

# PANEL REPORTS

## SECTION 1

### Surveillance and Evaluation of the State of Nutrition of the American People

NOTE.—The three panels of Section One met as one group with William D. Carey, Chairman of Panel I-3, as Joint Chairman. In the following pages the report of Panel I-3 is given first.

#### INTRODUCTORY STATEMENT

Section One on "Surveillance and Evaluation of the State of Nutrition of the American People" wishes to place the strongest possible emphasis on the following working premise.

**Hunger and poverty exist on a disgraceful scale in the United States. The Nation's conscience will no longer stand for the toleration of these conditions. Funds must be provided to get food to needy people on an emergency basis. The President and the Congress must supply the leadership in closing the hunger gap.**

# PANEL I-3: Federal and State Administrative Structure of Monitoring Organizations

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## REPORT OF PANEL I-3

### **Recommendation No. 1: FEDERAL ADMINISTRATIVE COORDINATION**

As the Federal Government is now organized for roles and missions affecting food, nutrition, and health, these problems are everybody's business and therefore nobody's. We recognize that this profusion of interests arises from the realization that nutritional fitness intersects with the Government's objectives in promoting health and education, job opportunity, family security, maternal and infant care, early childhood development, income maintenance, food, and agricultural programs and a wide range of efforts to enhance economic opportunity. We do not wish to diminish these interests and energies.

We recommend that presently diffused Federal machinery for dealing in a piecemeal way with food and nutrition as they relate to health be administered hereafter as a total system under clear policy guidance, accountability, program management, and independent mecha-

nisms for evaluation. Balkanization of responsibilities and authorities constitute a serious barrier to a concerted attack on hunger and malnutrition.

### **Recommendation No. 2: WHITE HOUSE SURVEILLANCE**

The White House Conference will create expectations for a major attack on the problems of nutrition and health. But the history of special commissions, task forces, and White House conferences points clearly to the importance of Presidential leadership and commitment in achieving results through governmental action. In the absence of strong and focused followthrough from the highest level, the work of this Conference may consist largely of talk rather than results.

We strongly believe in the necessity to have a lively and effective presence in the Presidential staff to pursue the recommendations of the Conference with the support and backing of the President.

We recommend that the position of Special Assistant to the President for Nutrition be designated in the White House to follow through in implementing the findings and recommendations of this Conference and to serve as eyes and ears for the President.

**Recommendation No. 3: POLICY COORDINATION**

Interdepartmental coordination of policies and resources of the executive departments and agencies is essential if there is to be agreement on objectives and priorities for Federal action in the field of nutrition and health. While many departments and agencies can and should be operationally involved in programs and activities to improve nutrition and health, there is a need to focus policy perspectives and overall responsibility at the Cabinet level. Councils and committees chaired by an official of Cabinet rank are not the answer; they lack authority and become bureaucratized.

A clear presidential delegation of prime policy leadership within the executive branch, equated with the role of the Secretary of State in the field of foreign affairs, will be necessary to establish a strong center of policy coordination for food, nutrition, and health.

We recommend that the Secretary of Health, Education, and Welfare be assigned by Presidential Executive Order governmentwide policy and coordinating responsibilities for food and nutrition as they relate to health. We recommend, moreover, the early transfer of the food stamp and food distribution programs to the Department of Health, Education, and Welfare.

**Recommendation No. 4: COORDINATION WITHIN THE U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE**

The Department of Health, Education, and Welfare has at its disposal a remarkably diversified array of programs that have high relevance to nutrition and health. At the same time the Department is an extremely complex organization. The task is to create a mechanism for synthesizing and coordinating research and applied community and individual services provided by this Department.

We recommend that the Secretary of Health, Education, and Welfare direct the Assistant Secretary for Health and Medical Affairs:

- (a) To establish an Office of Nutrition with

the responsibilities of a project manager to formulate and carry through policy priorities across the Department.

- (b) To plan and implement an effective nutrition surveillance and monitoring system linked with and cooperating with State, county, and local nutrition and health units and with appropriate programs of the Department and other Federal agencies.

**Recommendation No. 5: SURVEILLANCE AND MONITORING**

Judgments as to the incidence and severity of nutrition and health deficiencies have been based, to a considerable extent, on intuitive knowledge. The need to search out nutrition and health needs of special areas and groups is acute. While there is merit in undertaking a national probability survey, the more urgent and immediate need is for the commitment of resources to high-risk populations and areas in order to define particular problems and responses. This goes directly to the determination of the extent and severity of hunger and malnutrition at its worst, availability of delivery of services, and the initiation of solutions.

We recommend that the Department of Health, Education, and Welfare plan to carry out nutrition surveillance and monitoring aimed at selected target populations and areas, and develop techniques for continuing monitoring systems. Techniques need to be developed for monitoring diets and to identify problems before they become clinically evident.

**Recommendation No. 6: PRIORITIES**

In designing and carrying out comprehensive surveillance and monitoring efforts, care must be taken against dilution of the financial and human resources that will be available in the early years. This indicates the necessity for making decisions as to priority categories of need. Evidence at hand is sufficient to document the effects of poverty and the enhanced risks to mental and physical development from severe malnutrition during the first few years of life. This risk extends into the period of pregnancy if the expectant mother is unable to provide the infant with sufficient nutrients.

We recommend that in evolving surveillance, monitoring and nutrition services, primary

attention be given to the following categories with the poverty population :

- (a) Preschool children;
- (b) Expectant mothers;
- (c) Primary school children; and
- (d) Other categories of persons with low incomes such as Indians and migrant workers.

#### **Recommendation No. 7: RIGHTS OF PRIVACY AND PARTICIPATION**

A high level of professional skill is needed in conceiving, designing, and applying methods for surveillance and monitoring. This professional expertise must, however, be balanced with considerations of individual dignity and choice. It would be tragic if the constructive goals of surveillance and monitoring should be defeated by misguided impositions and intrusions upon individual and community standards.

Such protections must be built into the philosophy of surveillance and monitoring from the very beginning.

We recommend that in designing and implementing surveillance and monitoring systems and procedures, governments at every level take steps to assure :

- (a) Protection of persons against breach of privacy;
- (b) Participation of special groups (including the low-income and otherwise disadvantaged) selected as targets for surveys.

