

deserve further investigation to ascertain their potential benefit for the elderly, but specific trials are required before they can be broadly advocated.

The problem of fractures is an excellent example of the complex nature of preventive activities in the elderly. The growing body of information about osteoporosis suggests that the judicious use of estrogens can retard the onset of the condition with acceptable risks, given appropriate supervision. Exercise may have a useful, if modest, contribution to delaying bone loss. It also seems to improve the sense of well-being and for this reason alone it should be encouraged.

Retarding osteoporosis can reduce the risk of fractures, but other factors contribute to this problem. For example, hip fractures are often the result of falls. Such fractures occur more often in the presence of osteoporotic bone. Preventive strategies can be usefully directed toward reducing the propensity to fall by altering the environment to remove hazards, identifying and treating correctable causes of falling or by teaching older people how to fall more safely.

A major role for prevention in the elderly is the avoidance of iatrogenic disease by interrupting transition from a disease process to a disability. Such prevention is more easily attained when care is provided from a continuous source. The caregiver can then observe subtle signs of change against what is often a busy background of symptoms associated with multiple chronic diseases. With such attention, the caregiver will often notice early signs of degeneration that would otherwise be dismissed as unimportant. Preventive work designed to reduce disability must include attention to the patient's wide range of needs. Sensitivity to such problems as depression, changes in speech and hearing, cognitive impairment and incontinence can lead to timely prevention.

Disability can be reduced even after a chronic problem has developed by careful attention to structuring the patient's physical and social environment so as to promote autonomy. Physical modifications of various types can make things more accessible and manageable, but more subtle effort is required to establish a rehabilitative climate where patients are encouraged to attempt as much as possible on their own. There are strong pressures from regulatory agencies and those concerned with the patient's safety to encourage care givers to do things for patients instead of encouraging autonomy.

Many preventive strategies that benefit the elderly involve efforts best directed at younger groups, who will then be in better health at the time they enter old age. This observation means that resources that benefit the elderly in time may be redirected toward other age groups. It is also useful to appreciate that investments in preventive actions are often difficult to sell to governments more concerned with short term events than with those that may not yield results for some years to come.

There is some danger in withholding preventive services from the elderly on the grounds of lack of demonstrated benefit. In a sense, elderly people are the victims of age discrimination. They have been systematically excluded from most trials of prevention. Thus the absence of evidence may be due to the fact that it has not been sought.

Preparatory to its Expert Committee meeting, the World Health Organization held a meeting in Hamilton, Canada to review the effectiveness of health promotion in the elderly. Frankly, it did not achieve this objective since the participants were torn between applying the strictest rules of scientific evidence and accepting health promotion practices which merely proclaim benefits in terms of improved function and enhanced well-being. In the end, the participants tried to achieve a unity of science with common sense by describing actual health promotion activities in different countries. In South Australia, for example, rational criteria are used to select geriatric health promotion activities for a state-wide program. Priority is given:

- to the most prevalent contributors to disability or death
- the most prominent societal concerns
- interventions likely to yield significant outcomes from resources
- invested conditions which are amendable to intervention in that
- large scale studies demonstrate that sustainable results can be achieved, or
- studies suggest the problem is amendable to intervention but local testing is necessary.

Evidence for the interventions were supported for:

- treatment of moderate to severe hypertension at least up to the age of 70
- influenza vaccination
- targeting breast cancer self examination in older women
- ameliorating social isolation
- relieving the care burden of family members
- correcting unfavorable societal attitudes
- pre-retirement education.

Close liaison was reported in Hamilton between the work of the Canadian and United States task forces on periodic health examination and on preventive health services. Both were exigent in using quality of evidence assessment criteria. On analyzing the evidence, the Canadian task force's principle recommendation was that routine annual checkup be abandoned in favor of a selective approach, based on a patient's age and sex. Accordingly, age- and sex-specific "health promotion packages" were developed and it was recommended that these be incorporated, opportunistically, into visits to a health facility. The package for 65-74 year old men and women includes:

- immunization against influenza, tetanus and diphtheria
- correction of hearing impairment
- measurement of blood pressure
- oral examination
- testing for occult blood in the stools
- two-yearly assessment of nutritional status and
- a condition called "progressive incapacity"

When screening practices from the United Kingdom and Israel were added to United States and Canadian experience there was little to add to the content of the health promotion encounter in the primary health setting beyond social and psychological function and measuring height and weight.

At the same time that the WHO experts were urging caution on the rhetoric of health promotion, the research community was encouraging WHO to develop world wide collaborative studies on aging. This is now formally established as the WHO Special Program for Research on Aging, and is based here at the National Institute of Aging. The central research question in the Program is to identify the determinants of healthy aging. Transitions in health status over time will be related to a battery of identical baseline measurements. Subject to the availability of funds, these prospective studies will be conducted simultaneously in some 8 countries.

Healthy aging, successful aging, effective aging all slip easily into our language. I am not suggesting that we do not use these terms. Indeed it is honest public health practice to do so if we wish to raise the health expectations of people and promote healthy public policy. Few have come to terms with the demographic reality that the third age emerged only some 3 decades ago in the United States and, now, half the women born will transit the age of 81. But aging people, their care providers and policy makers need facts more than exhortation. The collaborative endeavors which the international research community is tackling in harness with the World Health Organization and the National Institute of Aging are designed to generate these facts.

