ACTIVE AGING:

A SHIFT IN THE PARADIGM

June 1997
Office of the Assistant Secretary for Planning and Evaluation

The Office of the Assistant Secretary for Planning and Evaluation (ASPE) is the principal advisor to the Secretary of the Department of Health and Human Services (HHS) on policy development issues, and is responsible for major activities in the areas of legislative and budget development, strategic planning, policy research and evaluation, and economic analysis.

ASPE develops or reviews issues from the viewpoint of the Secretary, providing a perspective that is broader in scope than the specific focus of the various operating agencies. ASPE also works closely with the HHS operating divisions. It assists these agencies in developing policies, and planning policy research, evaluation and data collection within broad HHS and administration initiatives. ASPE often serves a coordinating role for crosscutting policy and administrative activities.

ASPE plans and conducts evaluations and research—both in-house and through support of projects by external researchers—of current and proposed programs and topics of particular interest to the Secretary, the Administration and the Congress.

Office of Disability, Aging and Long-Term Care Policy

The Office of Disability, Aging and Long-Term Care Policy (DALTCP), within ASPE, is responsible for the development, coordination, analysis, research and evaluation of HHS policies and programs which support the independence, health and long-term care of persons with disabilities—children, working aging adults, and older persons. DALTCP is also responsible for policy coordination and research to promote the economic and social well-being of the elderly.

In particular, DALTCP addresses policies concerning: nursing home and community-based services, informal caregiving, the integration of acute and long-term care, Medicare post-acute services and home care, managed care for people with disabilities, long-term rehabilitation services, children’s disability, and linkages between employment and health policies. These activities are carried out through policy planning, policy and program analysis, regulatory reviews, formulation of legislative proposals, policy research, evaluation and data planning.

This discussion paper was prepared as a background document for the Denver Summit by aging experts from the eight industrial countries who attended the Summit. The Department of Health and Human Services’ Office of Disability, Aging and Long-Term Care Policy and the National Institute on Aging organized this Experts Meeting. Many of the themes addressed in the paper were reflected in the Denver Summit communique. For additional information, you may visit the DALTCP home page at http://aspe.hhs.gov/_/office_specific/daltcp.cfm or contact the office at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, SW, Washington, DC 20201. The e-mail address is: webmaster.DALTCP@hhs.gov. The DALTCP Project Officer was Robert Clark.
BACKGROUND

The Denver Summit of the Eight provides an opportunity to foster a shift in our thinking about what it means to be "elderly," to focus on incentives for fostering active aging, and to identify potential areas of international collaboration for future research and information sharing. The Summit also provides an opportunity to discuss strategies for ensuring that our pension and health care systems can be sustained in the face of increased demands resulting from aging populations. In addition, the leaders may discuss ways to facilitate the transfer of information among developed and developing countries on aging-related issues. The results of the Summit could guide priorities for the ongoing OECD aging populations study.

MAJOR THEMES

It is widely recognized that we live in an aging world. One of the major successes of the 20th century is increased longevity and improved health among older populations in both the industrialized nations and, increasingly, many parts of the developing world. Aging is less and less synonymous with dependency. Thus, although the risk of chronic illness and disability certainly increases with age, only one in five Americans aged 65 and older has any chronic functional disability. Many persons with chronic conditions and functional limitations retain other significant capabilities.

The current paradigm of aging as a "dependent" stage of life, and our attendant social welfare policies, do not match up either with current realities or with likely scenarios for the 21st century. It is an opportune time to consider new definitions of "aging," work, retirement, education and leisure, including rethinking today's chronological benchmarks for engaging in life's major activities. The Summit could foster a paradigm shift which emphasizes "Active Aging." It could also encourage collaborative and comparative research and information sharing to better understand trends in age-related disability and the dynamics of retirement.

Active aging reflects the desire and ability of many seniors to remain engaged in economically and socially productive activities. Stereotypes of seniors as unproductive and dependent are unfair and detrimental to the vitality of society as well as the dignity of individuals. Government policies and programs should promote active aging, including full social and economic integration into society of older people with due regard to individual choices and circumstances.

