Published in final edited form as:
Popul Dev Rev. 2004 ; 30(Supplement): 3–16.

The Demographic Faces of the Elderly

Linda J. Waite

Abstract

Much of the world is aging rapidly. Both the number and proportion of people aged 65 years and older are increasing, although at different rates in different parts of the world. The number of older adults has risen more than threefold since 1950, from approximately 130 million to 419 million in 2000, with the elderly share of the population increasing from 4 percent to 7 percent during that period. In the United States, those aged 65 and older currently make up about 13 percent of the population. The US Census Bureau (2004) projects that in 25 years this proportion will exceed 20 percent. Over the next 50 years the United States will undergo a profound transformation, becoming a mature nation in which one citizen in five is 65 or older. (Now, one person in eight is that old.) The dramatic increases to come in the older population will exert powerful pressures on health care delivery systems, on programs such as Social Security, Medicare, Medicaid, and Supplemental Security Income that provide financial support, and on social institutions such as the family that provide instrumental, financial, and emotional support for the elderly.

As part of the same process, the older population itself will age, with large increases in the number of people who are 85 and older. In 2004, these oldest-old Americans accounted for just over 1 percent of the population (US Census Bureau 2004), but they exert a disproportionate effect on both their families and the health care system. These oldest-old men and—more frequently—women are much more likely than the young-old to live in nursing homes, to have substantial disabilities, and to have restricted financial resources.

Both the American population and the population of the world are adding oldest-old members at a much faster rate than any other age group. This means that the numbers of very old people will increase and the proportion of the population that is very old will rise. The Census Bureau (2004) projects that the US population aged 85 and older will double from about 4.3 million today to about 7.3 million in 2020, then double again to 15 million by 2040, as members of the very large baby boom cohorts born after World War II reach these ages. If the Census Bureau is correct, by 2050 one American in 20 will be 85 years old or older, compared to one in 100 today.

Both the number of older adults in the population and their proportion within the total population are concerns. The number of older adults we can expect in the future tells us something about how many hospital beds, geriatricians, home health aides, and nursing home beds will be needed. The proportion of the population that is old, and especially oldest-old, tells us how many working-age adults will be available to provide financial support to the elderly and to work as home health aides, geriatricians, food services workers, and so on. Thus, a large number of older adults has different implications in a large overall population than in a small one.

Many parts of the world are undergoing this demographic transformation. More than 18 percent of Italians are 65 and older, with Sweden, Belgium, Greece, and Japan just slightly younger. As these figures suggest, Europe has the highest proportion elderly and will probably remain the oldest region for decades. But the rapid declines in fertility in Asia, Latin America and the Caribbean, and the Near East/North Africa, combined with increases in life expectancy, mean that the proportions elderly in these regions will more than triple by 2050 (RAND 2001).

All the men and women in the world who will be very old in 2050 are alive today. Their maximum numbers are known. But how long these men and women will work, how long they will live, and what their resources and their needs will be are not known. We know little about the risks of illness and disability that will face older adults over the next half century.

We cannot plan for population change or design appropriate and effective responses without understanding, for example, the processes that underlie increases in longevity, the mechanisms that accelerate or delay the onset of disability, the incentives that affect retirement decisions, including employment and saving for retirement, and the role of public programs and policies in all of these factors.

Given that the vast majority of those who will make up the older population in the United States in next 50 years are already born and living in the country, the size of the older population in the future depends on how long these people will live. This past century has witnessed a remarkably constant decline in age-specific death rates. During the early part of the century, declines in death rates occurred when infectious diseases were brought under control. Since 1960, death rates from cardiovascular disease have fallen sharply, lowering overall death rates. Scientists continue to debate how much room exists for further improvement in longevity, and the outcome carries far-reaching implications. For example, the actuarial balance of the Social Security Trust Fund is more sensitive to alternative assumptions about future trends in longevity than to any other factor, including disability, immigration, wage growth, or inflation (Preston 1996).