#### **Recommendation No. 8: ENHANCEMENT OF ONGOING PROGRAMS**

It is important to recognize that appropriate nutrition surveillance services, evaluation, and education can be applied effectively throughout the Federal food delivery programs and through the federally-aided programs such as head start, day care, parent-child centers, community action, model cities, school lunch programs, maternal and infant care programs and programs for children and youth. It is equally necessary to bear in mind that the Government has a responsibility not only for monitoring diets but also for monitoring the effectiveness of its programs to be sure that they reach the people who are in the greatest need.

Each of the ongoing programs is designed to help a special segment of the population and in general is directed towards those segments of the

population that are considered to be high risk from the standpoint of nutritional health. Nevertheless we have reason to doubt that a number of these programs are adequately structured or staffed and funded to provide nutrition surveillance and services commensurate with what is needed.

We must not take for granted the effectiveness of programs now underway.

We recommend that full and effective provision be made for nutrition surveillance, evaluation, and education in Federal food delivery programs and in those federally-aided programs that relate to high risk groups.

#### **Recommendation No. 9: IMMEDIATE VERSUS LONG TERM STEPS**

While much needs to be done to close gaps in surveillance and monitoring, the panel has not lost sight of the importance of strengthening and extending direct action efforts to improve nutrition status. Hunger and malnutrition are hard realities with which we must deal. Surveillance and monitoring are important improvements to be sought, but they must not distract attention or resources from the real and present danger of hunger and malnutrition.

We recommend that precedence be given to strengthening and expanding programs and projects that deliver needed health and nutrition services to persons and families while work goes forward on the longer range goals of surveillance and monitoring of nutrition and diets.

#### **Recommendation No. 10: DEPARTMENT OF AGRICULTURE PROGRAMS**

The U.S. Department of Agriculture has periodically conducted surveys which have provided valuable information on the patterns of food consumed by families and individuals and indications of the nutritional values of the diets. The Department's food consumption surveys could yield more useful information if conducted more often and if broadened in coverage. The Department of Health, Education, and Welfare should coordinate activities in surveillance with these studies. Both departments would benefit from the present special studies and national nutrition survey that provide sufficient information for immediate action programs. With only modest fractions of eligible people now participating in the food stamp and

commodity distribution programs, it is extremely urgent to search out and assist those groups who should be receiving assistance but are not getting it.

We recommend:

1. That the USDA's family, individual, and household food surveys be broadened in coverage and coordinated with nutrition and health surveillance;
2. That the USDA surveys be placed on a 5-year sequence; and
3. That USDA strengthen its ongoing nutrition research programs and take full advantage of its outreach to low income rural and urban families and communities through its cooperative extension service in coordination with other programs serving such families.

#### **Recommendation No. 11: AREA NUTRITION SERVICE CENTERS**

There is a need to strengthen and improve the basic role of State and local public health agencies and community organizations in delivery of services in nutrition and health. Until such time as public health and other official and voluntary agencies and medical centers can develop effective intrastate or areawide coordinated programs for delivering educational, health, and nutrition services, there will be a need for developing centers of excellence or area nutrition centers. Such centers should be established in several regions of the United States in the expectation that they can materially expedite the evolution of new surveillance and monitoring systems and act as watchdogs over nutrition services to the poor. They will not replace nor duplicate existing systems for delivering health and nutrition services.

To be effective in its outreach, the center's staff and policymaking body should include persons representative of groups suffering from hunger.

Guided by a parent center at the national level, an area nutrition center should be a place to which poverty groups as well as the health professions can look for a variety of services, education, and consultation in health matters affecting or affected by food. Such a center would help to strengthen and expand existing systems for delivery of health and nutrition services. The center must provide an open hot line between hungry people and the Office of Nutrition. The first goal of the center is to seek out the readily identifiable groups in the population that do not have enough food, then determine how food can be made available to them through

existing means and the availability of health services delivery, and use its capabilities to get some action.

The second goal is to improve the quality of and increase participation in existing means for making food and health services available to these groups of people. The third goal is education of the public at the community, family, and individual levels as well as those with public responsibility.

The Office of Nutrition at the national level should have the capability to objectively evaluate the work of the area nutrition centers in terms of recognizable and measurable effectiveness in achieving their goals and missions.

We recommend:

1. That the basic role of State and local public health agencies in nutrition and health be supplemented by area nutrition centers established by grant or contract by the Office of Nutrition with groups judged to have competence;
2. That the centers should provide an open hot line between hungry people and the Office of Nutrition;
3. That these centers assist with surveillance, monitor diets, interpret and disseminate information and data, provide public education, conduct professional education programs, develop new techniques for surveillance, conceive and test programs to combat malnutrition, conduct nutrition-connected behavioral research, supply multidisciplinary teams to work on nutrition problems with target groups, furnish laboratory service to physicians, and establish health service links with the medical profession; and
4. That persons representative of groups suffering from hunger be included in the staff and policymaking arms of the center.

#### **Recommendation No. 12: MANPOWER FOR NUTRITION**

During the Panel's consideration of the best means for implementing health-related nutrition surveillance, monitoring, and services, it became acutely aware of the constraint imposed by shortages of trained professional and paraprofessional manpower. The need for manpower to cope effectively with the Nation's hunger and malnutrition seems to have been overlooked. It is grievously

plain that nutrition strategies will remain academic if the manpower is not there to implement them.

Substantially increased funds should be budgeted and appropriated for the education and training of public health nutrition personnel and for instituting new types of educational programs of an interdisciplinary kind. The Federal Government must take the lead in creating from scratch a national nutrition manpower system including paraprofessional personnel.

We recommend:

1. That the Federal Government provide substantially increased funds for education and training of dietetic and public health nutrition personnel; and for instituting joint programs in medicine and human nutrition among graduate schools of public health, medicine, allied health, dentistry, nursing, and home economics; and
2. That the Federal Government take the lead in creating a national manpower system to achieve impact on nutrition health problems through training and upgrading of paraprofessional personnel, making full use of vocational education, technical institutes, junior and community colleges, extension service aides, and other programs.

#### **Recommendation No. 13: OFFICE OF ECONOMIC OPPORTUNITY**

Most Federal departments and agencies that are well-established encounter difficulties in undertaking experimental, innovative programs and projects with a large element of risk and uncertainty. A major exception is the Office of Economic Opportunity. It has within its charter and mandate to do things differently and to try the untried. If it is not crippled by legislative changes, this agency has an enviable opportunity to break through traditional and conventional processes in meeting the problems of hunger and malnutrition.

