed injunctive action we are pursuing that argument.

There has recently been formed a committee to discuss the proposal of corrective legislation. In that regard the material you sent to us last September will be of considerable assistance.

We would be happy, at any time, to share with the Federal Trade Commission or with your special committee, any material we may discover which would be of interest to you. Unfortunately, the Federal Trade Commission has a policy of not sharing with us any material other than that which has been made public in various reports. The congressional reports are, therefore, quite helpful.

We greatly appreciate your assistance in these matters.

Very truly yours,

THOMAS C. LYNCH,
Attorney General.
(By) HERSCHEL T. ELKINS,
Deputy Attorney General.

STATE OF NEBRASKA,
DEPARTMENT OF JUSTICE,
Lincoln, July 8, 1968.

DEAR SENATOR CHURCH: You have requested that we make additional commentary upon remarks in our September 15, 1967, letter to Senator Harrison A. Williams, your predecessor as Chairman of the Subcommittee on Consumer Interests of the Elderly. You particularly request an elaboration of our views on the role of the states in the regulation of the hearing aid industry.

The states cannot, generally speaking, regulate a whole industry by themselves, for the obvious reason that the states cannot regulate the interstate flow of the subject product. The states are especially limited in their actions concerning the manufacturing processes conducted in foreign states. The manufacturing process itself, therefore, can be regulated only on the federal level.

Similarly, the product itself cannot efficiently be regulated on the level of the individual state. If each state were to provide individual standards for hearing aids, without assurance of interstate uniformity among these standards, competition in the field could be adversely affected. Presumably, some interstate agreement could be reached to provide uniform standards, or federal standards could be enacted, with acceptance thereof by the state for state purposes. Either of these alternatives has substantial merit and precedent.

The states can probably make their greatest contribution through their proximity to the final link in the chair of product dissemination. If a consumer is injured by his purchase of a product—whether the product itself is defective, or the sales techniques are fraudulent—his first and easiest audience for a complaint is with the local and state officials. For this reason, efficient and prompt enforcement can probably be achieved most readily if the states are relied upon in those areas where they can function properly.

The states can be most effective in the regulation of the retail sale and installation of hearing aids. Granting the federal assurance that the product itself is acceptable the hearing aid purchasee will still not be protected unless the seller has the technical ability to determine the need and suitability of a hearing aid.

The states, through possible licensing laws, would be in the best position to regulate this facet of the problem.

Even in the area of vendor licensing, the federal government might not be without a role. First, federal advice might be of value to the states in determining the proper standards to be required in establishing state licensing procedures. Some uniformity in state standards would seem especially desirable to the two comments which we shall make below.

A second role of the federal government in the licensing of hearing aid vendors might be as a liaison agency among the states. A given hearing aid vendor found by one state to be operating illegally can easily move to another state. Unless the new state has a complete source of information concerning the operator, the new state may well issue him a license, with resulting problems to its consumers. Such informational liaison could be performed by joint action of all the states, but experience indicates that such procedure often becomes inefficient and ineffective.

As a support to state licensing procedure, consideration might be given to the federal restraint of unethical dealers. Once one or more states have found a given dealer to have operated adversely to the public interest, that dealer's current or prospective activities in sister states should be reviewed and enjoined, if such action is considered proper.

A rather tenuous, but no less real, problem to the regulation of retail vendors is the necessity to prevent the improper coercion by manufacturers and distributors of their dealers. Although we are not familiar with practices in the hearing aid industry, experience with other industries, particularly the motor vehicle industry, suggests that unethical conduct on the part of the retail dealer can result quite directly from the pressures upon him from his manufacturers and suppliers. Sales quotas, advertising allowances, bonuses, etc., reward the dealer for quantity of sales, with less exclusion of consideration for the quality of sales practices.

As an example of the above problem, in some industries, the retail dealer may lose his "franchise" unless his sales meet the manufacturer's or supplier's expectations. Thus, the retail dealer, in order to protect his investment, must either attempt to make sales regardless of the need of the consumer, or he must risk the loss of his own business. Such dilemma forces the dealer to abandon the objectivity which is particularly essential in the area of "health" products such as hearing aids.

Agencies involved in the regulation of product sales often face the above problem, and the consumer problems which arise from it. Theoretically, the dealer is free to negotiate the terms of the agreements with his supplier or manufacturer. All too often, however, that freedom is one only in theory. The dealer, with limited assets, has no effective bargaining power—he accepts the terms of the supplier or manufacturer or he forfeits the "franchise." Even changes in contract provisions may be imposed against his free will.

Franchises should not be subject to undue regulation by any governmental agency. At the same time, however, effective regulation of an industry virtually demands that the internal stress of an industry be not such as to precipitate substantial consumer injury. Because franchises involve interstate agreements, the states are generally powerless to regulate them.

Only the federal government has the interstate power to regulate franchises. This franchise relationship, however, is often ignored as a cause of consumer problems.

The nature of the franchise problem is extensively discussed at Macaulay, "Changing and Continuing Relationship Between a Large Corporation and Those Who Deal with It: Automobile Manufacturers, Their Dealers, and the Legal System," 1965 Wis. L. R. 483–575, 740–858 (Summer and Winter, 1965).

To summarize, we would suggest that the following might be a possible outline of the regulation problems in the hearing aid industry:

I. Federal dominance.
   - A. Specifications of manufacturing standards.
   - B. Specification of product standards.
   - C. Supervision of franchise agreements.
   - D. Liaison for information concerning retail operators.

II. State dominance.
   - A. Regulation of retail operators.
   - B. Enforcement of product standards as adopted by the state.

Because of the need for both state and federal jurisdiction to regulate an industry, any federal legislation should carefully recognize the role of the states

to legislate upon, and enforce, matters in the industry. Every attempt must be made clearly to prevent any possibility of federal preemption of the industry. Although concurrent jurisdiction poses certain obvious problems, we would submit that the shackling of state officials is no less a problem. Unless clear state jurisdiction is permitted for the regulation of the whole of an industry, notwithstanding federal provisions, the state may be left with the difficult, or even impossible, task of defining the limits of exclusive jurisdiction. In many situations, such as the franchise problem we have mentioned, the limitation of state jurisdiction erects barriers meaningful only in law, and without a real relationship to the facts involved.

We know of no proposed state legislation concerning hearing aids. The Nebraska Legislature does not meet until January, 1969, however, and legislation might, of course, be introduced at that time. Dr. Thompson, Director of the Nebraska Department of Health, advises us that he knows of no legislation under consideration on the problem. He, a hearing aid user himself, expressed interest in the matter, but would reserve support for state legislation until such time as truly effective legislation would be drafted.

Although our comments above are rather general, we hope that they may be of some assistance to you and to your subcommittee.

Yours very truly,

CLARENCE A. H. MEYER,
Attorney General.
CALVIN E. ROBINSON,
Assistant Attorney General.

STATE OF NEBRASKA,
DEPARTMENT OF JUSTICE,
Lincoln, September 15, 1967.

DEAR SENATOR WILLIAMS: You have asked our office for comments on our experience regarding the licensing of hearing aid dealers. We shall attempt to give you a few of our observations on this specific problem, and upon regulatory agencies generally. Nebraska has no law regulating the hearing aid industry, nor does our office have knowledge of any particular problems in this state regarding the sale of hearing aids. Therefore, our comments must be quite general.

There would seem to be two principal problems involving the sale of hearing aids. The first involves the quality of the hearing aid itself; the second is the qualifications required for a competent hearing aid fitter. We shall attempt to deal with these separately.