History, biology, and disease

Both Robert Fogel and James Vaupel address this controversy, from different directions but with remarkably similar conclusions. During his study of Union Army veterans in the United States, Fogel and his colleagues (Chapter 1) found that chronic disease and disability were ubiquitous in the century prior to World War II, with a sizable proportion of those in their teens and early adulthood afflicted. Since that time, the age at onset of chronic disease has risen substantially, extending the period of healthy life and lowering mortality. Fogel and colleagues found that elimination of exposure to specific infectious diseases during childhood and young adulthood contributed significantly to improving health, in part by increasing height and weight, which led to a decline in morbidity and mortality.

This evidence prompted Fogel and colleagues to develop a “theory of technophysio evolution,” which points to increasing human control of the environment, including a dependable supply of food and water free of pathogens, virtual elimination of exposure to many infectious diseases in utero, infancy, and childhood, and improvements in personal hygiene, clothing, housing, medical interventions, and public health practices. This control over the environment has allowed human populations to greatly increase average body size and to substantially improve the capacity and robustness of vital organ systems, leading to an approximate doubling of life span.

The theory of technophysio evolution has testable implications, as theories should. It implies that between the mid-1800s and the present day, birth cohorts changed substantially in their stock of health capital at birth and in the rate of depreciation of that capital over time, with later cohorts having much greater health capital and much lower rates of depreciation of it. This implies that the age of onset of chronic diseases and disability will increase for later birth cohorts and that life expectancy will rise.

Perhaps the theory of technophysio evolution will replace James Fries’s theory, proposed in the early 1980s, of a biologically fixed maximum human life span. James Vaupel and colleagues have developed testable implications of Fries’s theory and applied data from contemporary and historical populations, from twin registries, and from Mediterranean fruitflies and other nonhuman species to test the idea that human life span is biologically fixed. Fries's theory implies that death rates at very old ages should be relatively stable, since virtually all death at advanced ages is due not to accident or unlucky chance but to the wearing out of organ systems as the maximum life span is approached. As recapitualated in Chapter 2, Vaupel found, instead, that death rates at older ages have declined substantially over the last century, as the theory of technophysio evolution would suggest; even at age 100, death rates among Swedish adults have fallen by half during the last century. Fries's theory further implies that genetically identical individuals should have identical maximum potential life spans. Vaupel's work on twin registries, however, found no evidence that Danish twins share a maximum potential life span. If life span is fixed at some maximum, which differs between species, then death rates should rise very rapidly as that maximum is approached. But Vaupel's work has shown that the reverse appears to happen, with death rates for humans, Medflies, and other species, reaching a maximum and then declining with increasing age. Vaupel has not developed a theory of human aging and life span to replace the one he has so effectively falsified. But Fogel's theory of technophysio evolution may prove a useful starting point.

Both Fogel and Vaupel conclude that we might expect further and perhaps sizable increases in life expectancy in the United States and other countries, as we reap the benefits of extensive and intensive human control of the environment, combined with what appear to be highly plastic mortality rates at older ages and consequent expansions of life span. The policy implications of these conclusions are enormous.

Clearly, disease and death are fundamentally biological processes, although it has been recognized at least since Malthus and Durkheim that they take place within a social context that profoundly influences them. The last decade has seen a burgeoning of interest within demography in the specific physiological processes underlying the relationships we study, for example the connection between socioeconomic status and health, or the causes of racial disparities in health and disease. Biology also joins with demography in Douglas Ewbank's work (Chapter 3) on the contribution of genes to differences in mortality for a specific disease and to all-cause mortality. Ewbank began by estimating the proportion of deaths in the United States that could be attributed to Alzheimer's disease. Using two different approaches, he found that only one in four Alzheimer's deaths was listed as such on death certificates, and that a more complete count would put Alzheimer's disease on a par with cerebrovascular disease as the third-leading cause of death in the United States.