We recommend that the Office of Economic Opportunity give special emphasis in its experimental and innovative programs to providing:

- (a) Nutrition services and education to the poor;
- (b) Strengthened nutrition components in its multipurpose neighborhood centers and comprehensive health centers;
- (c) Increased research and development on

hunger and malnutrition among the poor; and

- (d) Direct food delivery programs wherever on-going food stamp and commodity distribution programs are not effective.

#### **Recommendation No. 14: STATE GOVERNMENTS**

Most of the demand for improved measures to deal on a major scale with hunger and malnutrition is concentrated upon the Federal Government. Yet there is a growing sense that the Federal Government is not organized or equipped to come to close grips at the community, neighborhood, and family levels with these problems. The State and local levels are where the action is. Administration must recognize this fact and respond to it.

As the Federal Government revises and improves its administrative capabilities in the field of nutrition and health, we look equally to State government to do likewise.

We recommend:

1. That the Governor of each State establish a major unit concerned with surveillance and monitoring of nutrition and diets and the delivery of applied nutrition programs, and that the U.S. Department of Health, Education, and Welfare provide financial and technical assistance in establishing such organizations; and
2. That the State legislatures assign to appropriate committees the responsibility on a continuing basis to investigate the facts regarding hunger and malnutrition and to aid in determining nutrition goals, priorities, and programs through the legislative process.

### **COMMENTS OF COMMUNITY ORGANIZATION TASK FORCE**

#### **PANEL I-3: Federal and State Administrative Structure of Monitoring Organizations**

##### *Recommendation No. 2*

The task force repeats its request that the panel add: "The special assistant shall publish and send quarterly reports to all the participants of the Conference."

##### *Recommendation No. 5*

The task force repeats its earlier admonition, which it feels must be emphasized: "Until all the

action needs of the programs are met, such surveys shall be established only within the action programs, shall be run by the participants and the recipients of the programs, and shall consume only a small percentage of the total action budget.”

*Recommendation No. 6*

The task force recommendation on reordering priorities went unheeded. The task force recommends “that in evolving surveillance, monitoring, and nutrition services, priority within available funds and manpower should be: (1) All categories of persons with low incomes; (2) preschool children; (3) expectant mothers; (4) primary school children.”

*Recommendation No. 10*

The task force recommendation “that all service programs be moved to the Department of Health, Education, and Welfare” was ignored.

*Recommendation No. 11*

The Panel ignored the task force recommendation “that the basic role of State and local public health agencies in nutrition and health be supplemented by area nutrition centers established by grant or contract by the Office of Nutrition, with groups judged to have competence. In areas where State and local agencies do not provide adequate or equitable services to all, contracts may be made directly with organized local groups of nutritional or health service recipients.”

# PANEL I-1: A Continuing Monitoring System of Dietary and Nutritional Evaluation.

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## REPORT OF PANEL I-1

### General Responsibility

All members of the Panel agreed there are two basic objectives for which we should strive:

1. **Monitor:** evaluate and re-evaluate nutritional status of samples of Americans to measure effectiveness of programs being applied to improve nutritional status.
2. **Surveillance:** comprehensively evaluate the population at large to identify potential problems before many people are affected and to provide a continuing reference base.

The Panel acknowledges that people may be at nutritional risk for physiologic, biologic, or economic reasons.

### Recommendations:

The role of nutritional surveillance and monitoring systems must be to gather data that will serve as the basis of applied nutrition programs aimed at the improvement of the nutritional status

of the American population with emphasis on the poor. For this reason:

It is recommended:

That monitoring be done on carefully selected samples of subgroups within the population known to be at high nutritional risk. Groups such as the preschool child, pregnant women, primary school children, adolescents, and the aging are examples.

That nutritional surveillance and monitoring systems receive no greater emphasis and a small fraction of the financial support that the remedial programs do. Clearly, nutritional surveillance has a lower priority than food distribution and other action programs.

That these studies be completed, if possible, by the area nutrition service centers in collaboration with State and local health depart-



ments or other agencies or institutions rendering health and welfare services; and that they be done with the highest possible degree of standardization of measures and with the greatest respect for the integrity and privacy of the respondents. That in the process of conducting surveillance, the area centers strengthen the nutrition service components of these programs. The panel wishes to convey a sense of urgency about setting up a surveillance and monitoring system.

That the community be involved in nutrition monitoring and where possible, monitoring systems be integrated into existing programs such as Head Start, parent-child centers, day care centers, maternal and infant care centers, and children and youth clinics. We also recommend that the area nutrition service centers assist in the coordination of the nutrition components of these programs.

That indices such as birth weights, income levels, infant mortality rates, heights and weights of school children be used to locate geographic areas where individuals and families at high risk are more likely to be found.

That an estimate of the state of the Nation's nutrition be obtained. This estimate or national probability survey could be used to monitor changes in the Nation's nutritional state and provide an estimate of the nutritional status for the entire population. This estimate can be derived by coordinating the USDA food consumption surveys and the national nutrition survey. Completing a national estimate or national probability survey is of a lower priority than the surveillance and monitoring of high risk groups.

### **Dietary**

It is recommended:

That the existing methods for collecting dietary intake information at the national level be continued with the following modifications: that the USDA's individual and family and household food consumption surveys be conducted every 5 years, and that the data

from these surveys be interpreted for use as rapidly as possible since they may serve as descriptive of the food intakes of groups of people who may need further evaluation.

That Federal health programs should include appropriate dietary intake monitoring systems as well as nutrition services and education programs.

That area nutrition service centers in cooperation with State, local, and community groups monitor: (1) The dietary intake of groups at high nutritional risk; (2) the food service and nutritional quality for such critical areas as prison, mental institutions, nursing homes, homes for the aged, hospitals, school feeding programs; (3) food distribution and delivery systems; (4) nutrition services in departments of welfare at the State and local levels; and (5) the quality, safety, and handling of food in the various governmental distribution programs.

That research effort be directed toward the development of more effective methods of obtaining and processing dietary intake information with care being taken to note the difference between the uses of information obtained by a 24-hour recall and a more detailed dietary history. The methods should be designed to: (1) Monitor the effectiveness of existing action programs; (2) detect problems in high risk groups; and (3) serve as a basis for developing remedial programs in education, intervention, and supplementation. These methods should be so designed that: (1) Data are programed and readily available and can be interpreted for use at the local level; (2) data collected by a variety of personnel in disparate locations are comparable; and (3) different methods may be adapted for use by professional nutritionists or by technically trained aides.