Active aging means more than simply encouraging paid employment among seniors. Rather it raises broader social and political issues. Our societies should foster socially important activities like volunteering, household and child care help, caregiving to the disabled elderly, and support for social service organizations. We have to recognize the value of the contributions of the elderly to society and not portray them only in terms of the financial burden they represent for younger generations.
Successful population aging policies and programs must reflect the dependence of all citizens’ welfare on the overall strength of our economic, health and social systems. The well-being of healthy seniors is linked to that of seniors who are ill or have disabilities. The economic security of seniors is linked with that of younger adults and their families. Active aging has implications for decisions over the whole course of life, including education, work and leisure.

The following themes can contribute to the new "Active Aging" paradigm: (1) Improvements in Active Life Expectancy, (2) Employment Opportunities in an Aging Society, (3) Strengthened Pension Systems, (4) Planning for Age-Related Health and Long-Term Care Needs, (5) The Role of Caregiving and Volunteerism and (6) Cost-Effective Investments in Treating Chronic Disease. Advancing these themes will require systematic data gathering, cross-national research and enhanced information exchange.

(1) Improvements in Active Life Expectancy

The aging of the population is the result of a long-term decline in fertility rates and an enormous improvement in life expectancy. (See Figure 1.)

The very old (aged 85 and older) population is projected to be the fastest growing part of the senior population into the next century. In 1994, 3.7 million persons in the U.S. were aged 85 and older. Based on alternate assumptions about life expectancy, Bureau of the Census projections of the number of persons aged 85 and older in the year 2050 range from 9.6 million (lowest series) to 18.2 million (middle series) to 31.1 million (highest series). (See Figure 2.)

Other major industrialized nations are experiencing rapid growth in their very old populations. This is accompanied by falling fertility rates in many countries. In Italy, for example, where population aging is becoming more and more a public issue, the birth rate is 1.3 children per woman, among the lowest in Europe and far below the level of replacement.

There is some evidence that today’s population aged 65 and older in the U.S. (and possibly in other advanced industrial countries) is less disabled than earlier cohorts. Based on data from the 1982, 1984, 1989 and 1994 National Long-Term Care Surveys, researchers at Duke University found that the disability rate among persons 65 and older declined by 1.3 percent per year between 1982 and 1994. This resulted in 1.2 million fewer seniors with disabilities in 1994 than if the disability rate had not declined. (See Figure 3.)

The United Kingdom conducted surveys of disability in 1985 and 1996. When the 1996 data are analyzed, it will be possible to compare the U.K.’s experience regarding disability rates with that of the United States.
Surveys in Canada have shown a decrease in the prevalence of functional disabilities among persons aged 65 and over from 40 percent in 1978 to 25 percent in 1991. Other Canadian data indicate that from 1986 to 1991, disability-free life expectancy at birth increased by 1.2 and 0.6 years for males and females, respectively.

France conducted surveys of disability in 1981 and 1991. They show that for persons aged 65, life expectancy without disability has increased by 1.3 years for males and 2.3 years for females. Moreover, for females, the increase in life expectancy without disability (2.3 years) is greater than the increase in life expectancy (1.8 years).

Compounded over long periods, relatively small changes in disability rates at older ages can have very significant implications for the number of seniors with disabilities and the costs of their long-term care services. For example, based on one illustrative projection, if the disability rate among Americans aged 65 and older could be decreased by 1.5 percent annually for the next 35 years, the increase in the number of seniors with disabilities would be relatively small. (See Figure 4.)

We do not fully understand the forces that have contributed to the decline in disability rates or whether these will continue. The observed decline may be due in part to the increasing wealth and education of seniors and to the dramatic improvements in medical technology and treatments (such as cataract lens and joint replacements, coronary bypass operations, and better control of hypertension), and reductions in smoking and other disability risk factors. In addition, the disability decline may be partially due to improved nutrition, increased use of assistive devices, and environmental modifications, such as curb cuts on streets and ramps instead of stairs.

Cross-national research could shed light on which public policies contribute most significantly to healthy aging. More generally, collaborative basic and applied biomedical and behavioral research could help contribute to a better understanding of the aging process, more effective prevention strategies and ways to foster better health and less disability at older ages.