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## Charge to Participants

Presented by C. Everett Koop, MD  
Surgeon General, United States Public Health Service  
Monday morning, March 21, 1988

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We've heard much good information last night and this morning and now we ought to get to work ... in our work groups.

I've had the pleasure of convening seven workshops during my 6½ years as your Surgeon General. Some have been very large with a hundred or two hundred people ... some have had fewer than 50 people attending.

But the size has no relationship to the ultimate effectiveness of these workshops—and many of them have been extremely effective.

What's the secret?

Nothing very esoteric, believe me. The first requirement is that each person attending a Surgeon General's Workshop understands that his or her active participation is essential at every step of the workshop process.

If we didn't think you were important to the outcome of this workshop on health promotion and aging ... you wouldn't be here.

So ... please ... jump in and help pull together the kind of outcome of which we can all be proud ... an outcome that will help make a real difference in the lives of older Americans today and in the years to come.

The first requirement for success, then, is your participation.

The second requirement is to stay within the general framework of my "charge" to the workshop. And that's what I intend to deliver right now.

The "charge" is meant to keep everyone generally on track in some reasonably organized way so that—within the tight time frame we have before us—we can produce a set of sound and solid recommendations that can focus and energize the work in health promotion and aging.

This, then, is my "charge" to this workshop.

First, please keep in mind that our work is directed to the attention of the health care community, we want *them* to begin doing some new and different things—or to start doing some old things *better*.

Second, we need to reach the health care community through different avenues. I would think, for example, that some attention ought to be given to the role of professional and educational associations and institutions in this work. What do we want them to do? What kinds of pre-service and in-service educational program would we want them to carry out?

Maybe there are other ways to tell the story of health promotion and aging to health professionals now in the at work health system. Let's get those ideas out on the table and let's talk about them.

Third—and it's related to one I just mentioned—we need to think not only about the health professionals already at work but also about the young men and women who *should* be entering this field ... those bright and dedicated young people who would be most receptive to a recruitment message that talks about a real challenge ... about opportunities for growth ... and about the tangible and *intangible* rewards of personal and community service.

Again, I'm delighted we have six graduate students with us. They've already chosen a career in geriatrics. I hope they'll help us convince other bright young people to do the same thing.

Fourth, I'm very, very impressed by the background papers prepared for this workshop. And I want to extend to every author of every paper my own personal thanks for taking the assignment very seriously and helping us get off to a strong, running start.

But there's some "background" we still don't have about health promotion ... about aging ... and about both of them together.

At this workshop, we should zero in on the kinds of research that ought to be on our agenda for the future. This has been touched on already by several of the speakers already, but let's do more than just "touch on" this issue.

Let's talk about the areas where new knowledge is vitally needed—in the nature of the aging process, the health care needs of the elderly, or whatever. But let's get *them* down on paper also.

Fifth and finally, we need to speak candidly about the strengths and weaknesses of our nation's system for delivering health services, with reference to the elderly—and especially with reference to the promotion of the health of the elderly.

If this task were being effectively accomplished today, there would be no need for a "Surgeon General's Workshop on Health Promotion and Aging." But it is not—and we are here.

Let's look, then, at the kinds of services we now have ... the kinds of services we ought to have ... and the way these services do—and should—relate to each other in this matter of health promotion for older Americans.

At 9 a.m. on Wednesday morning, we will begin to hear the recommendations of the many work groups. These will be the culmination of our work here this week.

What should these recommendations look like or sound like?

Again, going back to the first "charge" I mentioned a few moments ago, the recommendations ought to be directed to the health care community and ought to be related somehow to the role of that community in promoting the health of older Americans.

Past workshops have been able to handle sometimes dozens of recommendations by arranging them under one or another of three headings: *research*, *education*, and *service*. I would encourage you to do this, also, because I gather, from talking with many of you, that we're going to have both quality *and* quantity in the recommendations of this workshop.

Try to keep your recommendations tied as closely as possible to specific, doable actions by particular institutions, professions, levels of Government, or other responsible elements in our society.

Finally, while Commissioner Fraser Fisk, Director Williams, and I will be formally receiving your recommendations tomorrow, do not limit your recommendations just to the work of our own respective agencies or even our Department.

Keep them on as broadly applicable a plain as you can. Remember, while you may have been convened by the Surgeon General for a "Surgeon General's Workshop," the actual scope of authority of the Surgeon General—as with any other public official—is carefully circumscribed by law, regulation and tradition.

Maybe some of these ought to be changed. Then say so, but please do not become mired in the details of life in the bureaucracy.

Speaking for my own little "newcastle," I have quite enough coal of my own, thank you.

Now, let me close by indicating what we plan to do with your recommendations.

As with previous workshops, we intend to publish them all—the good, the bad, and the indifferent—without any further editing for content or substance.

Our staff will clean up the grammar and syntax, where such might be necessary: This is the Government and we do have some standards. But we will *not* "clean up" the *thinking* that's *expressed* by that grammar, in deference to any political or other interest.

So, please do your very best. And we will respect that effort.

The final printed document will be distributed to those very associations, institutions, and agencies—public and private—who constitute the "health care community" in American life.