A hearing aid, as a piece of machinery, will have many characteristics—durability, amplification quality and quantity, price, etc. In order properly to appraise many of these, extensive testing would be required. To avoid undue expense and duplication of effort, this testing might be done by the federal, rather than the state government.

Our experience in attempting to regulate various businesses has met with mixed success, as have the attempts of other states. Where the states are dealing with an industry or profession which is purely local in nature, the results have been fairly good. Control over the legal and real estate professions is an example.

The farther the industry is from being purely local in character, the less effect state licensing laws may be expected to have. Interstate collection agencies, charitable solicitors, etc., are representative of areas which have been particularly difficult to reach by state action.

The hearing aid industry might have aspects of both interstate and intrastate control. The state could probably do adequately well in regulating those hearing aid dealers who have permanent places of business in the state. These dealers, however, are trading on their local reputations, and therefore, are for their own self-interest, fairly responsible in conducting their affairs already.

The hearing aid salesman who has no permanent place of business is able to sell an inadequate product at fraudulently usurious prices, discount the time-payment contract to a bona fide purchaser, and then leave the state. This type of dealer is especially difficult to regulate by the states, and is often the most disreputable of businessmen.

To summarize the above, it would seem that federal regulation of the hearing aid industry might be a prerequisite to any effective action by the states. Any

such action on the federal level, however, should be drafted to provide for concurrent action by the states to avoid the argument of federal preemption.

Yours very truly,

CLARENCE A. H. MEYER,
Attorney General.
CALVIN E. ROBINSON,
Assistant Attorney General.

NATIONAL BETTER BUSINESS BUREAU, INC.,
New York, N.Y., July 16, 1968.

DEAR SENATOR CHURCH: In response to your request for data on the hearing aid industry and the experience of older persons within the context of National Better Business programs, it is essential first to outline the scope and function of NBBB and to set forth the nature and limits of Bureau activity.

As has been presented to your committee in the past by our former President and other representatives, the National Better Business Bureau is a voluntary nonprofit organization dedicated to truth in advertising and fair business practice to maintain consumer confidence in selling representations by American industry. Founded in 1912, the National Bureau has promoted for well over half a century such concepts of ethical business behavior, through self-regulation. We firmly believe such conduct in the free enterprise tradition and public interest benefits both industry and the consumer.

Specifically, this organization serves business and media by factual reporting on claims and offers in advertising, either before or after publication, and by reports to consumers and other responsible inquirers as developed by independent investigation and reference to Bureau files. In addition, as a public service, the Bureau issues recommendations and guidelines relating to product advertising and, as needed, publicizes instances of improper practice or misrepresentation where voluntary self-regulation fails. The Bureau does not recommend or endorse nor does it deprecate or disapprove of products, persons or groups, but restricts itself to factual commentary, in the conviction that such information provides the inquirer with freedom of choice and personal judgment.

The National Bureau is concerned with advertising of a nationwide or extensive regional scope. It is associated, through the Association of Better Business Bureaus International Inc., with about 150 local Better Business Bureaus and their branches in the United States and abroad. Cooperative and information exchange relationships are actively maintained with local Bureaus in order to gain comprehensive and pertinent coverage. Local bureaus operate in similar fashion, but necessarily concentrate on retail activity in the metropolitan areas they serve.

This Bureau also conducts a consumer protection program for about 800 local chambers of commerce in communities not covered by local Bureaus. As part of its work, National takes part in collaborative voluntary enterprises, mainly through joint committees, with industry organizations, professional and technical societies, advertising and media groups. We share certain data with Government agencies, but do not engage in political or legislative activity at any level. Naturally, as your committee is aware, NBBB is pleased to answer requests from Governmental sources, within the framework outlined, regarding its experience in particular areas.

I. HEARING AID PROBLEMS

With respect to instruments, devices, sold to the general public as aids to defective hearing, files of the NBBB indicate that this Bureau and local bureaus have had a significant—but not overwhelming—number of cases involving essentially three types of problem or question:

1. Advertising claims, usually in print media, relating to performance, appearance, safety, scientific novelty and utility of various kinds of hearing aids;

2. Relationships between advertisers or dealers and customers or users regarding such advertising claims as well as matters of adjustment, applicability and repair;

3. Matters of selling and promotion, including inducements, referrals and exchange.

A marked copy of a presentation given last year at the Minnesota Conference on aging which discusses some of these points is enclosed*—#1.

As a matter of policy, NBBB does not attempt to make judgments regarding value or price of commodities or services unless these involve questions of fair representation, since each individual is best able to determine relative benefit and price in his own circumstances. Similarly, NBBB does not try to adjudicate between buyer and seller in a business transaction, but does urge the seller to consider the questions or complaints of the purchaser. We note these points solely for your information since they often arise, especially at the retail level, in connection with intended or actual purchases of hearing aids. It is our suggestion that your Committee, if interested in such matters, obtain relevant information from industry and other sources regarding prices and local transactions.

II. PUBLICATIONS

In view of the number of questions regarding purchase of hearing aids, the Food, Drug and Cosmetic Division prepared a brief statement for prospective buyers which was reproduced by the New York League for the Hard of Hearing (copy enclosed *—#2). A revision which will take into account some of the issues presented by more recently developed instruments and some suggestions submitted by the industry will be issued within the near future, applicable to media as well as consumers. Otherwise, we have not published any other general statements on the subject, but we do issue reports on specific firms (samples attached *—#3).

III. WARNINGS

The Bureau has not issued general warnings on deceptive or misleading practices but has made information available from time to time, to established media.

IV. ADVERTISING AND PRACTICES

It is our experience based on many years of observation of the industry and consumer correspondence, local bureau and media inquiries, that in the recent period the advertising of hearing aids has markedly improved, particularly on the part of large, reputable firms. Although this is a highly competitive, creative and growing industry serving not only older persons but a substantial number of younger individuals with hearing difficulties, that self-regulatory activities, governmental actions and, substantial critical publicity have apparently reduced the number and type of unsupported claims and offers which characterized national advertising a decade ago.

Despite notable improvement, especially at these levels, there is still some questionable advertising, mainly for so-called new concepts and discoveries. These are based either on the miniaturization and electronic applications and introduction of devices or the "eye-glass" feature.

It is understandable that persons will select "invisible" aids, even at higher prices, if they appear to serve as well or better. For example, the "in-ear" instruments, now produced by almost all manufacturers, with transistorized and simplified and smaller components, do not have the amplification, modulating and other capacities of the full-scale battery powered conventional aids. They are useful for the partially deaf or for those with mild or moderate impairment. But they are often advertised and sold as if they were essentially equivalent in all performance features. Efforts of the National Better Business Bureau, through voluntary negotiations with manufacturers, have resulted in qualification of claims by national advertisers which indicate the level and type of hearing deficiency for which such small devices are appropriate (Example attached *—#4).

NBBB has sought to demonstrate the advantage of proper selling to establish consumer confidence, since persons with hearing defects will generally require modifications, adjustments, new instruments and accessories over their remaining lifetimes.

The same "cosmetic" and appearance considerations have led manufacturers to produce and market aids which presumably do not require batteries or do not

*Retained in committee files.

use conventional batteries or components, again suggesting that they serve all types of defects. So far, NBBB knows of no scientific evidence that an aid requiring amplification can work without some power source. We request such advertisers to have clinical tests made on appropriate samples before such claims are made. We also consult with experts and review the technical literature as part of our investigation. It is the long-standing policy of Better Business Bureaus to request advertisers to provide evidence of performance prior to advertising through adequate research based on intended use, despite testimonials of satisfied customers or reasoning based on theory. When such evidence, is not provided, a periodical bulletin setting forth the circumstances may be issued—to advertising media. (Example enclosed* #5). If advertising is submitted, media have the benefit of Bureau investigations and conclusions. Similar statements are provided to consumer inquirers.