Currently, the data needed to support collaborative research among the industrialized nations is underdeveloped. Many countries use aggregate data and models for making policy decisions. However, more longitudinal microdata on the characteristics and behaviors of older individuals and their families are needed to model and project population and disability trends and the use of health and long-term care services. Surveys could provide standardized data on a wide range of age-related items such as health and disability status, economic status, kinship patterns and service use. These data could then be examined not just in the aggregate but on a subgroup basis, using such factors as age, gender, ethnicity and socioeconomic status.

European nations have population registers that can be used for comparative research on life expectancy at older ages. On the other hand, the U.S. has a relatively rich array of longitudinal panel surveys. Other countries may wish to consider developing standardized surveys analogous to the U.S. Health and Retirement Study or
National Long-Term Care Survey. Such population based surveys will enable the industrialized nations to simulate the behavioral responses of their citizens to changes in public and private pension and health policies and to compare population aging patterns across countries.

(2) Employment Opportunities in an Aging Society

Although life expectancy has increased dramatically over recent decades, in most developed nations, labor force participation rates of men aged 65 or over have dropped significantly. (See Figure 5.) For example, in the United States 57 percent of men aged 65 were in the labor force in 1960, as compared to 33 percent in 1996. (See Figure 6.)

Western European nations have some of the world's lowest rates of labor force participation for older men and women. By contrast, in Japan, labor force participation rates for men and women in their 60s are higher than in the other members of the Eight. In the U.S. at least, labor force participation appears to have stabilized since the late 1980's albeit at a relatively low level. Also, as women's labor force participation increases, retirement is becoming more and more of a joint spousal decision.

These shifts in labor force participation rates will reinforce rising senior support ratios as measured by the ratio of "retirement age" persons to the number of "working age" persons in coming decades. (See Figure 7.)

The majority of older workers in the U.S. retire on or before age 65. Some are no longer able to work, but many are responding to opportunities and incentives that favor withdrawal from the labor force independent of health or disability status (although, holding other factors constant, those in poor health continue to retire relatively early).

To a considerable extent, the declines in labor force participation probably result from the interaction of personal choice, cultural norms, business decisions, and government policies. Pension systems in many industrial countries, for example, "tax" work after a certain age, thereby creating disincentives to continued labor force participation.

Recent analyses of the Health and Retirement Study found that some current retirees would prefer to work. About a third of the respondents who had retired felt that they had been forced by circumstances to retire earlier than they wanted. For example, many said that while they would have preferred to ease into retirement through part-time work, they felt that their employers would not be receptive.

These findings are consistent with those of other countries. In Canada, it is estimated that approximately 25 percent of retirees left the labor force involuntarily. However, according to recent survey data, older workers are mixing paid work and retirement with much greater frequency than in the past.
Canadian analyses have focused on subgroups of older workers who lack the skills to continue working full-time or to mix part-time work with retirement. These subgroups are most likely to leave work involuntarily and then find that their incomes in retirement are inadequate.

The industrialized nations could identify the most important disincentives in public and private pension policies to continued work, as well as examine the effectiveness of incentives for prolonging productive activity. The widely prevalent idea that older people must retire in order to provide jobs for younger people also needs to be seriously reexamined. If people are able to work longer, society should not discourage them from doing so.

Indeed, progress has been made along these lines in some countries. The German federal government has introduced measures to make the transition to retirement more flexible, increase the effective pension age, reduce occupational health risks and stimulate the creation of new jobs adapted to the needs of older workers. In Canada, the work-to-retirement phase is less "binary" as people mix work, unemployment and other activities both before and after retirement.

When considering possible reforms, governments should take account of the interactions between government policies, population aging and the functioning of labor markets. This includes such considerations as fostering lifelong learning opportunities and flexible transition periods from employment to retirement (for example, through part-time employment). Employer attitudes about older workers may need to be transformed to enhance the employment opportunities of seniors.

The increased demand for aging-related services also has implications for employment. U.S. projections indicate that non- or semi-professional health service occupations (such as home health aide or personal care attendant) will be among the fastest growing areas of the labor market. Growth in these areas may help provide employment for relatively low-skilled workers, including those moving from welfare to work.

Rethinking the paradigm of aging and dependence will require the leaders of the industrialized nations to foster changes in the attitudes of public and private economic and social institutions as well as some individuals. Cross-national research and information sharing on retirement trends are needed to support such changes in attitudes.

In this connection, it may be noted that job opportunities in an aging society will be considered at the Job Conference to be held later this year in Kobe, Japan.