Many of you may be called upon for advice, as we put together our distribution plan. We want to make sure that the people who should act upon the message of this workshop actually get that message in the first place.

I'm pleased to say that we print *and reprint* thousands of copies of reports from these workshops. They tend to be benchmark documents and of great value for policy-makers, decision-makers, teachers, students, and involved persons from among the general public.

I am sure the document you produce here this week will have the same active longevity, appearing in every office and meeting room around the country, where people are serious about providing better health services for our older citizens.

That, ladies and gentlemen, is my "charge" to you. I've made it sound simple and straightforward ... because we need that more than we need jargon, rigmarole, and hot air.

I know you agree. And I know you will be terrific. Thank you.

## PLENARY SESSION

### RECOMMENDATIONS OF THE WORK GROUPS

Wednesday, March 23, 1988

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#### ALCOHOL WORKING GROUP

Chair: Enoch Gordis, MD  
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Anthony Vuturo, MD  
Nancy Wartow  
Erma Polly Williams

In the area of education (health care providers), we recommend that:

1. health care providers be educated through CME courses, professional associations, and other networks as to the patterns of alcohol use among older persons, risks and potential benefits of such use, effective detection and intervention techniques, and communicating effectively with their patients about alcohol issues.
2. Federal agencies provide incentives to medical schools and other health professions academic institutions to carry out a plan for education on alcohol abuse within the context of geriatric health care.
3. the content and effectiveness of educational materials on alcohol use among older persons be evaluated by HRSA/NIA/NIAAA to identify gaps and highlight opportunities for material development.
4. Federal agencies responsible for training health care providers and identifying personnel needs stemming from the aging of the population be attentive to alcohol issues.

In the area of education (alcoholism service providers), we recommend that:

1. alcoholism service providers be educated to the potential benefits of treatment at a late age.
2. organizations of service providers, State alcohol authorities and voluntary groups such as the National Council on Alcoholism be asked to include this information in ongoing education and training activities.

In the area of education (social service providers), we recommend that:

1. social service providers, including home health aides, be made aware of the potential for alcohol problems among older clients and of methods of identification and referral.
2. training for caregivers and advice for family members affected by alcohol abuse in older relatives be made readily available.

In the area of education (public), we recommend that:

1. Federal agencies, national membership and voluntary organizations, and associations, e.g., the American Association of Retired Persons, the National Council on Alcoholism, the American Society on Aging, and the National Council on the Aged, be encouraged to develop and disseminate information about alcohol problems among older adults.
2. public and private sector employers providing pre-retirement education include information about alcohol use.

In the area of service, we recommend that:

1. third-party payment for detoxification and rehabilitation be modified to reflect adequate length of time for recovery from alcohol abuse among older people.
2. the relative benefits of treating older alcohol abusers in community vs. hospital-based alcoholism treatment programs and in elder-specific vs. mixed-age alcoholism treatment programs be explored.
3. AoA fund demonstrations to develop broad-based community level programs to address alcohol problems among older people.
4. community-based programs, e.g., area agencies, county and city health departments, and voluntary agencies, develop linkages with the alcohol services network to identify, refer, and treat the older alcoholic.
5. existing State coalitions on health and aging expand their membership to include alcohol-related networks.
6. the Veterans Administration include an alcohol use component in their delivery of preventive services, including alcoholism counseling when appropriate.

In the area of research (epidemiology), we recommend that:

1. cross-sectional and longitudinal studies, including those using indirect measures and qualitative methods, be expanded on patterns of drinking among older adults to determine quantity, frequency, and duration of alcohol intake.



2. available data sets such as the National Health Interview Survey, the NIMH Epidemiologic Catchment Area Study, and the National Health and Nutrition Survey(s) be mined more carefully to answer questions about alcohol use patterns among older adults.
3. analysis of drinking patterns with special attention to socioeconomic groups, minority groups, and women be conducted.
4. in all epidemiologic studies, special attention be paid to attrition rates due to alcohol-related deaths.
5. research be conducted to determine the extent of lifetime versus late onset problem drinking among the aging and to resolve the discrepancy between early and late onset problem drinkers in the general population as compared to clinical, e.g., hospital and outpatient, populations.
6. research be conducted to examine the role of retirement, bereavement, and changes in discretionary income on alcohol consumption patterns. This includes examination of the reasons for the observed reductions in alcohol consumption with age.

In the area of research (physiology), we recommend that:

1. present studies be expanded on the impact of alcohol consumption on cardiovascular disease, particularly hypertension and stroke in the older population.
2. studies of alcohol metabolism in older people be replicated.
3. the interplay of the aging process and alcohol abuse on cognitive functioning in older adults be examined, and further exploration of the "premature aging hypothesis" be conducted.
4. the causal and intervening role of alcohol use in injuries common to older adults such as burns and fractures due to falls be examined.
5. both animal model and human studies be conducted to determine patterns of sensitivity and the acquisition and loss of tolerance to alcohol in older persons.
6. clinical investigators study the alcohol withdrawal syndrome in older persons to discover whether it is more lengthy, severe, and requires different treatment strategies specific to older adults.
7. the relationship between alcohol and nutrition in older populations be explored in terms of appetite suppression/stimulation and interference with nutrient metabolism.
8. current research on osteoporosis be expanded to include the role of alcohol.