Ewbank extended the methodological underpinning of this work toward "demographic synthesis," through which he combined various types of data from different studies—say, information on incidence of disease from one study with data on prevalence by age from another—to answer questions about the contribution of genotype to mortality from Alzheimer's disease. Obviously, this approach can be generalized to other chronic diseases. Less obviously, it can be generalized to studying the population-level effects of genetic variability and the development of chronic disease. Ewbank's approach allows demographers to incorporate data from clinical studies into models of population processes, arguably giving us the best of both worlds in our effort to understand health, disease, and length of life.

Why is higher socioeconomic status associated with better health?

This question has long puzzled scholars, policymakers, and members of both advantaged and less-advantaged groups; speculation abounds about the causal processes at work and the medical and policy interventions that might mitigate health disparities. We know that regardless of the measure of socioeconomic status we use, those with more of it tend to live longer, healthier lives. James Smith (Chapter 5) has found that the proportion of adults who report their health as excellent or very good is 40 percentage points greater in the highest than in the lowest income quartile (see his Figure 1). The gradient is at least as large if educational attainment is used as the measure of socioeconomic status, with the poorly educated much likelier than those with more education to suffer higher mortality from almost all causes, including diabetes, hypertension, and heart disease, and to show higher levels of disability, functional loss, and cognitive impairment (Crimmins and Seeman, Chapter 4). These differences by income and education are reflected in large health and mortality differentials by race and ethnicity in the United States, although blacks tend to be more disadvantaged and Hispanics less clearly disadvantaged relative to whites once we take education and income into account. Of course, the relationship between socioeconomic status, health, illness, disability, and mortality for blacks, whites, and Hispanics is more complicated than this broad outline suggests, as Crimmins and Seeman make clear. One of the most important research and policy questions facing demographers, epidemiologists, physicians, and health care providers focuses on the pathways through which education, income, and other measures of inequality affect health, illness, disability, and life expectancy.

Three of the chapters in this volume summarize programs of research that investigate social differentials in biological and physiological processes that affect health and illness. This research, together with that done by the larger scientific community, has begun to change, fundamentally, the way social scientists think about social inequality, the way behavioral scientists think about the role of psychosocial factors in well-being, and the way epidemiologists think about public health. It has also begun to change the way physicians, medical researchers, and biologists think about gene expression and about processes at the level of the cell, organ system, and organism. Of course, this ongoing process is encountering much resistance in both the social/behavioral and biomedical camps, at least in part because many scholars, trained in another era, have little knowledge or understanding of current approaches in unfamiliar disciplines.

Research on disparities in health has concentrated on a few key aspects of socioeconomic status—income or wealth, education, and occupation, the benefits that these bring for health, and the mechanisms through which they work. Clearly, there are incomplete overlaps between the several aspects of socioeconomic status, and they operate in very different ways in delivering health and long life. And, although low levels of income or education may lead to declines in health and the onset of illness, poor health and illness may also lead to declines in income and wealth, and, early in life, may curtail education as well. The same characteristics that lead some people to invest little in their own education may also lead them to invest little in their own health, so that socioeconomic status and well-being are linked through their shared causes but do not cause each other.

Eileen Crimmins and Teresa Seeman (Chapter 4) propose a model in which demographic characteristics affect health outcomes directly and through their effect on biological processes such as inflammation. Socioeconomic status affects health only through its effect on health behaviors, like smoking, and social psychological factors, like depression, and these affect biological process and, thus, health outcomes. In a novel approach, Crimmins, Seeman, and their colleagues show that educational disparities in health can be described by the age at which various groups experience the same rates or prevalence of health problems. Those with the lowest levels of education experience equivalent rates of disease prevalence starting 5 to 15 years earlier in life than those with a college degree, so the aging process and related health problems begin at much earlier ages for them. The physiological processes through which education affects health and functioning include, for example, markers of inflammation, which are related to cardiovascular disease and are negatively distributed by education. Crimmins, Seeman, and colleagues find that a more general measure of long-term wear and tear on physiological systems—cumulative allostatic load—is significantly higher for those with low levels of education and that differences in allostatic load mediate about a third of the educational difference in mortality at older ages.