(3) Strengthened Pension Systems

In many industrialized countries, population aging is expected to put pressure on the ability of public pension systems to meet the needs of future retirees. Increasingly,
more retired people must be supported in large part by a decreasing proportion of persons in the labor force. The populations of many European countries are aging much more rapidly than the United States and labor force participation of older workers is much lower.

While older workers are leaving the labor force at younger ages, younger workers are entering the labor force later because of more years of schooling. As a result, the amount of time spent in employment has declined and is now equal to or less than the time spent out of employment in most industrialized countries. Adding to the size of the near-term problem is the sheer number of baby boomers across the industrialized world who are aging and will increase the need for health and long-term care.

In recent years, several countries have begun to respond to these pressures with reforms to their government pension plans. In 1993, France introduced a pension system reform for private sector employees. Under the new rules, the number of contribution years required to obtain a full retirement benefit will be increased progressively from 37.5 years to 40 years. Moreover, the period of a worker’s earnings history used for determining the initial pension benefit has been extended.

To cope with rising costs of pension systems, Germany intends to adjust the statutory benefit level. The federal government currently anticipates a medium- to long-range reduction in the level of government pensions from the current 70 percent to 64 percent of pre-retirement income for workers with average earnings and 45 years of covered employment in the system. Any such adjustment will be accompanied by the strengthening of occupational and private pension systems to avoid gaps in coverage. The German government has also introduced measures aimed at making the transition to retirement more flexible and increasing the effective pension age.

Similarly, Canada is taking steps to insure that its public pension system will remain affordable and sustainable. The growing costs of its earnings-related pension plan will be moderated, the plan will be more fully funded, and the funds will be invested at arm’s length from the government in the best interests of plan members. Low-income seniors will continue to be fully protected under changes to the component of the system that guarantees a basic level of retirement income to all Canadians. Cost growth will be moderated by determining benefits based on the combined income of spouses.

While these reforms may provide models for other countries, each country will choose its policies based on its own circumstances. The Summit could advance this process by providing a forum for exchanging ideas on broader macroeconomic policies intended to boost productivity growth and savings.

Policies to increase productivity growth might include efforts to boost human capital through such strategies as lifelong learning. On the national level, reductions in government deficits should stimulate investment and productivity. The Leaders could also share information about the effects of various policies on private savings behavior. Cross-national research and information sharing could help identify incentives that
encourage and reward individuals and employers for taking measures aimed at increasing savings.

(4) Planning for Age-related Health and Long-Term Care Needs

Since seniors are at greater risk of needing health and long-term care services than other population groups, spending on seniors for these purposes as a percentage of Gross Domestic Product is likely to grow. For example, Japan's health care costs for seniors aged 70 and above have grown tenfold over the past 20 years and have reached around 30 percent of total national health care expenditures. With the rapid aging of the population and changing family structure, Japanese caregiving responsibilities are increasingly shifting from families to the government and social service agencies.

Although population aging will undoubtedly lead to increased health and long-term care expenditures, public benefit expansions may be balanced in part by placing greater emphasis on private sector solutions. Private long-term care insurance financing is one example where the U.S. has some experience that may be of interest to other countries. It represents one strategy by which seniors and younger adults plan and save for their long-term care needs. Managed health care is another area where innovative efforts in the United States commercial health care market have helped to contain health care costs and may be of interest to other Summit nations.

The heads may be interested in exchanging information on recent government initiatives in long-term care. Germany is one of the first states worldwide to provide statutory long-term care insurance financed by compulsory contributions as a guarantee of basic long-term care protection. Canada is moving to provide better public coverage for long-term care needs, as well as giving priority to health promotion and disease-prevention strategies to promote positive health practices. Japan's Diet is also considering public long-term care insurance.

Because of the greater prevalence of chronic diseases associated with older ages, population aging will also entail adjustments in the recruitment, training and distribution of workers in the health care professions. It should also affect the development of new facilities, priorities in health-related research programs and the delivery of appropriate and cost-effective health care services. For example, a significant proportion of health care expenditures are devoted to end-of-life care. Cross-national studies on the effects of different systems and approaches in caring for individuals at the end of life would be useful.