In the area of research (other), we recommend that:

1. tax policy research include an exploration of the effects of such change on the alcohol consumption patterns of older people.
2. the role of alcohol in family violence and the behavior of violent older offenders be examined.
3. possible beneficial effects of small amounts of alcohol on eating behavior, mood, and sleeping patterns, and social functioning among older adults be further examined.

4. research be done to determine the role of alcohol in the risk of suicide and victimization among older people.
  5. research be conducted on the effect of alcohol on errors in prescription and over-the-counter medication use and medication/alcohol interactions.
  6. more reliable and valid screening instruments be developed to detect alcohol problems in older populations.
  7. NIA and NIAAA pay special attention to alcohol use among older adults in their prevention research portfolios.
  8. this research agenda be widely disseminated to potential funding sources including Federal agencies and foundations and to the research community.
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#### **DENTAL (ORAL) HEALTH WORKING GROUP**

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The recommendations of the working group on oral (dental) health are based on the following premises:

- oral health implies an oral status that is stable, relatively disease-free, comfortable, and permits adequate function that includes mastication, speech, and swallowing.
- older persons should have access to appropriate oral health education, primary prevention, and oral health services.
- many oral diseases that afflict older adults are diseases of all ages and many preventive regimens, especially community water fluoridation are appropriate for older adults.

- while few conditions pose mortality risks, they may lead to pain physical dysfunction, and psychological anguish.
- many of the systemic diseases and the medications used in their management have direct or indirect impact on oral health and functioning. Because there is an age-related increase in systemic disease and medication usage, older individuals may be at greater risk for orofacial problems.
- in the provision of oral health services, it is recognized that competent older persons have the right to self-determination.
- where appropriate, specific guidelines will be developed to implement the following recommendations.

In the area of education, we recommend that:

1. all health care providers should be educated in the relationship between oral and general health including the contributions of each health care provider in maintaining oral health and function.
2. educational programs for current and future oral health care providers should improve their knowledge, attitudes, and behaviors regarding primary preventive, treatment, and educational needs of older adults that include culturally and ethnically sensitive aspects of meeting these needs.
3. educational programs should be available to develop competent educators and researchers in all areas pertinent to the achievement and maintenance of oral health in the older adult.
4. appropriate curriculum guidelines and accreditation standards specific to meeting the oral health needs of older adults should be developed and reflected in licensure, certification, and national board examinations for all health disciplines.
5. older adults and their caregivers should be educated to enhance their knowledge, attitudes, and behaviors regarding:
  - the value of primary preventive methods to maintain oral health including community water fluoridation and other fluoride uses;
  - the importance of regular professional oral health services;
  - the uses of scientifically valid personal oral hygiene practices; and
  - oral diseases associated with the uses of tobacco alcohol, and medications.
6. accurate and appropriately designed educational materials and other resources specific to the oral health needs of older adults should be developed or adapted and disseminated through all relevant agencies, services, and organizations.

In the area of service, we recommend that:

1. individual oral health care providers, organized dentistry, Federal, State, and local agencies, and other organizations should continue appropriate preventive, restorative, and rehabilitative services with emphasis on oral health promotion and primary prevention programs for older adults.

2. alternative methods for the delivery of primary preventive and restorative oral health services should be developed to meet the oral needs of older adults, especially the homebound, the institutionalized, and the functionally dependent.
3. long-term care facilities should have an established oral health care program that includes timely and appropriate diagnostic, primary preventive, and restorative services.

In the area of research, we recommend that:

1. more basic and applied research be conducted to clarify relationships between systemic conditions, medications, and orofacial conditions in older adults.
2. studies be done to elucidate and characterize oral changes associated with "normal aging" and assess their impact on oral function.
3. more health services research be conducted to develop, evaluate, and demonstrate methods of health care delivery to improve the oral health of older adults.
4. studies be conducted on the prevalence, incidence, cohort differences and risk factors of caries (coronal, root, recurrent), periodontal diseases, soft tissue lesions, chronic orofacial pain trauma, and salivary gland dysfunction including development of appropriate indicators.
5. studies be conducted to identify adults who are at high risk for orofacial diseases and methods to meet their needs.
6. studies be conducted to determine the relative efficacy and benefits of primary preventive procedures for older adults.
7. studies be conducted on the knowledge, attitudes, and behaviors of older adults in relation to oral health status.
8. studies be conducted to determine the interaction among oral health status, psychosocial function, nutrition, and general health.

In the area of policy, we recommend that:

1. all community water systems be fluoridated.
2. oral health services for older adults be an integral part of public and private health benefits programs, including, but not limited to: Medicare Part B, Medicaid, employee retirement benefits, and other health insurance programs.
3. special efforts in oral health promotion and service delivery be directed to older adults who are currently underserved, such as Native Americans, the homebound, Hispanics, and Blacks.
4. Federal guidelines for long-term care facilities should include:
  - a dental examination within 30 days after admission and annually thereafter;
  - a program in oral primary prevention and health education for residents and staff;
  - access to dental treatment when needed; and
  - oral health status information in residents' medical charts.

Reimbursement mechanisms should be developed to support these activities.