In Chapter 5, James Smith begins to unravel the connection between income, education, and health. Looking at the consequences for older adults of the onset of a major health event, he finds a substantial impact of a decline in health on financial well-being, primarily through reduced earnings rather than through medical expenses. At younger ages, those with the lowest levels of education stand out both for their poor health and for their low level of labor force participation, which reduces earnings and household income. Smith concludes that health *causes* socioeconomic status, at least to some extent. But does socioeconomic status *cause* health? In some impressive detective work, Smith uses the exogenous increase in wealth resulting from the large stock market gains during the 1990s to examine the impact of changes in wealth on changes in health among older adults. He finds that household income *never* predicts future onset of either major or minor health conditions. So, in the short run, money does not buy health. But education does. The chances of developing a new major or minor disease fall with increases in years of schooling completed. But why and how?

Health benefits of education for the disease Smith studied, diabetes, did not come either through higher household income or through greater adherence to beneficial therapies among the well-educated. Perhaps, Smith's results suggest, education affects one's ability to think abstractly about risks and costs, allowing one to internalize the future consequences of current decisions.

Andrew Steptoe and Michael Marmot (Chapter 6) propose a different conceptual model of the relationship between socioeconomic status and disease, especially cardiovascular disease, on which they focus. They argue that the disadvantaged tend to have relatively few protective resources such as social support and effective coping responses, while they tend to face greater adversity than those of high status. The combination of high adversity and low resources to cope with it negatively affects biological responses, increasing the risk of cardiovascular disease.

Steptoe and Marmot show that many of the factors involved in vascular inflammation and processes of blood clotting are sensitive to psychosocial stress. And, although they find few differences in stress reactivity by socioeconomic status, they see significant differences in recovery following stress, with a greater likelihood of incomplete recovery in those of lower status. Thus, given stress, socioeconomic status seems to affect physiological reactions to it. Steptoe and Marmot argue that lifestyle is probably the most important pathway through which socioeconomic status affects coronary heart disease, through smoking, nutrition, alcohol consumption, and exercise. Their Whitehall II study suggests that these lifestyle choices account for about a quarter of socioeconomic differences in heart disease among civil servants in London.

Aging, work, and public policy

The vast majority of Americans aged 65 and older receive government transfers, primarily through Social Security and Medicare, and so are dependent on these programs for at least some of their support. The number and characteristics of older adults alive in the future will determine how much the government must pay in future benefits—given the current formula—and the number of working-age adults at that point will determine how many workers are potentially available to support the expected number of beneficiaries.

We can summarize the number of adults potentially available to support the older population using the old-age dependency ratio, the ratio of those aged 65 and older to those aged 20 to 64. Of course, not all older adults receive support (although 93 percent of the elderly receive Social Security benefits) and not all young adults provide it, but the ratio allows us to view the outlines of at least potential generational exchange. In the United States, old-age dependency ratios will probably *double* between now and 2050, from about 0.2 around 2000 to about 0.4 by the middle of this century (Lee, Chapter 7, Figure 6). This means that in about 50 years each working-age adult will have twice as many older adults to support as is currently the case. Because Social Security is structured as a transfer from the current working population to the current beneficiary population, the Social Security tax must rise or benefits must fall when the number of beneficiaries increases in proportion to the number of working adults paying the tax, at least in the long run. Elderly support ratios point to the coming increase in the number of beneficiaries per potential worker, and so point to the need to closely monitor the future health of financial support policies for the elderly.

Although the sheer number of older adults will have a large effect on the amount of various kinds of support that society must provide, the costs of retirement and disability programs depend on the benefits they provide and the number of people who receive them. And it is unclear what will happen to these factors in the future.