Many people with significant disabilities can participate in the labor force and engage in other socially beneficial activities, with appropriate supports to living and work environments. Redesigned work settings, retrofitting existing homes, new models of residential care, altered transportation systems, and a variety of assistive technologies can help overcome functional limitations and foster greater independence among older (and younger) persons with disabilities. In Germany a comprehensive rehabilitation
infrastructure to help limit long-term care needs has been built up, funded mainly by the social security system.

In all these areas, countries could collaborate in research and data base development, identify success stories and best practices and establish forums for regular exchanges of information.

(5) The Role of Caregiving and Volunteerism

Family caregiving is the key underpinning of the U.S. long-term care system and there appears to be growing interest in how to support informal caregiving in other countries. Healthy elders taking care of their disabled spouses and "young-old" children in their 60s looking after disabled parents 85 and older are able to keep many individuals at home who would otherwise require expensive institutional care.

U.S. research (based on the 1989 National Long-Term Care Survey) indicates that approximately half of the primary informal caregivers of the chronically disabled seniors are spouses who are themselves aged 65 or older. Caregiving and volunteer activities--traditionally "women's work" performed by housewives--have increasingly become the domain of older retirees, both male and female. Among older caregivers (aged 55 and over), over three-quarters indicate a high level of satisfaction and two-thirds report that they do not find caregiving burdensome.

Contrary to conventional wisdom, evidence from the National Long-Term Care Survey suggests that, for the most part, work responsibilities do not currently conflict with the ability of children and spouses to provide care to frail older relatives. For example, among younger adults, only about one-quarter are in the labor force. Most of the remaining three-quarters are early retirees or housewives aged 55 to 64. At present, these caregiver decisions to forego paid employment appear to be determined by factors unrelated to their elder care responsibilities.

Over half of older Americans (aged 55 and over) in a 1992 survey report that they provided unpaid household and child care help to children and/or grandchildren during the previous week. These inputs have been estimated at an economic value of $48 billion per year. Clearly many grandparents and great-grandparents help employed family members avoid substantial out-of-pocket costs by providing regular or back-up child day care.

Caregiving may have negative as well as positive aspects. Nearly two-thirds of employed caregivers in the U.S. said that they experienced work and caregiving conflicts that required accommodations such as rearranging work schedules, working part-time or taking leave without pay. In Japan, about 60 percent of informal caregivers report that they find caregiving burdensome. The number of caregivers forced to quit their jobs to carry out their family responsibilities has been increasing. In part this may be explained by the extent to which heavy care, even 24 hour care in some cases, is provided by daughters-in-law, who must balance these demands with other
responsibilities. A similar cautionary note is sounded in Canadian research. A 1991 survey reported that 13 percent of retired women had quit their jobs in order to care for someone in their immediate family. This suggests at least the possibility of significant conflict between work and caregiving activities.

Americans like to think of "volunteerism" as both an historical and an ongoing national trait. In 1992, one-fourth of Americans over 55 years of age participated in formal volunteer work of one sort or another--most often in connection with a church, a medical facility (e.g., hospital or nursing home), or service organization (such as the Rotary, Kiwanis, or Lions). These persons provided approximately 6.5 hours of volunteer activity per week.

The role of volunteerism and family caregiving varies across countries. Cross-national research and information sharing can help understand their role and effectiveness in fostering a climate of active aging. The capacity of older individuals to continue to carry out socially beneficial activities depends in part on better understanding of the reasons why people move out of the labor force in the first place and in part on how incentives for paid employment interact with opportunities for caregiving and volunteerism.

(6) Cost-Effective Investments in Treating Chronic Disease

Non-communicable chronic diseases have replaced infectious diseases as the number one source of deaths in the world. (See Figure 8.) Options for addressing chronic illness are growing, from high-tech treatments such as coronary artery bypass surgery or angioplasty, to low-tech solutions such as home care and assistive devices. Advances in basic biomedical and behavioral research are leading to new treatments and delay in the onset of chronic diseases. As new effective medical technologies become more widely disseminated, older populations may demand greater access to them.

Knowledge of the risk factors associated with chronic diseases that cause disability has increased. This information is leading to earlier interventions on musculoskeletal conditions (e.g., joint replacement), cataracts (e.g., lens replacement), and even dementia. Many such interventions are in their early stage of development and require further testing and refinement. If this occurs, further declines in old age-related disability rates may be possible.