### **Clinical and Laboratory**

Clinical and laboratory procedures for the detection of malnutrition generally fall into categories. There are those procedures that have regional application, those that have nationwide application, and those that may be used to monitor a situation considered adequate.

It is recommended : That the choice of clinical and laboratory procedures for the detection of malnutrition be flexible and determined by the character of the study population. In both the area nutrition service centers and on the national scale, the personnel responsible for surveillance should only emphasize those procedures that will provide the data necessary to detect malnutrition.

### **Anthropometrics**

Anthropometry is pertinent to assessment of nutrition and health. A complex longitudinal procedure is not justified at this time. Alternatively, a cross sectional approach, directed toward individual groups at high health risk, is desirable. A carefully conceived and closely directed program will yield information that reflects with meaning health and nutrition status. Special emphasis must be directed toward infants and children, but values on parents will appreciably assist in evaluating the offspring.

It is recommended : That anthropometric measurements pertinent to the assessment of nutritional status be included in nutrition monitoring programs.

### **Medical**

Periodic health examinations are essential to detect medical disorders that may arise from or contribute to poor nutrition.

It is recommended : That physical examinations and medical histories be obtained on persons participating in nutrition surveys, with length and detail of examination determined by the purpose of the survey.

### **Dental Evaluation**

Clinical evaluation of dental and oral health is a significant part of nutrition surveillance. Many well-known signs of malnutrition can be seen in the lips, mucosa, tongue, gingivae, and teeth. The relationship between diet, in particular the fluoride and carbohydrate component, and dental caries, has been established beyond any reasonable doubt.

It is recommended :

That nutrition surveys supply information on the status of dental health and an evaluation of the effectiveness of corrective measures.

That dentists be associated with the area nutrition service centers.

## **COMMENTS OF COMMUNITY ORGANIZATION TASK FORCE**

### **PANEL I-1: A Continuing Monitoring System of Dietary and Nutritional Evaluation**

The task force feels that more emphasis could be placed upon the points enunciated in the priority statement. Those points are :

1. That priority be put on action programs rather than surveys.
2. That evaluation be carried out within these action programs, largely by those actually conducting and involved in the programs.
3. That only a small fraction of the overall budget be allocated to survey or evaluation.
4. That no new, extensive and expensive nutrition administrative superstructure be devised, but that all programs be integrated where possible into existing locally-based organizations, particularly those already designed for comprehensive health care.

## PANEL I-2: Standards of Dietary and Nutritional Evaluation

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## REPORT OF PANEL I-2

### Recommendation No. 1

It is clear that data obtained in surveillance and monitoring activities must be evaluated according to some generally accepted standards. However, it is also clear that the standards utilized must be appropriate for the particular methodology employed. They must be continually modified and updated as information and methodology improves. The national nutrition survey has developed standards for the evaluation of biochemical and clinical examinations which are based upon long experience in nutrition surveys and, although not entirely satisfactory, represent the best standards currently available for general nutrition surveys.

*It is recommended:* That the standards for the evaluation of biochemical and clinical examinations currently employed by the national nutritional survey be adopted for use in the immediate future. We further recommend that such standards be continually re-evaluated, modified and updated by competent and independent groups as methodology changes and additional experience in their application is gained.

### Recommendation No. 2

The Panel wishes to emphasize, however, that the situation with regard to methods and standards is far from satisfactory. Many of the methods cur-

rently employed are insufficiently sensitive, cumbersome, tedious and expensive. Micro and automated methods are needed. Methods and standards for the evaluation of nutritional status with regard to some nutrients which may well be of public health importance in the U.S. population are simply inadequate. These include nutrients, such as vitamin B6 and folic acid, for which we have inconclusive evidence of the extent or seriousness of the deficiencies in the United States. Finally, there are other nutrients, such as some of the trace minerals, which are thought by some to be of health significance in the United States but for which data are so fragmentary that no real evaluation can be made. Furthermore, the Panel notes that research directed toward the development of new and improved methodology for the evaluation of nutritional status is very poorly supported and scarcely being pursued in the United States.

*It is recommended:* That additional financial support and other means be found to encourage the laboratory work and field trials which are essential for the development of improved methods, the expansion of surveillance activities to cover additional nutrients, and the development of appropriate standards of evaluation. This should include adequate investigation to establish the quantitative requirements of all essential nutrients.

### **Recommendation No. 3**

General nutrition surveys are of necessity often limited by time, money, and personnel. Specific nutrition problems usually cannot be studied in depth. We wish to emphasize that evidence currently available does identify certain specific nutritional problems in certain areas and certain segments of the population. For example, iron deficiency is known to be a general problem in young children, adolescent girls and women in the child-bearing age and is not limited to poverty groups. The total food supply is inadequate in some groups and current programs are not adequately utilized. Areas in which vitamin A deficiency, vitamin C deficiency, iodine deficiency, and riboflavin deficiency are worthy of attention are now known and others can be predicted from data being accumulated.

When such specific problems are identified, primary effort is then required to evaluate the problem in greater depth, to design methods of alleviating the problem and to test suggested solutions. These approaches will often utilize special target groups, specialized methods and more rigorous standards of design and evaluation. These kinds of efforts deserve priority over the general monitoring of nutritional status in the population groups under study.

*It is recommended:* That as the evidence accumulates that identifies specific nutrition problems and methods of alleviating these problems are proposed, priority be given to problem-solving activities rather than general monitoring of the population groups involved.

### **Recommendation No. 4**

A characteristic of data obtained in evaluating nutritional status is that a continuum of values is obtained that range from those easily identified as abnormal to those generally accepted as normal. For example, hemoglobin values in women may vary from 3-4 gm. percent (severely anemic) to 13-14 gm. percent which is obviously normal. Levels of nutrients in the serum may vary from levels that are not detectable to those observed when very high intakes are consumed. Weights of children may vary from those seen in gross undernutrition to frank obesity.

It should be recognized that these kinds of data are quite different from those found, for example,

in studies of communicable disease in which the findings are reported as either positive or negative.