This Bureau receives approximately 25 requests for comment on advertising of hearing aids each year from media. Not all deal with issues of performance claims, which are handled as described above, i.e., by questioning the advertiser and conferring with experts and recommending modifications, if indicated. Some advertisements stress novelty or "new discovery"; other relate to special price or discount deals; and a few are based on disparagement or derogation of competitors rather than on the merits of the advertised instrument. In some instances, media appear to be interested solely in identification and consumer relations of the advertiser, who is often a local dealer. The principal concern of NBBB, as noted, relates to substantive or content claims, but relevant information is provided if available, either through prior contact or direct correspondence with the advertiser.

The major business, in terms of volume of inquiries, relates to inquiries and complaints by customers, evidently older persons, whose difficulty seems to result from (a) presumed improper initial fitting or adjustment, (b) alleged improper inducement to buy, (c) reported failure to correct or repair instruments, and (d) continued failure by the dealer to provide adequate devices, either because of alleged substitutions, breakage in shipment, delays in delivery, leads to apparent inability to get optimum performance. In addition, as earlier noted, problems of price, financial arrangements and contract terms are also cause for complaint.

It will be recognized that, for the most part, these are local matters which go to the essence of a retail transaction either with a dealer, a salesman who comes to the home, or an intermediate representative. The multiple sales and distribution practices of the industry, involving direct sales employees, franchisees, independents and representatives of each of these categories in various relationships, gives rise to many of the problems—older persons often do not know or understand the role of the person with whom they are dealing. The national manufacturer or advertiser, with whom this Bureau customarily corresponds, may have no knowledge, authority or responsibility in connection with the sale, exchange or repair of an instrument which bears his name (but is not necessarily assembled by him or repaired by an authorized representative).

V. CONSUMER EDUCATION

It is our understanding that the industry at the manufacturer as well as dealer level has, through appropriate trade and educational organizations, undertaken to meet many of the problems on a voluntary basis. The effectiveness and scope of these efforts are not known to NBBB in any detail, but it is evident that attempts are being made to understand consumer needs, to develop standards and to provide proper service. The NBBB encourages this approach.

This industry, involving a complex hierarchy from inventor to producer to distributor to seller and often back through retailer and repairman requires the utmost in self-regulation.

Education must be encouraged not alone for and to consumers but also for the dealers and media. Also, the industry advises that certain medical and health personnel who may be equipped to diagnose and treat hearing problems may not be familiar with aids and appliances.

Accordingly, a comprehensive education program is indicated for the profession, all branches of industry, the consumer and the media. This is a highly technical field which has the capacity to contribute great public service but can also create serious problems of misunderstanding and questioning of advertising and busi-

*Retained in committee files.

ness practices. Many of the problems evidently result from failures in communication rather than deliberate misrepresentation.

Since government now has a special stake in this area through contributions for payment of hearing aids for certain classes of older Americans, it should employ all possible means to encourage cooperative education and training and mutual efforts among all concerned.

VI. GOVERNMENT ACTIONS

It is not the province of NBBB to suggest that industry practices follow certain lines or patterns. In our free enterprise system, any proper and legal selling and merchandising method may be used. You inquire, Senator, regarding NBBB views on state laws for licensing of hearing aid dealers. This organization has no sound basis for judging whether such licensing, registration or certification by government is essential or desirable. It is recognized that the public interest and individual interests must be met, especially in the health field, but there are doubtless several suitable ways to insure adequate and safe service. So far, we cannot tell whether such laws or the FTC Trade practices have had any direct effect.

As a general comment, we believe that those who hold themselves out as providing a professional, technical or specialized service for persons suffering hearing loss or related difficulty, must be able to determine whether a defect exists, its general type and whether a hearing aid may be suitable for the condition. They should be able to make a proper initial fitting and adjustment, instruct the user, make necessary modifications and, when required, arrange for repairs and exchanges. In sum, dealers should have sufficient education, experience and training to meet the technical and personal requirements of a quasi-professional endeavor.

I trust that this discussion as well as the enclosed material will prove helpful to you.

Sincerely yours,

IRVING LADIMER, S.J.D.,
Vice President.

[Enclosure.]

[From the Service Bulletin, NBBB, February 1964]

[Reprinted with permission from the Fall issue, 1963, of Highlights Quarterly Bulletin, published by the New York League for the Hard of Hearing]

NATIONAL BETTER BUSINESS BUREAU OFFERS MEMO TO GUIDE PROSPECTIVE HEARING AID PURCHASERS

Because of the increasing number of individuals who have appealed for assistance in recent months after the purchase of unsatisfactory hearing aids from unauthorized dealers, the New York League for the Hard of Hearing is publishing a statement the National Better Business Bureau has recently prepared for prospective purchasers.

The memorandum seeks to guide the hearing disabled individual to competent medical care as the first step. Points to be considered when the purchase of a hearing aid is contemplated are clearly outlined to secure protection for the buyer and to lessen the possibility of hardships.

The statement was prepared by Irving Ladimer, Doctor of Juridical Science and Vice President of the National Better Business Bureau. Beatrice Henderer, Director of Audiological Services of the New York League for the Hard of Hearing, pointed out that the message well merited being called to the attention of the public.

The bulletin reads as follows:

"The purchasing of a hearing aid and auxiliary equipment is a highly personal matter. The need for and the use of a hearing device are based on a health or medical condition which may vary from individual to individual. Therefore the purchase must be made with extreme care. Such instruments, moreover, are relatively expensive and represent important financial investments for most people.

"In view of these factors, the National Better Business Bureau has prepared the following suggestions for consideration before the purchase of a hearing aid:

"1. Check the nature of the defect or impairment before shopping for a hearing aid. An ear doctor and/or your family physician should determine the nature and extent of the hearing loss or defect. This review will show whether the

hearing can be aided by a hearing aid; and if so, the type of hearing aid needed as well as other specifications required.

"2. Consider use and function before appearance. Do not be misled by advertising such as 'no wires' or 'no buttons.' It is of importance, first, to decide what the problem is; then, to determine how the hearing aid is to be used and finally, to concern oneself with how it looks.

"3. Be sure that the manufacturer is reputable. Hearing aids frequently must be modified after purchase as well as in advance. The company must be prepared to provide continuous service.

"4. Be sure that the company has competent company authorized representatives. The adjustment, the servicing, the replacement of parts and other accommodations must be done by persons who know the instrument and the problems of hearing.

"5. Check the guarantee. Such conditions may cover not only the aid itself, the period of the guarantee and the exemptions from it but also the basis of money-back, if available. The responsibility of the company, its business life, service and dealers must be considered since it is inadvisable to deal with a company which, although reputable, has no local facilities or agencies elsewhere. A person cannot be expected to stay without a hearing aid for long periods of time while it is 'in repair' or while it is damaged away from home.

"6. Hearing aids and equipment are usually sold through local stores. National companies may not be in a position to discuss or, guarantee the facilities and services of any agency, but they are responsible for the authorization and franchise of the dealer. It is therefore advisable to check with a local bureau or other local authority.

"Our experience indicates that attention to these points may help substantially in the satisfactory purchase of a proper hearing aid."

Miss Henderer pointed out that a qualified and reputable representative dealer of the manufacturer is the buyer's best safeguard. "Our files," she said, "show case after case of appalling difficulties suffered by people who did not know how to proceed. They simply walked into the first store and took whatever was offered to them.