Cross-national research on the effectiveness of different approaches to treating aging-related chronic diseases could provide important benefits. Creation of a comparative cross-national medical database that focused on highly prevalent chronic diseases (e.g., Alzheimer's, diabetes, cardiovascular disease) would facilitate analyses of the cost-effectiveness of various treatments. The allocation of different medical technologies for particular conditions should be investigated to assess the extent to which they achieve the desired outcomes.
Given the wide variation across advanced industrial countries in per capita spending on medical and related services for older persons, cross-national research can shed light on the cost-effectiveness of particular procedures, treatments and intervention strategies in reducing disability and fostering better health at older ages. There should also be comparative research on entire health care systems to evaluate their overall performance.

**SUMMARY**

The theme of Active Aging provides a framework for cross-national collaboration on the phenomenon of worldwide population aging. New cross-national data and better quantitative understanding of the issues are needed not only in the context of policy research but also in the context of practical policy development and consensus building. Cross-national information-sharing, systematic data-gathering, research, and consensus-building could be directed at the following issues and topics. The OECD and other international organizations (e.g. World Health Organization, United Nations Population Division) could be the focal point for some activities; however, individual countries may also wish, in some cases, to interact or collaborate more directly. Some of the major issues are:

1. **Improving the ability to forecast health status and disability at older ages, in order to make more accurate predictions of future health and long-term care costs.**

   Relatively small changes in disability rates and active life expectancy at older ages can have very significant implications for financing health and long-term care services. Comparable longitudinal databases could be created which would allow the industrialized nations and the developing world to make cross-national comparisons of population aging and behavioral responses to changes in pension and health policies. Basic biomedical and behavioral research is needed to identify the causes of chronic diseases, related disabilities and cost-effective treatments.

2. **Understanding the disincentives to higher labor force participation rates among older persons and the effectiveness of incentives for encouraging socially productive activity.**

   Although life expectancy has increased dramatically over recent decades, the labor force participation of older workers has declined. Research and new longitudinal microdata are needed to identify the most important disincentives to continued work at older ages. They are needed as well to determine the effectiveness of incentives for reducing early retirement and increasing socially productive activity at older ages.
(3) **Improving the sustainability of government pension plans.**

Population aging is putting pressure on public pension systems in almost all industrialized countries. Cross-national research and information sharing on approaches to pension reform could help build support for needed changes.

(4) **Planning for health and long-term care needs.**

Population aging will also increase the need for health and long-term care services. Cross-national research and information sharing can help to shape public attitudes toward the appropriate balance between government roles and personal responsibility for meeting health and long-term care needs, including the role of informal caregiving and private financing strategies. Countries could collaborate in research and data base development, identify success stories and best practices, and establish forums for regular exchanges of information.

(5) **Understanding the relationship between expenditures on medical and long-term care and beneficial outcomes for individuals with chronic diseases.**

Population aging could cause expenditures on medical and related long-term care to consume ever greater percentages of Gross Domestic Product. Comparative research across the industrialized countries could improve the cost-benefit evaluation of new medical technologies and treatments for chronic diseases, as well as the effectiveness of prevention-oriented strategies.
FIGURES

Population Aged 65 and Older,
As A Percentage of Total Population

<table>
<thead>
<tr>
<th>Country</th>
<th>1990</th>
<th>2010</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>11.3</td>
<td>13.5</td>
<td>15.7</td>
</tr>
<tr>
<td>France</td>
<td>13.8</td>
<td>16.3</td>
<td>17.0</td>
</tr>
<tr>
<td>Germany</td>
<td>14.9</td>
<td>20.2</td>
<td>26.1</td>
</tr>
<tr>
<td>Italy</td>
<td>14.8</td>
<td>20.6</td>
<td>27.9</td>
</tr>
<tr>
<td>Japan</td>
<td>11.9</td>
<td>21.1</td>
<td>26.1</td>
</tr>
<tr>
<td>U.K.</td>
<td>15.7</td>
<td>17.0</td>
<td>23.0</td>
</tr>
<tr>
<td>U.S.</td>
<td>12.6</td>
<td>13.8</td>
<td>21.9</td>
</tr>
</tbody>
</table>