Data obtained in nutritional surveillance activities, therefore, will rarely yield information on the numbers who are or are not malnourished. Rather, the data indicate relative degrees of risk that an individual may or may not be malnourished. Furthermore, it will be clear that in any surveillance activity some of the values obtained will be influenced by errors in measurement or recording. Some will be due to inherent biological variability in the population under study.

Unfortunately, in any general public health activity there is also some irreducible minimum of disability that will remain even in the presence of effective programs. How then should a decision be reached as to whether or not a problem is of sufficient magnitude to warrant institution of new programs? Such decisions presumably will depend upon the seriousness of the disease, the inherent variability encountered in the population, the accuracy of the method of assessment, the effectiveness and cost of the program and other matters. The Panel can find no evidence that this problem has been seriously considered by any competent group.

*It is recommended:* That guidelines be formulated that will indicate to those interested in nutritional assessment of population groups reasonable "cut-off points" to determine whether or not the nutritional problems encountered are of sufficient magnitude to call for remedial programs.

### **Recommendation No. 5**

The evaluation of dietary histories involves unsolved problems. The objective sought is to determine the average food and nutrient intake of the individual being interviewed. However, only under exceptional conditions can this be done. Since diets vary from day to day and over longer periods of time, most dietary histories are estimates of intake over a limited period of time.

Furthermore, it has so far been impossible to estimate the accuracy of dietary information. Undoubtedly this will vary with the competence of the interviewer, the time allowed for the interview, the nature of the questionnaire or instrument used, the variety and nature of the diet, the personality of the subject being interviewed, and other factors.

We also assume that the nutritional needs of individuals of similar age and sex may vary substantially. These kinds of factors presumably explain why individuals may be characterized quite differently by biochemical and clinical studies than by dietary history. The Panel concludes that a diagnosis of malnutrition cannot be made by dietary history alone.

On the other hand, dietary histories of a relatively homogeneous group of people will suggest ordinarily the same kinds of nutrition problems as do other methods of evaluation. Dietary information is also essential to reveal the nature of the foods being consumed, meal patterns, the nature of foods purchased and food preparation. These kinds of information are essential in order to provide advice to homemakers and for the development of appropriate nutrition education programs, fortification programs or other types of remedial programs.

The Panel notes that the analysis of foods to determine their nutrient content has not received adequate attention in recent years. At the same time new varieties of crops have been introduced; methods of harvesting, distribution, and processing have changed and many new food products have appeared on the market. Until adequate information is available data derived from dietary histories will be limited to a greater or lesser degree.

*It is recommended:*

That in surveillance and monitoring activities, dietary information will be most appropriately utilized by comparing the mean intakes of nutrients or foods of relatively homogeneous groups. Such groups may be selected according to age, sex, area, income level or any other parameters which seem useful. However, reporting the number of individuals who fail to meet a selected standard will usually be misleading since the less accurate the data, the more individuals falling below the standard will be found.

That efforts to obtain additional information upon the composition of foods should be strengthened, and the content of all essential nutrients should be determined.

## **Recommendation No. 6**

The most widely used standards in the United States for the evaluation of dietary information have been the Recommended Dietary Allowances established by the Food and Nutrition Board of the National Research Council-National Academy of Sciences. It has also been pointed out that these have often been misused and incorrect inferences drawn from such use. The RDA are believed to be above the average requirement so that, if these levels of intake are achieved, there will be practically no risk that anyone in the population will be inadequately nourished. This obviously means that most people may consume less than the RDA and still be adequately fed.

There is not universal agreement that the RDA are entirely defensible. The RDA's for some nutrients are more open to question than others. This is indicated for example, by substantial disagreements between the RDA for some nutrients and similar standards proposed by competent scientific groups in other countries. However, the Panel finds it impossible and, indeed, considers that it would be unwise for it to propose alternate recommendations. We also recognize that the RDA are subjected to periodic revision by the Food and Nutrition Board.

*It is recommended:* That the nutrient intakes of groups of individuals be assessed by comparison with the Recommended Dietary Allowances fully realizing that intakes below these levels are not necessarily indicative of malnutrition.

## **COMMENTS OF CONSUMER TASK FORCE**

### **SECTION 1: Surveillance and Evaluation of the State of Nutrition of the American People**

We favor the prompt transfer of the food stamp program from the Department of Agriculture to the Department of Health, Education and Welfare.

Official standards of dietary allowances should be clarified. This is essential to increased consumer understanding of nutrient descriptions which we recommend be placed on labels and packages.

## APPENDIX FOR RECOMMENDATION NO. 8

In the time available, it is impossible to estimate with any degree of accuracy the needs for services in terms of dollars and the manpower requirements which are in deficit as judged against current estimates of availability of manpower. Certain specifics, however, do give broad general indications as to funding requirements necessary to meet the needs for minimally acceptable maternity services, on a comprehensive multidisciplinary basis, and to give basic well-child services during the first 5 years of life. The following estimates have been developed against a base of live births, per year, from Bureau of the Census projections (Attachment No. 1).

The presently functioning Maternity and Infant Care projects used as a model have been used as a basis of reference because of the 5-year experiential background with this program. A breakdown of this program cost is as follows:

|  |       |
|--|-------|
| Per year per patient for basic maternity coverage... | \$300 |
| Matching (local) .....                               | 100   |
| Title XIX .....                                      | 100   |
| Per year per infant .....                            | 100   |
| Per patient per year physician services .....        | 120   |

An estimated figure to include obstetricians, generalists, residents and interns and which is in addition to the physician services included in the \$300 per year basic cost. This addition is necessary in that the \$300 basic cost does not include adequate fee for services.

|   |     |
|---|-----|
| Dental services per patient per year .....  | 100 |
| This amount to meet basic needs and does not include restorative services except on an emergency basis.                                 |     |
| Per patient per year for nutrition services to meet the deficit in nutrition counseling currently available .....                       | 20  |
| Per patient per year for MSW services to meet the deficit in MSW counseling currently available....                                     | 20  |
| Per patient per year for nursing services to meet the deficit in nursing counseling currently available...                              | 50  |
| Per patient per year for family planning directly related to Maternity and Infant Care services....                                     | 20  |
| Per patient per year to cover secretarial, clerical, statistical, reporting, homemaker services, baby sitting, transportation, etc..... | 70  |

Total .....

|  |       |
|--|-------|
|  | 1,000 |
|--|-------|

This total does not include an estimate for indirect cost.

Attachment No. II outlines the manpower requirements and estimated cost in support of nutrition personnel needed.