"In one instance," Miss Henderer said, "an elderly woman was contacted by an unscrupulous dealer, who called for her in his own car, took her to his office for a hearing aid fitting. She paid cash for the instrument he recommended, but the results were poor. She wrote the seller several letters which he never acknowledged. When she went to his office, he was no longer there."

Miss Henderer warned that reports had been made to the League of instances in which buyers believed that they were purchasing a well-known hearing aid but were sold something else and were not told. These purchasers, unfamiliar with the identification of the aid, accepted the verbal statements of dealers.

"One client," Miss Henderer added, "was told by a dealer that unless she wore his hearing aid, she would be stone deaf in two weeks. As it turned out, the aid he sold her was unsuitable, and she could not hear with it."

To illustrate the hardships which await the unwary, Miss Henderer cited the following case history:

For three years, Mrs. Anna Fellows, 72, had carefully hoarded her change for the day when she might purchase a hearing aid. From her small pension check, she managed to take care of the rent for her tiny room, her small food bill, medical expenses and the necessities of life. By depriving herself of the few comforts she might have allowed herself, she managed to save $350 for an eyeglass hearing aid which, she thought, would bring her back into contact with people and destroy the barriers which isolated her from companionship.

Taking her cash in hand, she went to a hearing aid dealer and purchased the aid that the salesman told her was right for her. To her surprise, she did not seem to be able to hear much better with the aid. She thought that in time she might become accustomed to it.

When several weeks went by and she found that the aid did not help her to hear better, she tried to contact the dealer for assistance. She thought that perhaps the instrument could be adjusted so that it would be useful.

Mrs. Fellows never succeeded in reaching the dealer.

Finally, Mrs. Fellows wrote to the manufacturer of the aid. The company responded by telling Mrs. Fellows that she had purchased her hearing aid from a dealer who had no authority to sell that device. As a result of her action in making the purchase from an unauthorized dealer, Mrs. Fellows had no legal protection. Her savings were dissipated for a useless hearing aid.

SONOTONE CORP.,
Elmsford, N.Y., November 8, 1967.

DEAR SENATOR WILLIAMS: We are in receipt of your letter of October 27, 1967 wherein you refer to the hearing aid use study being made by the Subcommittee on Consumer Interests of the United States Senate Special Committee on Aging.

At the outset, let me state our appreciation for your comments regarding "the significant advances that have been made in research and technology in this field." In reply to your request for views on these developments, I am pleased to make the following statements and observations. As you recognize, there has been marked progress over the last three decades in providing better hearing through electronics. Progressing from the cumbersome large ear trumpet to bulky electromechanical amplifiers with high battery consumption—to vacuum tube amplifiers with increased amplification and frequency response with reduced battery size and consumption—and then to transistorized amplifiers with dramatic reduction in size and battery consumption—and now to the present day use of integrated circuits . . . is a historical tribute to the technical talents dedicated in the accomplishment of the foregoing advancements.

Speaking for our own company, we take pride in the original patenting of bone-conduction as a technique for improved hearing; we were the first to employ an automatic volume control in a miniaturized product; and we were also the pioneers in incorporating a hearing aid in a small enough package so that it could be worn off the body and behind the ear. We are particularly proud of Sonotone's achievement in being the first to utilize the transistor in a consumer product of any kind. We were commended by both industry and the government, and as to the latter, our performance records were studied by the military over a period of time so that military product innovations using the transistor could be adopted and accelerated.

The hearing aid industry has been a leader in the development of new components and new manufacturing and quality control techniques. There has been a continuous improvement in transducers, both microphone and receiver, contributing to improved sensitivity and frequency range, as well as reduced size. Circuit development has resulted in improved sensitivity, power output, frequency range, and tremendous reduction in battery power consumption leading to related materially reduced user operating costs. The use of printed circuit wiring, integrated circuits, special humidity treatment, improved platings and contact materials—have all led to greater uniformity, reliability and performance.

Research in materials and molding techniques has resulted in greatly improved custom molded eartips providing better hearing and comfort to the user. The industry has continued to use the newest electronic measuring and testing instruments and has developed special instruments as necessary to determine hearing aid characteristics and requirements as well as to measure hearing losses and select fittings.

It is our belief that the hearing aid industry has handled its responsibilities well, that is, to provide better hearing, by extensive research and development—continually pushing and extending the state of the electronics art.

In answer to your specific inquiries, I am pleased to present the attached information. As to Item 1, it must be kept in mind that the members of the hearing aid industry do not know the specific quantities of hearing aids manufactured by any particular company, and therefore we would appreciate withholding such information at present and until such time as it can be submitted under appropriate confidential restrictions. The answer to Item 2 is attached.

As to Item 3, all Sonotone dealers are Sonotone employees in their sale of our product and in this capacity act exclusively for Sonotone. They function primarily on a commission basis, which as to the preponderance of sales is 40%.

In answer to Item 4, we do not sell at wholesale, except on a contract basis with the Veterans Administration, but we do have a discount arrangement with various states and recognized charitable agencies.

For your information, the average Sonotone representative does not earn much more than the average skilled factory worker in the United States and as for Sonotone Corporation, its net earnings on its hearing aid operations are satisfactory but by no means excessive.

Sonotone has always recognized its social involvements and was the first to make a total study of what various legislative units were doing in the field of preventive deafness, particularly through school systems. The research findings were published in two booklets entitled "Conserving Our Children's Hearings"—

Part I and Part II. There was no reference whatsoever in these works dealing with the sale of our hearing aids and over 50,000 copies were distributed on request and at no charge. The motivation was expressed in my preface and as follows:

"Sonotone Corporation recognizes the social aspects of its activities but such awareness does not limit itself to amelioration through the use of a hearing aid—a fact that occurs after accident, neglect or circumstance has transpired. Rather, we seek to serve to the utmost in our endeavors as related to the full scope of the problem with which we are concerned.

"Thus this booklet, printed in two parts, is published as a public service."

Our State Department invited me to speak twice on the booklets' contents on the "Voice of America" program for two purposes—firstly, because of the merits of the subject matter and secondly, as an illustration of enlightened American business that is first dedicated to the public good, rather than to financial gain.

We commend you on your study but we hope that a small industry, beset by prejudice against the use of its product, and that has diligently strived, and at great expense, to educate those who need most what it has to offer, will not be a target by anyone who does not know all of the facts. Apropos of this point, let me say that Sonotone has for the past fourteen years offered throughout the United States, through its dealers, one thousand hearing aids a year free of charge to certified needy hard-of-hearing children. I have been most proud of the Sonotone dealers who have given of their time, effort and services, without any compensation whatsoever, to this worthy cause. Nevertheless, the pressures of prejudice during many of these years have made it difficult to find a sufficient number of parents who were willing to accept this humanitarian gratuity.

I trust that the above information will be of service.

Very truly yours,

IRVING I. SCHACHTEL, *President.*

[Enclosure.]

Instruments sold during the past 5 years

	Model and type	*Price*
22	On-the-body	$330
25	Behind ear	349
33	In-the-ear	319
35	Eyeglass	349
44	In-the-ear	290
55	Behind ear	249
70	Behind ear	329
72	Behind ear	349
75	Eyeglass	349
76	Behind ear	349
200	On-the-body	199
430	Eyeglass	349
600	On-the-body	359
600V	On-the-body	359
600X	On-the-body	379
300	On-the-body	359
300X	On-the-body	379

STATEMENT OF JOHN B. NAFIS, CHAIRMAN, ADVISORY COUNCIL, FLORIDA STATE BOARD OF HEALTH, FITTING AND SELLING OF HEARING AIDS IN THE STATE OF FLORIDA

In 1967, the Legislature of the State of Florida, passed a License Law pertaining to the Fitting and Selling of Hearing Aids. It is listed on the Florida Statutes under Chapter 67–423 and administrated under the Florida State Board of Health. Governor Claude R. Kirk, Jr. appointed a five man Advisory Council to assist the Health Department in the administration of this law. The appointments consisted of Three Certified Hearing Aid Audiologists, one Otologist MD, and one Clinical Audiologist.