SOURCE: OECD

U.S. Elderly Population Projections
Persons Aged 85+

<table>
<thead>
<tr>
<th>Year</th>
<th>Lowest Series</th>
<th>Middle Series</th>
<th>Highest Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994 (actual)</td>
<td>4.1</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>2000</td>
<td>4.5</td>
<td>4.4</td>
<td>4.4</td>
</tr>
<tr>
<td>2010</td>
<td>5.4</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>2020</td>
<td>6.4</td>
<td>6.3</td>
<td>6.3</td>
</tr>
<tr>
<td>2030</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>2040</td>
<td>10.6</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td>2060</td>
<td>13.5</td>
<td>13.5</td>
<td>13.5</td>
</tr>
</tbody>
</table>

FIGURE 3

Estimates of Number of Americans Age 65 & Over with Disabilities: 1982-1994

If disability rate did not change since 1982
Based on actual declining disability rate since 1982

1982 Total Population Age 65+: 76.9 million
1988 Total Population Age 65+: 80.8 million
1994 Total Population Age 65+: 83.7 million


FIGURE 4

Illustrative Projections of No. of Americans Age 65 & Over with Disabilities: 1996-2030

Based on constant 1982 disability rate
Based on constant estimated
gBased on 1.5% decline per annum

1996 2030

SOURCE: Adapted from Manton, K.G., et al., Proceedings of National Academy of Sciences,
FIGURE 5

Labor Force Participation,
Males 65+: 1975, 1992

<table>
<thead>
<tr>
<th>Country</th>
<th>1975</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>18.7</td>
<td>19.5</td>
</tr>
<tr>
<td>Finland</td>
<td>28.4</td>
<td>22.9</td>
</tr>
<tr>
<td>France</td>
<td>14.0</td>
<td>16.8</td>
</tr>
<tr>
<td>Germany</td>
<td>10.8</td>
<td>16.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>28.2</td>
<td>7.5</td>
</tr>
<tr>
<td>Italy</td>
<td>7.5</td>
<td>37.0</td>
</tr>
<tr>
<td>Norway</td>
<td>30.5</td>
<td>20.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>16.0</td>
<td>18.6</td>
</tr>
<tr>
<td>Spain</td>
<td>18.6</td>
<td>15.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>9.8</td>
<td>26.7</td>
</tr>
<tr>
<td>U.S.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1975: [Data for 1975]
1992: [Data for 1992]


FIGURE 6

U.S. Male Labor Force Participation
Rates by Age, 1960 to 1996

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 60</td>
<td>85.9</td>
<td>82.9</td>
<td>74.0</td>
<td>70.5</td>
<td>67.6</td>
</tr>
<tr>
<td>Age 65</td>
<td>56.8</td>
<td>49.0</td>
<td>58.5</td>
<td>51.9</td>
<td>52.4</td>
</tr>
<tr>
<td>Age 70</td>
<td>28.8</td>
<td>24.8</td>
<td>17.8</td>
<td>16.4</td>
<td>16.3</td>
</tr>
</tbody>
</table>

**Figure 7**

**Projections of Senior Support Ratios***

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2010</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>16.7</td>
<td>20.8</td>
<td>39.1</td>
</tr>
<tr>
<td>France</td>
<td>20.4</td>
<td>24.6</td>
<td>39.1</td>
</tr>
<tr>
<td>Germany</td>
<td>21.7</td>
<td>30.3</td>
<td>49.2</td>
</tr>
<tr>
<td>Italy</td>
<td>21.6</td>
<td>31.2</td>
<td>48.3</td>
</tr>
<tr>
<td>Japan</td>
<td>17.1</td>
<td>33.0</td>
<td>44.5</td>
</tr>
<tr>
<td>U.K.</td>
<td>24.0</td>
<td>25.8</td>
<td>38.7</td>
</tr>
<tr>
<td>U.S.</td>
<td>19.1</td>
<td>20.4</td>
<td>36.8</td>
</tr>
</tbody>
</table>

*Population aged 65 and older as a percentage of active age population, i.e., 15-64.*

**Figure 8**

**Baseline Projections of Deaths by Cause Group, World, 1990-2020**

- **Group 1:** Communicable, maternal, perinatal and nutritional conditions
- **Group 2:** Noncommunicable diseases
- **Group 3:** Injuries