Attachment No. III is an estimate of the requirements for medical social work services for the training of the necessary personnel to support projected needs.

An estimate of physician, resident and intern requirements has not been attempted because of a lack of time and the lack of availability of definitive information in this area.

Attachment No. IV, together with a previously submitted document, indicates the magnitude of a deficit in this area.

Attachment No. V briefly outlines the dental requirements.

Based on the projections of the number of patients with incomes under \$5,000 contributing to the annual total live births, the following appears to be an appropriate cost projection:

Assuming the known 120,000 low-income patients presently covered under Maternity and Infant Care projects, and an indoctrination period to institute an escalation of existing programs, a minimum of 18 months would be required to develop this escalation to the level of caring for 325,000 patients. Further, this assumption is based on the immediate availability of sufficient funds to institute training programs commensurate with immediate needs and the development of appropriate programs in areas of priority needs. Thus, on this basis, during fiscal year 1971 and 1972, to meet the requirements for services only for 325,000 patients would cost \$325 million. This number of patients is 1,075,000 short of the projected live births to families with an income of less than \$4,800.

An escalation to 950,000 patients in 1976-1977 costing \$950 million would be approximately 650,000 patients less than the projected requirements. To meet the projected needs of 1,900,000 patients with incomes under \$4,800 by fiscal year 1980-81 would require a funding of \$1,800 million based on current cost.

To meet the manpower requirements to meet the above projected needs, as suggested in the attachments, together with crude estimates of physician requirements as well as others, it would require a funding effort in support of universities, colleges and medical training centers of approximately 150 to 175 million dollars annually. This estimate does not include medical students, student nurses and others in basic preliminary training areas.

In view of the above, a funding input of not less than \$500 million is minimally necessary if appropriate services and manpower developments are to be made available commencing in fiscal year 1972.

The communication submitted to you by the Vice Chairman of the Panel carefully reviews the serious problem entailed in estimating manpower needs.

*Anesthesiology.*—At a meeting of the Obstetrical Committee of the American Society of Anesthesiology (June 1967), it was indicated that at the current output of trained anesthesiologists, it would take approximately 25 years to meet current needs. The information, relative to cost indicated earlier in this memorandum, includes very little obstetric anesthesia and an extremely small percent of that given is by properly qualified individuals. Information is not immediately available as to estimated cost of training adequate personnel if such programs could attract physicians into this area of specialization. Further, once attracted into anesthesiology, current practices tend to make obstetric anesthesiology less than desirable.

*Obstetrical Residents.*—An estimate by the Committee on Residency Training of the American College of Obstetricians and Gynecologists indicates that at current training levels, without an increased patient load, approximately 22 years would be required to fill existing requirements. With a projected increase of approximately 35 percent (from 1967 deliveries of live births of 3,521,000) to well over 5 million deliveries in 10 years, the demands upon obstetric coverage are impossible to meet with current training efforts. Furthermore, it has been clearly stated by the Committee on Residency Training of ACOG that new inducements, and more attractive programs of training, must promptly be instituted or the deficits in residency applications in obstetrics will increase.

Attachment No. VII outlines minimally acceptable nursing services to meet the indicated needs of 1,400,000 patients assuming no current nursing staff available. Unfortunately, this material was proposed to show total needs and is not offered as an additive to existing nursing services available.

*Pediatric Care.*—The well-child care is projected in Attachment No. VIII. The initial projection of 325,000 infants is covered in the basic estimate of \$1,000 per year per patient. In addition to this basic cost for the first year of the infant's life, Table VIII indicates the projected requirements for a 10-year period. The dollar costs are estimated on the basis of \$100 per infant per year to age 5.

*Facilities.*—An extremely major deterrent to the adequate care of existing patients, as well as any projected increase, concerns the inadequate facilities necessary to deliver the services proposed. Very few existing medical centers, community hospitals and health departments have facilities even minimally acceptable to meet existing, as well as projected needs. The critical necessity for satellite clinics, the problem of delivering adequate services in rural areas, presents critically different problems than reaching concentrations of patients in urban or major suburban areas.

#### **Attachment No. 1: *Number of Live Births***

This Census Bureau report presents four principal series of projections of the population of the United States by age, sex, and color, for 1967 to 1990. For present purposes, only the live births for the fiscal years 1967 through 1981 are shown. The four series are based on four series of assumptions.

**SERIES A.**—This series continued the high fertility of cohorts experiencing, during their major childbearing ages, the high rates of the post-World War II years, particularly the rates of the mid-1950's. The completed fertility rate was just above 3,350 children born by the end of childbearing period per 1,000 women. This series is termed high by census statisticians, and is unrealistic in the light of present trends.

**SERIES B.**—Series B and C were designed to bracket the "most likely" expectations of women regarding completed family size, based on special Scripps Foundation studies. Series B is considered a moderately high series in that it presumes only a modest drop from the levels of fertility in the last decade. The terminal completed fertility was assumed to be 3,000 per 1,000 women.

**SERIES C and D.**—The terminal levels of series C and D are specifically based on the assumption that fertility will drop to some level commensurate with the levels observed during the 50 years preceding the large postwar rise in fertility. Series C is considered a moderately low series, and the completed fertility level was set at 2,775 children per 1,000 women. In selecting the terminal level of series D, the low series, it was deemed desirable to choose the lowest level experienced by earlier cohorts born during the

past several decades, excluding the cohorts which were affected primarily by the very low fertility rates of the depression. These cohorts were avoided because it seemed extreme to assume that fertility would fall as low as the level of the cohorts which experienced most of their child-bearing during the depression. The completed fertility to series D was set at 2,450 children per 1,000.

#### Attachment No. 2

Using the model of the maternity and infant care project for the delivery system, the following are estimates of numbers and cost of nutrition personnel needed to serve approximately 1 million low-income<sup>1</sup> women (15-44 years) during and after their pregnancy and their infants through 5 years of age.

As you perhaps know, the nutrition profession has never been able to have a manpower study funded as have so many of the other disciplines. Thus, this material is a rough estimate.