5. access barriers to prevention and basic oral health services for older adults, such as financing, transportation, and physical barriers be removed.
  6. appropriate Federal, State, and other agencies such as NCHS, HCFA, NIA, and NIDR be encouraged to include an appropriate oral health component, e.g., clinical and psychosocial variables, in their existing data collection efforts, and make provision for appropriate data analysis.
  7. the VA be encouraged to establish one or more GRECC's focusing on health promotion and disease prevention that include an oral health component.
  8. in order to reduce the risks of oral lesions, National efforts continue to discourage use of tobacco and alcohol.
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#### **PHYSICAL FITNESS AND EXERCISE WORKING GROUP**

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Richard Weindruch, PhD

The working group on physical fitness and exercise encourages the U.S. Public Health Service to place a major emphasis on physical activity and serve as a catalyst to encourage cooperation between institutions that can implement the results of exercise research.

In the area of education, we recommend that:

1. educational components be developed that relate to the health benefits of physical activity that can be included as part of existing medical school curricula. Such components should include physiologic effects and health benefits of physical activity.

the development of components within residency and internship programs that relate to the health benefits of physical activity be encouraged. Special areas would include cardiology, pulmonary medicine, physical medicine, orthopedics, geriatrics, etc.

3. continuing medical education programs on health benefits of physical activity be promoted by such means as symposia at national and international professional meetings, courses, etc.
4. the development and use of physical activity assessment, prescription, and follow-up protocols that offer guidelines to the health care provider for increasing physical activity patterns in a wide range of persons be encouraged.
5. opportunities be developed for pre- and postdoctoral programs, and the available pool of expertise in the promotion of physical activity for the older adult be expanded.
6. the development of courses dealing with health benefits of physical activity as it relates to aging for programs of exercise physiology, epidemiology, nursing, physical therapy, health education, physical education, etc., be fostered.
7. physical activity in-service training programs be developed for nursing home care providers to offer safe physical activity to patients.
8. training be supported that fosters interdisciplinary collaboration in the promotion of physical activity in the older adult. Collaborators include psychologists, physical educators, cardiologists, physiologists, health educators, nutritionists, gerontologists, etc.

In the area of service, we recommend that:

1. Federal, State, and local governments provide leadership and support to programs that will promote physical activity for older citizens.
2. leadership be provided in the promotion of physical activity as an important component of a healthy life-style and that all agencies of the Federal Government provide physical fitness programs for their employees.
3. the Federal Government encourage local communities to identify and develop focal points, such as senior centers or other concerned community resources, to coordinate physical activity services to older citizens.
4. health care institutions, such as hospitals and nursing homes, provide encouragement, equipment, and facilities to enhance the physical activity of their staff and clients.
5. health care insurers, including Medicare, provide incentives to appropriate clients to increase their levels of physical activity.
6. designs for all multifamily housing incorporate facilities such as exercise rooms or open spaces and gardens into their housing designs to provide physical activity options. This should be a requirement for Federally funded housing.
7. professional associations develop position statements regarding appropriate physical activity for older persons and educational programs to reinforce those statements.

8. a physical activity assessment be incorporated into regular physical examinations and routine medical visits.
9. local communities be encouraged to assess health-related components of physical fitness of older citizens to raise awareness of the importance of physical activity.

In the area of research, we recommend:

1. research to determine the effects of exercise, independent of other life-style and behavioral factors, on degenerative processes including:
  - cardiovascular disease such as atherosclerosis;
  - endocrine metabolic diseases such as adult-onset diabetes and dyslipoproteinemia;
  - musculoskeletal diseases such as osteoporosis and osteoarthritis;
  - neurobehavioral diseases such as depression; and
  - immune dysfunction such as susceptibility to infection.
2. research at molecular, cellular, organ, and whole body levels to investigate the mechanisms by which exercise exerts its biological effects.
3. multidisciplinary research focusing on the effects of exercise on functional capacity and disease in diverse populations.
4. research to determine the role of physical exercise in the maintenance of functional capacity including muscular strength and endurance, cardiorespiratory function, agility, coordination, and flexibility.
5. research to determine the role of regular physical activity in the maintenance of mental health, well-being, and psychosocial functioning.
6. research to develop guidelines for screening and baseline medical evaluations of healthy people, as well as people who are disabled or have specific medical problems, in order to formulate an individualized exercise program.
7. research to determine the appropriate types and levels of physical activity in terms of intensity, frequency, and duration necessary to safely achieve the potential benefits in health and functional capacity across a wide age span and range of abilities.
8. research to determine the interaction between physical activity and other health-related behavior.
9. research to assess the modifiable behavioral and environmental factors that encourage individuals to adopt and maintain physical activity patterns.
10. research to examine whether there are gender, ethnic, and/or socioeconomic differences in participation and responses to physical activity.
11. research focusing on the effects of exercise on functional capacity and degenerative disease prevention in women, especially in the peri- and postmenopausal period.
12. research to establish reliable and valid measures of physical activity for epidemiologic, behavioral, and evaluation research.