My name is John B. Nafis, I was appointed to this Advisory Council on October 16th, 1967 and my term of office ends January 1st, 1971.

The Chief Health Officer of this state Dr. Wilson T. Sowder, appointed Dr. James E. Fulghum, as Program Administrator for the Board of Health, in charge of this program for the State Health Department.

The Purpose of this Law is as follows.

It requires registration for protection of the public of any person engaged in the fitting and selling of hearing aids, to encourage better educational training programs for such persons to provide against unethical and improper conduct and to enforce this part, and provides penalties for its violation. (468.121)

One of the unusual aspects of this law is the absence of any "Grandfather Clause" and because of this requires all individuals engaged in the Fitting & Selling of Hearing Aids prior to the effective date of this law, which was January 1st, 1968 to take and pass a State Board Examination within a period of two years, in order to test their knowledge or proficiency in the following.

#1. Basic physics of sound.
#2. Structure and functions of the hearing mechanism.
#3. Counseling of the hard of hearing.
#4. Structure and functions of hearing aids.
#5. Pure tone Audiometry, air and bone conduction.
#6. Live voice or recorded speech audiometry including speech reception, threshold testing and speech discrimination testing.
#7. Masking.
#8. Interpretation of audiograms and speech scores to determine hearing aid candidacy.
#9. Selection and adaptation of hearing aids and evaluation of hearing aid performance.
#10. Taking ear mold impressions. (468.127)

In answer to question one of your letter. "May we have a summary of major provisions with special attention to your requirements on audiometric examination before fitting."

May I respectfully call to your committee's attention Section 468.135 of our law, *Minimal Procedures and equipment*, which states in part the following.

The following minimal procedures and equipment shall be used in the fitting and selling of Hearing Aids.

#1. Pure tone audiometric testing by air and bone to determine the degrees and type of hearing deficiency. Effective masking.

#2. Appropriate testing to determine speech reception threshold, speech discrimination, most comfortable sound tolerance level and selection of best ear for maximum hearing aid benefit, etc.

#5. *Medical clearance:* If, upon inspection of the ear canal with an otoscope, in the common procedure of a hearing aid fitter, and upon interrogation of the client, there is any recent history of infection or any observable anomaly, the client shall be instructed to see a physician, and a hearing aid shall not be fitted until medical clearance is obtained for the condition noted. Any person with a significant difference between bone conduction and air conduction hearing must be informed of the possibility of medical correction.

In answer to question two of your letter. "If a large number of states do not pass similar legislation, will federal action of any kind be required."

I would like to state that I have been engaged in the fitting and selling of Hearing Aids, for twenty four years, and because of the outstanding accomplishments of the National Hearing Aid Society and their affiliate State Chapters, along with the continued and effective research and educational training programs of the Hearing Aid Industry Conference, I do not feel it will ever be necessary for Federal Action, now or in the future, regardless whether or not other states pass similar legislation.

At the present time the State of Florida has 359 registered fitters and sellers of hearing aids. On June 6th, of this year the first state board examination was held in Jacksonville, Florida. 126 Registrants took this first examination and 112 passed. This would indicate an 89% passing average. The next examination is to be held in Hollywood, Florida, in October of this year. At the present time we have 25 people on a training program. It is estimated that a minimum of 40,000 hard of hearing people are consulted with annually each year in this state.

To this date, we have not received the first consumer complaint under this new law. At the present time we have one Unethical Conduct Complaint. (Dealer vs. Dealer) and it is now pending legal interpretation by the legal staff of the Florida State Board of Health.

I trust my remarks may be of interest to your committee, if I can be of service to them in the future please do not hesitate to call on me. Thank you.

STATEMENT OF MYRON CAINE, CHAIRMAN, MINIMUM STANDARDS COMMITTEE, NEW JERSEY HEARING AID DEALERS ASSOCIATION, INC.

According to statistics obtained from reliable sources, it is modestly estimated that between 7% and 10% of people over 50 years of age have some form of hearing loss. This percentage increases to a minimum of 13% for those over 65. Because of advanced medical science, however, mankind's life expectancy is ever increasing. In addition to this we constantly read authentic reports that the high ambient noise level of to-days way of life will definitely increase the above percentage figures at an alarming rate in the very near future.

Looking at these statistics we must constantly remind ourselves of the compelling desire of the hearing impaired to deny or conceal their handicap. However large is the known number of hard of hearing persons this attitude is the main obstacle in their way concerning any effort to seek available help. For the majority, that help is a hearing aid. The reticence of the hearing impaired is also the main reason for the relatively small number of those who do seek help and get a hearing aid. Without the efforts of the hearing aid dealer and the manufacturer this number would be a lot smaller. The fact that the number of hearing aid purchases is small must be kept in mind when prices are considered. Woven into the cost of a hearing aid is the dealer's time and energy as he tries to select and fit the instrument that will provide the best result and satisfy the changing needs and reactions of his client for years after the initial purchase. At the same time he must try to find and encourage that hidden majority that does not want to acknowledge its hearing loss for a variety of reasons. We are not selling a simple little device which can be wrapped up and sold to a highly motivated mass market. On the contrary we are providing a highly sophisticated instrument designed to be specially fitted to the user whose hearing is as individual as his fingerprint.

Contrary to the impression created by some, hearing cannot be measured with the same accuracy and simplicity that vision can be. Consequently a hearing aid cannot be "prescribed" with exact specifications as in the case of eyeglasses. Leading audiologists questioned the validity of known methods of "evaluation" or hearing aid "preselection" within the confines of prescribed sound levels. When the sounds of that time and place have changed, the hearing aid users reaction to hearing those sounds will also change. Any effort to insist on such services—especially in view of their doubtful value—would not only add to the cost of hearing aids to the public but would also slow down and discourage many of the hearing handicapped who have finally made their first move towards rehabilitation. The Medicaid program of New York City provided ample proof of such unbelievable bottlenecks created by unnecessary audiologic evaluations where recipients had to wait from at least 3 to 4 months and in some boroughs from 10 to 14 months for no good reason. To-day when recipient can go from their physicians directly to a hearing aid dealer they are taken care of within a week with less cost and with excellent results.

There are about 6000 outlets throughout the country, ready to fit and service the public with hearing aids. The latter are available in a tremendous variety of models and makes to serve and satisfy the needs of almost every type of hearing loss. In our state of New Jersey there is an ample network of qualified hearing aid offices to serve the hard of hearing public. We have a very active and progressive state association (a charter chapter of the National Hearing Aid Society). Its goals are to assist its members and dealers at large to improve their competence and to guide them in establishing ethical standards. New Jersey was the first state association in the United States to add to its by-laws and code of ethics a specific set of minimum standards. This was done March 28, 1965. Enclosed you will find a set of the New Jersey By-Laws, in it you will see a section containing minimum standards. Other state associations are now following our lead. We have conducted various educational programs and seminars, and all our members have taken the course prescribed by the National Hearing Aid Society for certification.