For each 1,000 patients (mothers, infants, and children 1-5 years) we suggest the following staffing pattern based on experience to date:

- 1/10 public health nutritionist (1/10,000 population)
- 2 clinic nutritionists (clinic dietitians)
- 1 dietary technician
- 2 aides
- 1/4 home economist

Using the above ratio to serve 1 million patients (mothers, infants, and children 1-5 years) the following are estimated numbers that would be needed:

- 100 public health nutritionists
- 2,000 clinic nutritionists
- 1,000 dietary technicians (2-year community college graduates)
- 2,000 aides
- 250 home economists

Estimated yearly cost of salaries for this number of nutrition personnel is \$33.2 million. Additional funds would need to be budgeted for clerical support, travel, and other necessary expenses.

In 1966, there were approximately 30,000 dietitian/nutritionist professionals serving the U.S. population in hospitals, industry, schools, government, etc. (approximately 1/6,500 population). Less than 10 percent of these (30,000) function in the area of community nutrition (Public Health).<sup>2</sup>

<sup>1</sup> Less than \$4,800 per year income.

<sup>2</sup> From PHS-DAHM, BEMT, 1969—Number of Ratios of Dietitians/Nutritionists in the United States 1960, 1966, 1975. (Unpublished.)

At the present time, there are approximately 325 positions budgeted for nutrition personnel in the M. & I. and C. & Y. projects.

To provide and maintain a desirable quality and quantity of nutritional care for these low-income mothers, their infants and children at high risk, we would need to train the following levels of nutrition workers each year:

- 100 additional public health nutritionists
- 1,000 additional clinic nutritionists (clinic dietitians)
- 1,000 dietary technicians (none presently available)
- 1,000 aides
- 100 additional home economists

Estimated cost of this training would be approximately \$6 million per year (over and above present expenditures).

#### Attachment No. 3

Experience with the maternity and infant care projects suggests that for 1 million maternity patients and their infants 1,000 trained social workers with an MSW degree would be required. In addition, it is estimated that there would be needed 2,000 untrained social workers. This is at the rate of 1 MSW and 2 BA level social work personnel per 1,000 patients.

Training cost for the MSW for the required 2 years would be \$8 million. This would fund 71 schools of social work with one project for each school at an estimated \$55,000 per project. This would include stipends for eight students, faculty, and clerical staff. The total number of students in each year of the 2-year curriculum would be approximately 570 students per year.

The cost for educating the BA level social work for the 4-year undergraduate course is estimated to be \$25 million for 2,000 students. Additional faculty and clerical staff would add an additional \$4 million. This is based on one faculty for every 10 students.

Inservice training and education for all staff, including volunteers and community aides, is estimated on the basis of \$300 per year per person, estimated cost \$900,000 plus \$300,000 for 1,000 volunteer and community aides, or a grand total of \$1,200,000. Total estimated cost \$38,200,000.

#### Attachment No. 4: *Concerning Maternal and Child Health Manpower*

*Physicians and specialists.*—Among the States, the supply of physicians varies with State financial



resources. The relationship is illustrated broadly by comparison of physician-population ratios of high, middle, and low per capita income groups of States. In low per capita income States the physician population ratios in 1964 were 30-40 percent below national average; middle per capita income States somewhat less so, while the ratios for the high per capita income group of States were 18-30 percent above those for the country as a whole. This regressive distribution was more marked in the specialties in the field of maternal and child health, notably obstetricians, anesthesiologists, and pediatricians, than for physicians generally.

TABLE 1

| Type of physician-population ratio  | Per capita income group of States (1962-64) |           |             |          |
|---|---|-----------|-------------|----------|
|   | United States (51)                          | High (17) | Middle (17) | Low (17) |
| Physicians (M.D.'s and D.O.'s) per 100,000 population.....                    | 143   | 169       | 132         | 102      |
| Index.....  | 100   | 118       | 92          | 71       |
| Obstetricians and gynecologists per 10,000 total births (live and still)..... | 374   | 467       | 315         | 260      |
| Index.....  | 100   | 125       | 84          | 70       |
| Anesthesiologists per 100,000 population.....                                 | 405   | 517       | 341         | 248      |
| Index.....  | 100   | 128       | 84          | 61       |
| Pediatricians per 10,000 children under 15.....                               | 246   | 320       | 190         | 169      |
| Index.....  | 100   | 130       | 77          | 69       |

Although significant variation with State financial resources is evident within the income groupings of States, there are marked differences among States.

Population growth and medical manpower needs: In 1964, physicians in the United States (50 States and District of Columbia), outside of Federal service, numbered 272,079 or 143 per 100,000 population. With projected growth in total population of 7 percent by 1970 and 15 percent by 1975, an estimated 316,370 physicians will be needed in 1975 merely to maintain the national physician-population ratio at the present level (143 per 100,000). Public Health Service medical manpower projections envision a somewhat larger supply than 316,370, but not enough larger to make possible a ratio in every State, in 1970 and 1975 at the national average level of 1964. To provide a floor at 143 per 100,000 in each State for the physician-population ratio, would require at the present time a 40 percent increase in non-Federal physicians in

the low per capita income States, 8 percent increase in middle per capita income States amounting at the national level to a 9 percent increase in total number of non-Federal physicians (M.D.'s and D.O.'s).

Similarly for full-time non-Federal pediatricians, to equalize the ratio to child population under 15 years among States at the present time, a 46 percent increase in these specialists in low per capita income States, 29 percent in the middle group, and a United States average increase at 14 percent is called for. Estimates for obstetricians and gynecologists, and for anesthesiologists, to accomplish a more even distribution of these specialists among States are shown in table 3.

TABLE 3.—Additional non-Federal physicians and full-time specialists needed to equalize physician-population ratios among States, 1964