The Census Bureau’s middle-series projections of the size of the older population assume that in 2050 life expectancy at birth will have risen for US males from 71.8 years today to 79.7, and for females from 78.9 years today to 85.6. But if the same gains in longevity are achieved over the next 50 years as were gained in the last century, life expectancy in 2065 would reach 86 years (Lee and Carter 1992). Substantial gains in life expectancy could lead to an American population in which almost one in four people was aged 65 and older and one in 15 was aged 85 and older. This would be a very different country, with very different demands for health care and related services and for financial support of the aged, than the one of today.

In Chapter 7, Ronald Lee describes a program of research that uses the inherent uncertainty in demographic processes to forecast population. Lee extended this approach to bracket the uncertainty about *consequences* of changes in population for public budgets. Beginning with methods for forecasting mortality, he also derived the probability distributions of age-specific death rates and life expectancy. He approached fertility in much the same way, reasoning that once the fertility transition was over, fertility could best be treated as a stochastic process; and after many attempts to develop alternatives, this is the approach he settled on. With forecasts of fertility and of mortality, one can provide a probability distribution for the forecast of any demographic quantity, so now Lee had the tools in hand. But what could he say about public policy?

Lee and his colleagues focused on the Social Security Trust Fund as a key application of stochastic forecasting methods, eventually adding stochastic forecasts of economic inputs usually viewed as uncertain, including productivity growth rates and real interest rates, to the more familiar fertility and mortality rates. This approach led Lee and colleagues to forecasts that differ in key ways from those developed by the Trustees of the Social Security Trust Fund. And these differences have critical implications for the long-run financial stability of the Fund.

The same approach, Lee has shown, can be applied to almost any other public program. He has developed stochastic forecasts of the federal budget, public spending on programs for youth and the elderly, and health care costs, disaggregated by type of expenditure. This approach and the forecasts it provides can point policymakers toward pieces of the puzzle that will determine the future course of local, state, and federal budgets, enabling them to understand and focus on those parts with the greatest uncertainty and the biggest impact.

This basic approach drove David Wise (Chapter 8) in his effort to understand the link between demography, economics, and one key government program—social security. Wise began with the observation that almost all industrialized countries have seen a notable decline in labor force participation of older adults. This has happened in the period since the adoption in these countries of both employer-provided pension plans and government-supported social security plans, both of which typically provide benefits that depend on years of employment and one's earnings history during those years. The combination of declining rates of labor force participation, longer life expectancy, and pay-as-you-go financing means that governments in virtually all industrialized countries have made promises they cannot keep. What caused the problem?

Wise and his colleague Jonathan Gruber designed a program of research to answer this question, collaborating with scholars from 12 industrialized countries, each of whom carried out identical analyses on the retirement incentives built into the various countries' social security programs. The conclusions were striking: all countries showed a marked correspondence between the age at which retirement benefits become available and workers' departure from the labor force. Social security programs provide strong incentives for labor force withdrawal at older ages, often taxing continued participation at high rates.

Next, Wise and colleagues estimated the effects of changes in plan provisions on labor force participation for each of the countries. They found that across 12 countries with very different labor market institutions and social security programs, the effects of the retirement incentives in social security programs are consistent and large: the greater the financial incentives to retire at a particular age, the higher the rate at which workers do so. The financial implications for the economies of these countries of changes in plan provisions can also be sizable. Estimated costs to governments of these benefits, offset by contributions made and taxes paid by those who continue to work, show that these also can be large. The net implications for governments depend on the extent to which current benefits are "actuarially fair," increasing with delayed retirement to reflect the smaller number of years over which the benefits are taken and the larger number of years over which contributions are made, and on the age at which benefits are first available. In Germany, for example, where the mean age at retirement for men is about age 62, the move to an actuarially fair benefit schedule would, theoretically, raise the mean retirement age to just over 65 and result in a net reduction in total government expenditures minus revenues of about 43 percent of base benefits under the current system. By any calculation, this is a huge effect. Clearly, changes in the provisions of social security programs are an essential tool for policymakers trying to bring the promises made to workers into line with the money required to fund these programs.