In the area of policy, we recommend that:

1. appropriate physical activity be encouraged for individuals of all ages to maintain functional capacity and protect against the development of conditions such as obesity and disease processes such as coronary heart disease and adult-onset diabetes.
  2. regular physical activity, a beneficial behavior, begin at childhood and continue throughout life. However, such activity may be beneficial to individuals beginning at any age.
  3. physical activity prescription be recommended in the management and treatment of selected chronic diseases, many of which are common in older adults.
  4. specific physical activity recommendations be individualized according to age, health status, and current level of physical conditioning.
  5. the development of physical facilities and behavioral programs that lead to increased participation at low levels of physical activity and progression toward more rigorous exercise and activity be encouraged.
  6. institutional environments, e.g., schools, medical settings, and workplaces, encourage exercise and physical activity by providing time, facilities, and supervised programs.
  7. the Federal Government and private insurers provide financial and other incentives for State and local governments, health care providers, corporations, and other private organizations to make available health screening, physical facilities (including fitness trails and bike paths), and programs to promote physical activity.
  8. the Federal Government promote the expansion and development of the parks and recreation systems to provide places for physical activity participation.
  9. the Federal Government promote more communications media attention, particularly broadcast media attention, to the promotion of regular physical activity in the aging population.
  10. the Federal Government promote the dissemination of gerontological research and training information on the beneficial effects of physical activity and exercise to health professionals.
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## INJURY PREVENTION WORKING GROUP

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Members of the Injury Prevention Working Group understand that:

- intentional and unintentional injuries have serious consequences for older persons, their families, and the health care system at large
- efforts in injury control must include attention to epidemiology, prevention, biomechanics, acute care, and rehabilitation.
- while there are many commonalities, there are important differences in the extent, causes, and consequences of different injuries occurring in aging persons. Major injury categories important to older persons include falls and fractures; motor vehicular and pedestrian injuries; fires, homicides, assaults, abuse, and suicides.
- while input from many agencies is essential, the Centers for Disease Control, the National Institute on Aging, and the Administration on Aging will coordinate efforts in injury prevention and control for older persons.

Our recommendations in injury prevention and control are based on the following *assumptions*:

- Injury risk must be minimized without compromising quality of life.
- There is great demographic, cultural, and functional variability among older persons.
- Health care professionals should include older persons and their families in decision-making about injury prevention.
- Older persons with functional limitations benefit from more supportive environments than are found in a world designed for younger adults.
- Improvements in safety for older persons will improve the safety for all.

- Research, education, service, and policy in injury prevention require multidisciplinary efforts with participation from experts in gerontology, geriatrics, and specific injuries.

In the area of education, we recommend that:

1. content in injury prevention for the older person be a required component of the academic core curriculum of initial and continuing education of health care professionals and other service providers. Curriculum areas should include, at the least, the significance of injury as a public health problem, risk factors for injury, and presumptive and demonstrated injury control strategies.
2. professionals providing primary care be trained in the clinical assessment of risk for injury as well as the development and implementation of appropriate interventions.
3. professional disciplines, such as architects, engineers, and city planners, receive, as part of their required training, information on the capabilities and limitations of older persons so that these factors are incorporated into designs and standards.
4. the general population, especially children and youth, be educated to understand the capabilities and limitations of older persons and their place as valued members of the community. For example, driver education classes and handbooks should provide information on the decreased sensorimotor capabilities of older drivers and the consequent need to share the road in an understanding manner. Moreover, in our youth-oriented culture, we need to reinstall the traditional values of respect for the older citizen, not only as a worthwhile end in itself, but as a means of both reducing the risk of suicide, homicide, and, assault among the elderly and enabling younger people to better accept their own aging.
5. older persons be provided with information concerning risk factors for injury, ways to modify them, and sources of assistance in risk reduction.
6. educational activities be aggressive and comprehensive and utilize existing programs for older individuals, television, radio, and other media, as well as the health care delivery system.

In the area of service, we recommend that:

1. organizations providing services to older persons involve and ensure, through an identified advocate, the input of older persons into decisions which affect them.
2. coordination at the Federal, State, and local level in order to ensure efficient and effective development and delivery of services to the elderly.

In the area of research, we recommend that:

1. new and existing data systems collect information in a standardized way to assess the prevalence, incidence, course, and costs of both intentional and unintended injuries.
2. data linkages be established between medical records and other information related to injury prevention in order to facilitate the

identification of risk factors and the development of intervention strategies.

3. further analytic studies incorporating standardized measurements and definitions be conducted to determine the factors that alter the risk of both intentional and unintentional injury.
4. the rigorous evaluation of risk assessment and prevention strategies to support their dissemination and reimbursement. There are many promising ideas, technologies, and services of unknown efficacy and cost effectiveness, including risk assessment and screen devices.
5. development of specific strategies to reduce injuries in the elderly, such as occupant restraint systems for the frail and automatic water temperature controls on showers and faucets.
6. increased research to identify the etiology of fall injuries including the determinants of age-related reductions in bone strength (osteoporosis), the pathophysiology of falls, and, more importantly, the biomechanical factors that determine injury given that a fall has occurred.
7. studies should be initiated to assess the effect of current strategies for the diagnosis and treatment of injured older people.
8. evaluation of the effect of injury on the psychological functioning and quality of life of older persons (including injury victims, survivors, and significant others).

In the area of policy, we recommend that:

1. agencies that set and enforce safety standards affecting the environments of older persons must take into account the capabilities of older persons.
  2. new drugs be evaluated for efficacy in the elderly and that monitoring be done for specific adverse effects such as falls.
  3. all hospital discharge and emergency room records require E-coding and that trauma registries be redesigned to be population-based and include a representation of all injury types.
  4. the health care system be responsive to the needs of older persons through the following:
    - modifying reimbursement to support preventive clinical services.
    - develop protocols for assessments, evaluations, and interventions.
    - include rehabilitation professionals in primary health care teams.
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## MEDICATION WORKING GROUP

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The panel recognizes that drug therapy is an essential component of preventive, as well as curative, strategies. It is the least expensive and most cost effective component of health care costs.