It has been established that not enough people among the hard of hearing seek help and that their main obstacle is their pride and their desire to hide their handicap. The lion's share of finding these people and encouraging them to do something about their loss has been and is being done by the hearing aid dealer. This task force cannot be replaced or substituted without tremendous

expense to the public and would almost certainly result in higher costs to the purchaser in time and money. The prime purpose and main objective of all concerned with hearing loss is to find increasing numbers of hard of hearing people, and to service them with expedience in the most competent and economical manner. This can be achieved only through a massive crash program of educating the hard of hearing specifically and the public at large. We ourselves are planning such programs but far greater assistance is sorely needed to make it as effective as it should be.

I hope these thoughts will be of some help to you and your committee and I would deem it a priviledge if I may be of any further assistance.

CONGRESS OF SENIOR CITIZENS ORGANIZATIONS,
Miami, Fla., September 11, 1968.

DEAR SIR: Enclosed is a few items on hearing aids which I thought would be of help to the Senator (God bless him).

My observation of the hearing aid problem is the present method of diagnosing by non M.D.'s but from salesmen whose sole motivation is profit and should not be permitted to diagnose, sell and service hearing aids to our people.

A medical doctor should diagnose and establish whether a hearing aid is necessary and if needed prescribe the best for the patient without the profit motive.

Hearing aids should be put under the Medi-care program as many of our retired elderly cannot afford the extra cost and find it hard to get along with the constant rise of the cost of living and taxes.

Respectfully,

MAX FRIEDSON, *President.*

[Enclosures]

MIAMI, FLA., *September 7, 1968.*

Re Hearing Aids.
SENIOR CITIZENS SERVICE CENTER,
Miami, Fla.

Att.: Mr. Max Friedson.

DEAR MR. FRIEDSON: Having been connected with a hearing aid concern over the past year or more and serving the senior citizens in this locality mostly through your center here, I now understand that the hearings now in Washington, D.C., have a proposal before them to include this very worth while hearing aid service to either the now existing Medicare service or Medicaid.

My purpose in writing you Mr. Friedson and your good office at this time is to pass along some of my experience in this service, and that is in many instances I find most of these seniors are sure in need of this help in financing at least some of the expense to enable them to once again have the pleasure of their hearing facilities returned to them through this method, that is an addition to the services now in the Medicare bill.

We handle a very low cost and a very good service aid at reasonable prices 1:e $19.00 to $129.00 and have gone all out with the buyers trying to co-operate with them on a time basis with no additional time costs with the knowledge of their low income in many cases.

If for any reason these few lines of information as to my sales field in the hearing aid will be of any help to the success of this item being added to the Medicare service I will feel well rewarded for this help to many needy seniors.

Thanks for your many referals from your office and kindest regards to you at this time.

Sincerely yours,

WILLIAM F. CREAMER.

[From the Fort Lauderdale News, Aug. 29, 1968]

VINTAGE YEARS—SENIORS REQUIRE PROTECTION ON AIDS

(By R. O. Beckman)

Consumer protection in the sale and servicing of hearing aids is of vital interest to the U.S. Public Health Service, Surgeon-Gen. William H. Stewart has told a Senate committee. He recommends a model state law to cover their dispensing, a training course for vendors and a program for testing hearing devices with publication of results.

The National Bureau of Standards conducted extensive tests of hearing aids for the U.S. Veterans Administration, but the latter is charged with holding the findings from the public in violation of the freedom of information law recently enacted. To assist the elderly with impaired hearing, pressure is also building up for an amendment to the medicare law to provide assistance in purchasing hearing aids, eyeglasses and false teeth when needed.

In connection with hearing difficulties of older persons, it is interesting to note that much of the verbiage spouted in airwave commercials is wasted effort as far as the elderly fourth of the audience is concerned, judging from research undertaken at the University of Iowa Speech and Hearing Center. Dr. Jay Melrose wanted to find out whether older folks needed more time to understand what they heard or whether they desired speakers to slow down. He finds that older persons, especially those with some hearing loss, want speakers to increase the duration of time taken in saying words.

Both the juvenile singsongs used by radio advertisers and the machine-gun speech of many newscasters are unintelligible and therefore obnoxious to elderly audiences. The increasing interruptions of radio and television programs by commercial advertising announcements is generating criticism leading the public to demand more rigid controls by the FCC.

[From the Newark News, Oct. 12, 1967]

THE VINTAGE YEARS: MANY LIVE MUTED LIVES; HEARING AID OFFERS CURE

(By R. O. Beckman)

Several million Americans find the joys of retired life gradually stifled by impairment of their hearing. Most could regain the pleasure of communication by using an appropriate hearing aid.

Eleanor Roosevelt, herself a hearing aid user, once said that people may be awed by the expense involved and do not want to admit that they no longer hear as well as they used to. The cost of an instrument is usually greatly offset by the satisfaction derived from hearing once more the sounds that have been lost, especially of human voices. Many good hearing aids, made by a dozen manufacturers, are high in price but a few can be had for less than $100.

Dissatisfaction with hearing aids is due largely not to mechanical imperfections but to the unwillingness of buyers to use them properly and learn to hear again. In later life, hearing becomes impaired gradually; older persons grow unaccustomed to the sound of ordinary noises once heard. As a result, it may take them some weeks to become accustomed to the shock of hearing "background noises" they have forgotten. Several of my friends have purchased aids only to refuse to learn to use them. This need is not adequately stressed by hearing aid dealers anxious to make a sale.

Otologists (physicians specializing in hearing impairment) find that most cases can be helped with a hearing aid. A majority of aids are obtained from commercial dealers without a medical diagnosis. Certified audiologists skilled

in measuring hearing defects can be found in big-city hospitals or medical schools. Local speech and hearing societies can furnish information about them. The reputability of commercial dealers can be checked with a Better Business Bureau.

Most sales representatives of hearing aid manufacturers are competent and ethical. Since physicians and audiologists generally refrain from recommending a particular brand of aid, it is necessary to visit several dealers to learn which models are most suitable and the best buy for the price asked. Since aids need to be personally fitted, the transaction is of such a nature that few dealers are able to sell a hearing aid for a trial period.

The National Association of Hearing and Speech Agencies and Alexander Graham Bell Association, both of Washington, and the Consumers Union, Mount Vernon, N.Y., have been helpful in assisting persons in selecting a hearing aid. The Bell Association a few years ago published a circular that explained why it is imperative to become adjusted to the use of a hearing aid. This excellent article can be read to advantage by anyone using an aid or contemplating such a purchase. Though not designed to boost the sale of such instruments, it helps the reader appreciate the joys of better hearing.

The circular on "Learning to Hear Again" has been reprinted by the Vintage Years. A free copy may be obtained by sending a stamped, self-addressed envelope to R. O. Beckman, Suite 4, 805 S.W. 6th St., Miami, Fla. 33130.

Learning To Hear Again*

(By Sidney Blackstone)

Next to the tragedy of losing one's hearing, the greatest shock comes from incorrectly selecting and using a hearing aid. This shock can be so great as to frighten the patient away from further and complete use of the hearing aid for very many years.

The flood of sounds, noises and voices which suddenly break into the consciousness of the person who has not heard them for years is very much like the first impact of direct sunlight on a person who has lived in a dungeon. It is therefore of serious importance that the person getting a hearing aid guard against "auditory shock" by understanding the stages through which he must travel, step by step, in relearning to hear.

FIRST STEPS

1. Many years before the patient notices that he is hard of hearing and has difficulty understanding speech at a distance, he has become deafened to such sounds as those of his own clothing and many ordinary noises at home and outside. The first thing the user of a hearing aid must get reaccustomed to is living again with those continuous noises. The best way of doing this is to use the hearing aid *while alone* in the house, as loud and long as possible, every day. The user should not take the hearing aid out of the house and must not wear it in very noisy places and crowds until these first steps are accomplished.