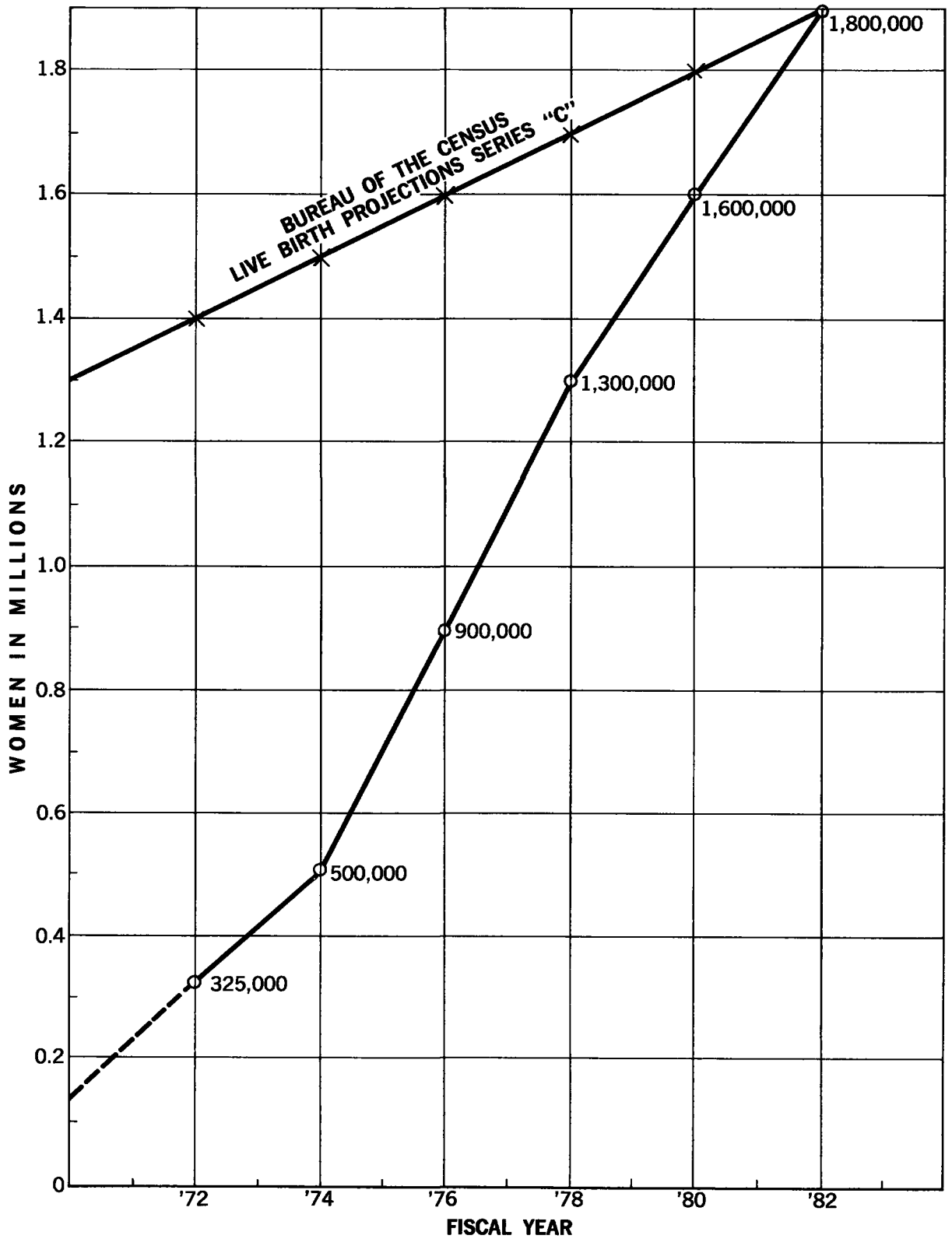
| Per capita income group of States, 1962-64  | Actual, 1964 <sup>1</sup> number | Additional needed to provide a State floor for physician-population ratios at 143 per 100,000 |         |
|---|----------------------------------|---|---------|
|   |                                  | Number  | Percent |
| PHYSICIANS (M.D.'s AND D.O.'s) <sup>2</sup>   |                                  |   |         |
| United States (51).....   | 272,079                          | 24,937  | 9.2     |
| High (17).....  | 169,810                          | 0   | 0       |
| Middle (17).....  | 63,445                           | 5,231   | 8.2     |
| Low (17).....   | 48,824                           | 19,706  | 40.4    |
| PEDIATRICIANS: STATE FLOOR—24.6 PER 100,000 CHILDREN UNDER 15                                   |                                  |   |         |
| United States (51).....   | 13,726                           | 1,952   | 14.2    |
| High (17).....  | 8,469                            | 0   | 0       |
| Middle (17).....  | 2,702                            | 787   | 29.1    |
| Low (17).....   | 2,555                            | 1,165   | 45.6    |
| OBSTETRICIANS AND GYNECOLOGISTS: STATE FLOOR—37.4 PER 10,000 TOTAL BIRTHS (LIVE AND STILL BORN) |                                  |   |         |
| United States (51).....   | 15,318                           | 1,844   | 12.0    |
| High (17).....  | 9,295                            | 0   | 0       |
| Middle (17).....  | 3,181                            | 591   | 18.6    |
| Low (17).....   | 2,842                            | 1,253   | 44.1    |
| ANESTHESIOLOGISTS: STATE FLOOR—4.1 PER 100,000 POPULATION                                       |                                  |   |         |
| United States (51).....   | 7,726                            | 1,060   | 13.7    |
| High (17).....  | 4,900                            | 0   | 0       |
| Middle (17).....  | 1,639                            | 306   | 18.7    |
| Low (17).....   | 1,187                            | 754   | 63.5    |

<sup>1</sup> As of Dec. 31, 1964.

<sup>2</sup> Physicians are non-Federal. Specialists are full time in specialty specified.

Source: Public Health Service, National Center for Health Statistics.

CHART 1



The increases just described stem from need for more nearly balanced distribution of health manpower resources among States. Except as noted above for physicians (M.D.'s and D.O.'s), they make no provision for maintaining prevailing ratios during the oncoming increases in population.

Increases in numbers of full-time non-Federal obstetricians and gynecologists and in anesthesiologists, in 1970 and 1975, relative to 1964, in order just to sustain the 1964 national ratios (37.4 per 10,000 total births and 4.1 per 100,000 population, respectively) are estimated as follows:

TABLE 2

| Year       | Obstetricians and gynecologists |                            | Anesthesiologists |                            |
|------------|---------------------------------|----------------------------|-------------------|----------------------------|
|            | Number                          | Percent increase from 1964 | Number            | Percent increase from 1964 |
| 1964.....  | 15,318                          |                            | 7,726             |                            |
| Projected: |                                 |                            |                   |                            |
| 1970.....  | 16,837                          | 9.9                        | 8,333             | 7.9                        |
| 1975.....  | 19,852                          | 29.6                       | 8,960             | 16.0                       |

The increase indicated, on the one hand to equalize distribution among States, and the other to provide for projected growth in population, refer to programs of services as operating in 1964. With development and expansion of new types of programs the requirements for medical and related manpower will be further increased. To what extent, will turn on the specifications of the new programs.