Optimal use of medication in the elderly requires certain reconceptualizations: the value of incremental improvement in functional status as an outcome measure and the therapeutic objective of maintaining the highest level of functioning at any given level of illness.

A new paradigm is needed which recognizes the patient as a partner with the caregiver in the use of medications.

In the area of education, we recommend that:

1. health professional schools create an awareness of resources available for the prescriber, e.g., current geriatric text books in concert with PDR, USPDI, AMA-DE, and AHFS, to improve prescribing.
2. identifiable sites for prescribing information be available in all practice settings.
3. a different role for the pharmacist in geriatric medication—an expanded partnership with physicians as essential members of the care-giving team.
4. patients be educated to keep their own medication profile including over-the-counter drugs.
5. programs are needed for the training of family, community, and other home care providers in medication management.
6. prescribers, dispensers, and monitors of medication must understand age-related physiologic metabolic changes. Most important is decline in renal (kidney) function—the most frequently observed age-related

change which can influence the use and safety of drugs that are excreted in the urine.

7. the gerontological community should be encouraged to become actively involved in the drug development process.
8. as a way of improving drug use in the elderly, all professional schools should include in the curriculum for all students' courses in the following areas:
  - nonjudgmental patient counseling skills which recognize individual and cultural differences, and which recognize inherent ethnic differences, particularly in the use of nontraditional therapies;
  - interdisciplinary communication skills; and
  - basic concepts of epidemiology, pharmacology, and therapeutics, especially as relates to efficacy and risk of medications in the elderly.
9. a cadre of health professionals skilled in geriatric epidemiology and basic and clinical pharmacology must be trained.

In the area of service, we recommended that:

1. there be sustained, enhanced, and focused efforts to insure that older Americans have the information and tools they need (and have the right to expect) to be responsible partners in the medication enterprise:
  - the most effective tool for this is direct effective verbal communication, consultation and education regarding benefits, risks, and management of medication.
  - written information must be understood as a complement and not a substitute for dialogue.
2. third-party payors be encouraged to reimburse pharmacy services independent of the act of dispensing or the cost of the product. This includes such services as patient or provider consultation and withholding a prescription pending consultation with physicians.
3. alternative mechanisms of access to medicines for the geographically isolated and mobility impaired elderly. Study is needed of the potential limitations of such systems and the need for supported services, e.g., home health aids to encourage proper medication use and monitoring for side effects.
4. access to medicines and pharmaceutical services must be included as a basic part of broad health care programs for the elderly.
5. third-party reimbursement mechanisms must encourage (pay for) access to medical care appropriate for unique situations of complex medication regimens and isolated patients.

In the area of research, we recommend:

1. research regarding the most cost-effective means of educating the consumer or the home caregiver regarding proper use of and monitoring for side effects.
2. research regarding standardization of the medication profile and drug interaction information in the computer software that supports medication profiling.

3. research in the cost-effectiveness of medication profiling in the elderly.
4. research and evaluation regarding current and promising tools to improve the older Americans understanding and effective use of medications (compliance), e.g., medication diaries, color-coding, special packaging, large print and braille, pictographs, coordinated and consolidated dose forms, innovative delivery systems, easy-to-open packages, and messages adopted to social and cultural differences.
5. in the area of pharmacoepidemiological (postmarketing) research, we recommend:
  - post approval epidemiological research on elderly populations focusing on large automated linked data bases to study efficacy, risk, compliance, cost and new users rather than inefficient methods of ad hoc postmarketing surveillance, which require significant professional time;
  - current potential data sets be explored, particularly those relating to the elderly, e.g., Medicare, AARP, VA, and TRIMIS; the VAMP (England) automated medical practice model be examined as a possible model for use in the U.S.
  - development of better drug utilization denominators to understand risks from adverse reaction signalling systems; FDA should publish their data for general use;
  - targeted studies on nonlethal side effects to enhance patient acceptance and compliance and prevent secondary effects, e.g., dizziness, sexual dysfunction, nausea, incontinence, etc.; and
  - in epidemiological research, greater clarity in definitions and measurement of outcomes and exposure.

In the area of policy, we recommend that:

1. the standard of practice for pharmacists which includes use of up-to-date patient profiles and their application at the time of dispensing be endorsed.
2. consideration of medication provisions is vital in the Catastrophic Health Coverage Act (Medicare) (H.R. 2470) as follows:
  - Medicare should cover pharmaceutical benefits (prescribed items) including prescription and over-the-counter medication, biologicals, devices and appliances on an outpatient basis.
  - State windfalls from Medicare assumption of coverage should be required to be redirected to the health benefits, including drug benefits, of the non-Medicaid poor and near poor elderly.
  - States should be permitted Federal matching funds for Medicaid programs providing medication services to elderly persons at 200% of poverty.
  - so-called cost saving mechanisms in Medicare and Medicaid which control numbers or types of prescriptions or require co-payment for the poor and near poor for medicines are potentially hazardous and ineffective and should be abandoned.
  - correction of problems detected by drug utilization programs should emphasize education of professionals and not sanctions. Such efforts should be based upon current credible scientific