2. Sit down quietly, and turn the hearing aid on as loud as you can stand it. Do not attempt to talk to anyone. Just listen to the ordinary noises around you: the squeaking of a chair, doors opening, the humming of the refrigerator, an automobile outside, etc. Listen to these noises and try to identify them. Every time you hear a sound, say to yourself: "This is a dog barking. This is the fan blowing," etc. Listening to music is extremely helpful in this period. As for speech on the radio, see No. 10 at the end of these instructions.

Keep the instrument on as loud and as long as possible under these circumstances. As soon as it begins to annoy or tire you, turn it down until it is a little more comfortably soft and wear it at this loudness as long as you can. You may read, knit, sew, or do any work that isn't too noisy during this first stage—and listen to the sound of the work you are doing. For example, a newspaper will make an awful clatter and sometimes sound like firecrackers. When you feel you've had enough, shut the instrument off but keep it in your ear as long as possible. *Do not permit yourself to become annoyed, nervous, or "headachey."* As soon as you feel rested, turn the hearing aid on a while longer. You

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*Reprinted for readers of "the Vintage Years" column from a publication of the Alexander Graham Bell Association, Washington, D.C.

will find that you can wear it a little longer each time. After several hours or days of use in this way, sitting down, you may try using the instrument while walking around.

When the ear piece begins to bother you, you may remove it, making sure that the volume control is turned off completely before putting the instrument away. As soon as you feel rested, you may put the instrument back on and repeat the performance.

3. Do not wear the hearing aid to talk to people until you are able to wear it turned on fairly loud for an hour or two while not talking to anyone. You must become so accustomed to ordinary noises that you will not pay any attention to them when talking to a person. *Not until you take these noises for granted will you be able to concentrate on the voice you want to hear.*

4. You may now use the hearing aid talking to only one person. The rest of the family should be in another room. At first listen to the one person at a distance of six feet, gradually increasing the distance to fifteen feet. Increase the volume with the distance, if necessary. At each distance, ask the person to be sure to speak normally loudly, and slowly. (It is advisable to ask a third person—who must not speak—if the speaker *is* speaking normally.) Then adjust the volume control so that you can *just* hear the person comfortably—and *keep the volume control in that position. Do not fidget with and adjust the controls constantly.* Let your ears, attention, and the speaker change instead of the volume control.

When you get along perfectly talking to one person, you may try talking to the person while other people are talking, preferably in another room. It will take some time before you get so reaccustomed to hearing other people talk that you are not distracted by them while you talk to the one person you *want* to listen to.

CROSS CONVERSATION DIFFICULT

5. Relearning to carry on a conversation with several people is a very difficult matter for several reasons: First, the hard of hearing person has talked only directly to one person for many years before procuring a hearing aid, so that he has lost the habit of participating in cross-conversation. Secondly, when a person loses hearing in one ear, the sense of direction of sound is also destroyed. In cross-conversation, it is therefore almost impossible for the hard of hearing person, with or without a hearing aid, to tell who is talking from the place the speaker occupies in the room. The only way of overcoming this difficulty is by identifying the voice and especially by keen concentration.

It must also be remembered that even with normal hearing we do not hear everybody at once in a group conversation, but that the ears and mind rapidly shift attention from one person to another as each speaks. In addition to losing the sense of direction and discrimination of voices, the hard of hearing person generally loses the speed of understanding. In a group conversation the rate of speaking is much more rapid than in speaking with one person: It therefore requires additional time to relearn to hear and understand rapidly. To state a truth frankly, many hearing aid users never learn to participate very comfortably in a group conversation. At best they learn to watch and concentrate on the one person they want most to hear and to wait until *that* person speaks. When this habit of *concentrating on one person at a time* grows, most people under sixty learn to get along pretty well in a group.

6. Do not take the hearing aid out of the house until you feel you have gotten along as well as you can with it under the circumstances described above. *You will not be able to hear better in another house than in your own home,* because there will be new sound problems and noises to readjust to. When you are ready to take the instrument out of the house, be sure that you have found a comfortable garment and way of wearing the hearing aid. It is important that the instrument should be fixed and not move or flap around thus creating additional extraneous noises.

PUBLIC PLACES

When you are ready to leave the house, you may have to turn the volume down a little in order to avoid the shock of excessive street noises. In some cases it is necessary to shut the instrument off entirely while on the street but it is far better to turn it down sufficiently to hear a murmur. This will prevent the shock of turning the instrument on suddenly when you reach your destination.

7. When you are perfectly adjusted to wearing the hearing aid in the homes of family and friends, then you may try it in a public place: a movie, show, church, meeting, etc. The problem in a public place is generally one of acoustics.

that is, the sound in a public place is far different from what it is in a home. And because the hard of hearing person has not heard under these circumstances for many years, it may require many trials before getting accustomed to such public places. The volume and tone control may have to be readjusted in these public places and it is advisable to try sitting in different parts of the same hall to discover the place where one hears best.

8. It is important to understand that *you must not* put the hearing aid away or turn it off until suddenly you find there is something *you want to hear.* If you turn on the hearing aid just when you want to hear that "special thing," the shock is often too much for comfortable use and concentration. Therefore, the instrument must be kept turned on and used, *even if you are not talking to a person, for at least five or six hours every day* if you want to get the maximum benefit from it when you *want* to talk to one or more people. *The longer you wear the hearing aid when you are not talking to people, the better you will be able to hear when you have to talk to them.*

9. The time required for each stage and the eight stages depends entirely on the individual case, the type and duration of deafness, and the age of the patient. Few can put a hearing aid on the moment they buy it and wear it comfortably for eighteen hours. The average period of readjustment is approximately six weeks, at the end of which time the patient may be able to wear the instrument constantly. Most patients relearn the first four stages in a week or so, but many find great difficulty with the later stages, especially folks over sixty-five. It is important to determine, with the help of the consultant, how much hearing you may *expect* to recover with the hearing aid and *what you may not be able to hear.* Only by discovering what you *cannot* do with a hearing aid can you be reasonably happy with it.

10. Because the radio is seldom as clear and natural as the direct single voice in the room, this additional distortion often makes it difficult for certain people to understand over the radio. Moreover, too many radio speakers talk too rapidly for good hearing.

To assist in listening to the radio, follow these instructions: (a) Have a member of the family tune the radio so that it is right for him at six feet. (b) Sit six feet away and adjust your hearing aid carefully. (c) You may not be able to understand speech immediately, therefore, listen to music at first and try to identify the different instruments and voices. (d) *Do not* attempt to listen to plays or several speakers. News commentators, speaking slowly and evenly, are best. Gabriel Heater and Kaltenborn have excellent voices for this purpose. Try to listen to them regularly. Your range of understanding may increase with time and practice.

11. The use of the hearing aid at work depends on the individual circumstances and should be discussed in detail.

INATTENTION

After a number of years of deafness, most people become a bit absentminded, at least as far as listening to sounds and speech is concerned. The reasons for this must be understood if the hard of hearing, their families and friends are to make the fullest adjustment with a hearing aid.

Since all sound comes to the hard of hearing much more faintly and dully than to normal ears, the reaction to sound is less quick and sharp. When one calls mother or father, the mother or father with normal hearing reacts and answers in a certain quick way. To deafened ears, that call is so faint and vague that the patient often is not certain that he or she has heard *anything.* In the first stages, the patient will tend to look around. After a number of years, especially if the hearing has become worse, the patient will not react at all to these sudden calls or noises, even though tests show that by paying close attention he can hear these sounds. In very old cases and people the full sound and meaning of words are forgotten and it may require weeks or months with an aid before words are understood as rapidly as most people speak.