How do we know what we know? Innovations in data collection

The advances that we have achieved over the last several decades in our understanding of the demography and economics of aging could not have taken place without important advances in the data we use. Large-scale surveys of populations have been compared in their importance for demography to the Hubble telescope or the Human Genome Project—very complicated, very expensive, but absolutely essential resources that are available to the entire community of researchers once they have been built and are functioning well.

Two models of innovation in survey design and methodology are the Wisconsin Longitudinal Study and the Health and Retirement Study, both longitudinal, but one focused on a single birth cohort in a single state and the other representative of the US population over age 52. Large, rich surveys that follow individuals over a number of years, they allow researchers to investigate the processes which produce health, disability, poverty, death, widowhood, labor force withdrawal, dementia, grandparenthood, and the other experiences of older adults. The current generation of such surveys often includes links to administrative data, such as records of doctor visits, hospitalizations, and medical treatments, Social Security earnings records, and death records. These surveys are beginning to expand from simple answers to (often complicated) questions to direct measurement of physiological and biological processes such as immune function or inflammation. And, of course, the measurement of key variables, such as income and assets in the Health and Retirement Study or cognitive functioning in the Wisconsin Longitudinal Study, has been the focus of almost continual innovation and evaluation, generally with substantial improvements in data quality. In Chapter 9, Robert Hauser and Robert Willis argue that such data sets are an invaluable public resource, paid for with tax dollars and ultimately aimed at improving the good of the community. A system of survey data should, they argue, represent real populations, enjoy sustained institutional support, be ultimately responsible to the public, include perspectives from multiple disciplines, cover multiple domains and units of observation, and offer opportunities for flexibility, serendipity, and scientific opportunism.

Large, ongoing surveys provide natural laboratories, if used wisely, for close observation of particular populations, unusual events or characteristics, or specific parts of a process. The Health and Retirement Study, with its sample of more than 20,000 cases, has enough respondents for whom survey responses suggest mild cognitive impairment to permit an intensive study of this population using assessments generally available only in clinical settings. Ultimately this will allow the development of survey measures that discriminate more finely among levels of cognitive function, provide estimates of the prevalence of mild cognitive impairment in the general population, and allow researchers to track the development of dementia and Alzheimer’s disease.

The importance of the family

The changes that we can expect in the share of the older population and its size have profound implications for families. Most older adults receive whatever care they need from relatives. Married older couples almost always live alone and almost always count on each other for help. Husbands care for wives with Alzheimer’s disease, wives help husbands who need help bathing and dressing. The situation faced by older men is substantially better on this dimension than that faced by older women, because most men remain married until they die, while most women experience the death of their husband and end their lives as widows. Some 75 percent of men aged 65 and older but only 41 percent of such women are married and live with their spouse. Among those aged 85 and older, 58 percent of men and only 12 percent of women are married and living with their spouse (US Census Bureau 2003a). Marriage provides older women with financial support, which is especially important since many do not have pensions or retirement benefits on their own account. So the differences in the chances of widowhood between men and women, combined with differences in access to retirement benefits based on lifetime work, mean that older unmarried women face very high chances of financial constraint and poverty. Social Security exacerbates these problems by over-benefiting married couples (who tend to be younger) and under-benefiting survivors, who tend to be older widows (Burkhauser 1994). More than half of women aged 75 and older who live alone have incomes below $10,000 per year, and the vast majority have incomes below $20,000 per year. Even among the young-old, most women living alone have relatively modest financial resources (US Census Bureau 2003b).