- indicators of medical practice and should focus upon direct professional and collegial contact.
- a new national mechanism is needed constituted by representatives of the gerontologic medication community for overseeing and evaluating this effort.
3. pharmacological tools currently available need broader application to attack the major causes of illness, disability, and preventable death in the older American. The Federal Government should vigorously pursue and support research for the use of medications in National prevention strategies based upon the considerable success in hypertension. Fruitful current areas include: arteriosclerotic cardiovascular disease, congestive heart failure, diabetic complications, and osteoporosis.
    - there is also promise in the longer term:
      - protection of renal function;
      - brain function and dementias;
      - protection of connective tissues;
      - preservation of immune function; and
      - benign prostate hypertrophy.
    - priority areas for treatment should also be directed to:
      - chronic obstructive pulmonary disease (COPD);
      - circulatory disturbances; and
      - cognition restoration.
  4. official governmental health agencies explore and expose fraud and quackery.
  5. vitamins, certain food stuffs, and nutritional supplements which are being used as drugs be reviewed by appropriate regulatory agencies; regulatory changes be made.
  6. new drug labeling include, where appropriate, directions for use in the elderly or other subgroups at risk. If no data are available, the labeling should state that data are not available.
  7. for existing products, label statements regarding use in the elderly be added incrementally as the label is revised. A schedule for such reviews needs to be developed.
  8. the use of official drug labeling as a patient teaching tool should be enhanced.
  9. the FDA proceed with the final development and implementation of proposed guidelines for development of drugs for use in the elderly, especially elderly subgroups at risk; in particular, persons should not be excluded from clinical trials on the basis of age alone (ASCPT Workshop, December, 1986).
  10. the Federal Government be a more active partner in the drug development process, both in establishing the basic science foundation and in other stages of evaluating drugs of importance for the elderly.
  11. the Federal Government should restore the extramural programs of core support for population pharmacoepidemiologic resources.

12. emphasis should be placed on the development of cost effective strategies for incremental improvement of health status and maintenance of highest possible function through the use of medications for symptomatic relief of pain, sleeplessness, anxiety, depression, and problems of the preterminal state.
  13. public exploration is needed of current policy, e.g., the orphan drug act, to stimulate the development of drugs, especially those without adequate profit incentive or with excessive liability concerns, e.g., non-patentable compounds, drugs off patent, vaccines, and orphan indication which could address unresolved problems in the elderly.
  14. Post approval studies focusing on the aging population at risk.
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#### MENTAL HEALTH WORKING GROUP

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Misperceptions and a lack of information about mental health problems in later life are common among the public and health care practitioners alike. Many clinically significant changes are dismissed as representing inevitable mental or behavioral manifestations of normal aging. The early recognition of these problems, however, can often prevent excess patient disability, promote a higher level of health and social functioning, and reduce family stress among close caregiving relatives.

There is growing recognition of risk factors that have the potential of influencing the onset, clinical course, and response to treatment of mental health problems in elderly individuals. Such risk factors include: major losses, especially of a sudden or unexpected nature, as with loss of physical health, loss of a loved one, or loss of self-esteem; medication side



effects; social isolation; relocation trauma; and forced transitions, e.g., involuntary retirement.

The adverse influence of mental health problems on the course of physical illness in older adults is significantly underappreciated; similarly, the potential contribution of mental health interventions toward promoting more rapid recovery from major medical problems and surgical procedures in later life is greatly overlooked.

The capacity of an individual with mental or behavioral problems to respond to mental health interventions knows no end point in the life cycle. Even chronic mental disorders in later life can respond to clinical interventions and rehabilitation strategies aimed at preventing excess disability in affected individuals.

Older persons with mental health, alcohol, and other drug problems typically have physical health problems as well, bringing them into contact with multiple services and a range of health care providers. As a result, strategies to promote mental health and to prevent the exacerbation of mental disorder in an older person must take into consideration multidisciplinary and service coordination issues.

The consideration of mentally retarded older adults should be included in deliberations on research, training, service, and policy recommendations pertaining to mental health promotion and the prevention of mental illness in later life.

The promotion of mental health among older adults occurs in an environment which includes, and is influenced by, family members, friends, and various natural support groups.

In the area of education, we recommend that:

1. in order to assure the existence of a cadre of mental health teachers to effectively transmit state-of-the-art knowledge in clinical and research training and education for the range of health care providers who can contribute to promoting mental health and preventing mental illness in elderly persons, a national program, multidisciplinary in focus, should be assured and adequately funded.

The diversity of health care providers who encounter older adults with (or at risk for) mental health problems, together with the diversity of service settings utilized by these elderly individuals, requires a multifocal training program. Given this:

2. mental health training models should be researched and developed, focused on:
  - mental health professionals in general training;
  - continuing education for mental health professionals who have completed their formal training;
  - primary health care providers;
  - paraprofessionals;
  - in-service training areas, e.g., senior citizen centers, older adult nutrition sites, senior housing projects, nursing homes, and board and care homes;
  - service systems serving the elderly, e.g., community health and mental health centers, area agencies on aging, home health care agencies, etc.;