When it is no longer possible to understand in church, at a meeting or in a show, the patient of course stops going to these places. His attitude towards conversation is quite different. Since this is the last tie with the world of sound that affects those nearest and dearest to us most, the patient clings to this circle desperately. Rather than believe that this tie is cut, he will strain to listen and hear, even though it may bring on nervousness; and when this does not succeed the patient will *imagine* what he or she does not hear. In time, however, he realizes that this effort and strain are not worthwhile. The penalty is at first to

withdraw mentally from the group—blankly or to a newspaper or sewing—and finally to get off physically in a corner or in another room by himself. When this final loneliness has become a tragedy—the deafened repeat to themselves: "What *is* the use of listening anyway?" After a number of years they *stop paying attention completely* except when a speaker is close or loud enough. It is difficult to realize that this inattention can become such a habit that, even when a hearing aid returns 50% or more hearing, the deafened must again learn to pay attention.

Those who have been hard of hearing for only a few years, especially if they are under sixty-five, generally relearn to react to sound and speech rapidly and normally with a hearing aid. Those with deafness of longer standing and those entering the seventies have a more difficult time, especially when someone speaks suddenly or changes the subject unexpectedly. The additional difficulty in these cases is due to the fact that *inattention gradually changes to absentmindedness*, or rather to living with one's thoughts. It requires considerable amplification of sound, the cooperation of family and friends, and readjustment on the part of the deafened to break this habit.

DON'T GO TOO FAST

Before any violent attempt is made to pull the patient out of himself, several things must be understood.

Few young people realize these hectic days that even with normal hearing it is natural, sometimes before the age of sixty-five, to become lost in one's thoughts and memories. The poets have written a great deal about this and have seen much that is right and beautiful in this living with the more vivid past. Deafness merely cuts off a little more of the impact of the present and outside world and adds to the temptation to live with one's thoughts.

Recent and younger cases can and should be broken of this habit as quickly as possible when they have procured a hearing aid. In the beginning, the easiest way of accomplishing this is for family and friends to avoid bursting out with a long, rapid and involved sentence, especially during the first few weeks of wearing an aid. Family and friends would help a great deal if they would follow these instructions: Before proceeding to tell "what's on your mind," *get the atention* of the patient *by first calling his name* and being certain that he *is* paying attention. If then the speaker will talk slowly, distinctly, and in short sentences, it should not take very many weeks before younger and more recent cases do not require this special consideration any longer and *become convinced that listening brings results.*

Older cases and individuals, however, except for the few who are unusually alert, require more patience and understanding on the part of family and friends. Sudden and loud noises are apt to upset those over sixty-five; jarring them out of their thoughts and reveries may be an actual cruelty. They can be weaned away from their deep memories, but it must be done with gentleness and great patience. If family and friends will come closer, call softly and then *wait a moment* or two until mother, father, granny or grandpa turns slowly and says "yes?" this last obstacle to attention, listening and understanding will be largely overcome.

GOLDENTONE ELECTRONICS, INC.,
Minneapolis, Minn., September 16, 1968.

Hon. FRANK CHURCH,
Chairman, Special Committee on Aging,
U.S. Senate, Washington, D.C.

DEAR SIR: Thank you very much for your letter of September 4, 1968, with reference to my letter to Senator Williams on December 5, 1967.

I am pleased to report that both points in which you expressed interest were proposed and explored at the April meeting of the Hearing Aid Industry Conference held in Chicago last April.

However, since my function was merely to explore and advise, which was completed, the committee was disbanded and further action has been referred to our Public Relations committee. Therefore, I am forwarding a copy of your letter, along with my letter to the President of HAIC, Mr. Sam Lybarger, with whom I believe you have had some correspondence.

If there is anything further that I could do or information I could provide, please consider me at your disposal.

Thank you very much.

Very truly yours,

RAYMOND K. CLARK, *President.*

STATEMENT SUBMITTED BY KENNETH G. STOCKDELL, SR., DIRECTOR, SPEECH & HEARING CLINIC, NORTH DAKOTA STATE UNIVERSITY, FARGO, N. DAK.

Subject: Special Committee on the Aging: Hearing Aids.

As per our conversation while associated with the staff of Congressman Andrews, I would like to offer certain information for the hearing record.

1. Much misunderstanding exists by the elderly relative to what Medicare will pay. Many times persons on Medicare expect the ultimate in hearing aids only to find that the cost relative to their funds is prohibitive.

2. Medicare should pay for hearing aid evaluations by certified (ASHA) audiologists.

3. Many elderly people are informed by a well meaning physician that an aid cannot be worn. The decision for such a recommendation should not rest with the general practitioner or the otologist since neither have had the extensive training relative to hearing aids that an audiologist has and therefore, following medical consultation which would indicate no problem to usage, the patient should be referred to an audiologist for consultation.

4. Industry should be given a "truth in lending law" which would allow aids to be loaned and returned without the need for them to be reduced extensively in cost, thereby enabling trial usage prior to purchase.

5. Services rendered by private or community hearing centers should be recognized as practitioners and reimbursed directly.

6. Community centers operate at a deficit and therefore a fee schedule appropriate to meet the cost of service should be installed. Presently deficit financing is being practiced which requires the community to underwrite the program of services.

7. New centers generally are not encouraged by local authorities since there is evidence of deficit financing existing in the majority of the centers.

8. More uniform criteria should be used to determine who is a recipient of aids through welfare programs. In many states, adjacent counties have completely different criteria for approving the purchase of hearing aids.

9. Personnel—many times programs of service are funded without proper consideration of professionally trained personnel in the field to provide the service. A more careful consideration of monies for training should be provided to enable the patient needing services to have a professionally trained clinician (audiologist) to meet his needs through advice in the securing of hearing aids.

10. Even though the elderly are being considered in this committee, consideration should be given to the areas of preventive hearing loss through emphasis on conservation programs. These programs should be in early pre-school detection programs and extensive educational programs aimed at areas from which losses are acquired.

11. Since prices are considered high relative to hearing aid purchase, recent information enclosed would indicate the need for closer study into the area of hearing aid sales.

12. Propose the formation of a special study committee to examine the ramifications of the enclosed material and present manufacturers hearing aid costs that reach the consumer.

Appendix 4

SUMMARY: KEFAUVER HEARING OF 1962

PRICES OF HEARING AIDS*

Conducted by the Subcommittee on Antitrust and Monopoly, Senate Judiciary Committee, April 18, 19, 24, and May 16

Primarily a study of all industrial and retailing practices or arrangements that—in the view of the Subcommittee majority—resulted in increased costs or unavailability of hearing aids for the large numbers of Americans who need them.

MAJOR POINTS

1. Sixty-two hearing aid manufacturers at work at that time were selling to approximately 5,000 small, exclusively hearing aid outlets. Questions were raised about the anti-trust propriety of selling only to designated dealers.
2. Hearing aid outlet staff often give the impression of being medical, "white coat" personnel. In fact, professional trained fitters are in the minority.
3. Efforts to reduce selling cost were described as minimal, and the efforts of Zenith to offer a low-cost model were pictured as having been fought by the industry.

MAJOR RECOMMENDATIONS

Review of Clayton Act provisions to close antitrust loopholes, further attention "to wasteful, unnecessary product differentiation," continued vigilance by FTC, consumer education programs, and establishment of dealer licensing requirements by States.

*"Prices of Hearing Aids," Senate Report No. 2216, Oct. 1, 1962.

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