Note that the rapid aging of the older population, described earlier, has important implications, since the oldest-old tend to have very different needs for health care and help from family. Half of all oldest-old adults require assistance with everyday activities such as bathing, dressing, eating, and toilet use. Only about 10 percent of those aged 65 to 75 need such help. So, as the older population ages further, the demand for assistance, which could be met by paid helpers or by family members, will greatly increase. The proportion of the elderly who are poor or nearly poor is substantially higher among the oldest-old than among the young-old. About 11 percent of those aged 65–74 are poor, compared to 20 percent of those aged 85 and older (US Census Bureau 1996). If this situation persists into the middle of the twenty-first century, the oldest-old, who are predominantly women, are very unlikely to be currently married. Thus, they must receive family help—if they receive it at all—from siblings, children, or other relatives. The result may be an increasing number of young-old daughters retiring to care for their oldest-old mothers.

The next 50 years may see sizable increases in the proportion of older men and women who lack family members to help them. More will reach older ages without ever having married, and more will spend the end of their lives having divorced and not remarried. Both of these changes will likely be more common among men. Their effects also will have larger repercussions for men, because men are much more likely than women to lose contact with their children following divorce (Lye et al. 1995). Also, baby boomers had relatively small families, giving them few children to call on for help later. On the plus side, increasing longevity will mean more older years spent married, as both men and women lose their spouse at older ages than in the past.

The family experience of the black and Hispanic elderly differs in a number of ways from that of the white elderly. Older black men and women are much less likely than either whites or Hispanics to be married; only some 25 percent of black women aged 65 and older are married, compared to 42 percent of whites and 37 percent of Hispanics. For men, the differences are even more striking: 57 percent of older black men are married, compared to 77 percent of whites and 67 percent of Hispanics (US Census Bureau 1996). And marked declines in the proportion of black adults who are married suggest that future generations of elderly blacks will have substantially fewer family members to draw on for support than older blacks of today (Waite 1995).

Older adults most in need of help from others—either from government programs or from family or both—are those in poor health, those with few financial resources, and those with few or no family members they can call on. All of these disadvantages appear most frequently among the oldest-old, most of whom are widowed women. Health policy researchers, planners in insurance companies, social service agencies who serve the elderly, individuals and families planning for the future, and state and federal governments all need to take into account the coming changes in the makeup of the future population of aging societies. Preventive steps taken now—to improve health and functioning of individuals into the oldest ages, to ensure the health of the financial systems that support older adults, to encourage individual saving for later years, and to bring health care policies and practices into line with future constraints and demands—can avert or ameliorate a crisis later.

Advanced industrial societies face a challenge in improving health and functioning at advanced ages, supporting families who are caring for older members, helping today's workers prepare financially for their older years, and designing and implementing public policies to achieve these goals. Although many difficult issues must be addressed to reach this goal, research advances in the demography and economics of aging provide some of the tools needed to plan for this future.

Acknowledgements

The preparation of this chapter was supported in part by Grant No. P20 AG12857 from the Office of the Demography of Aging, Behavioral and Social Research Program, National Institute on Aging.

References

Burkhauser RV. Protecting the most vulnerable: A proposal to improve social security insurance for older women. The Gerontologist 1994;34:148–149. [PubMed: 8005485]

Lee RD, Carter L. Modeling and forecasting the time series of U.S. mortality. Journal of the American Statistical Association 1992;87:659–671.

Lye DN, Klepinger DH, Hyle PD, Nelson A. Childhood living arrangements and adult children's relations with their parents. Demography 1995;32(2):261–280. [PubMed: 7664964]

Preston, SH. American Longevity: Past, Present, and Future. Policy Brief No. 7. Center for Policy Research; Syracuse University: 1996.

RAND. Preparing for an Aging World: The Case for Cross-National Research. Washington, DC: National Academy Press; 2001.

US Census Bureau. 65+ in the United States. Washington, DC: U.S. Government Printing Office; 1996.

US Census Bureau. The older population in the United States: March 2002, Figures 3 and 6. 2003a. http://www.census.gov/prod/2003pubs/p20-546.pdf

US Census Bureau. Selected characteristics of people 15 years and over by total money income in 2002, work experience in 2002, race, Hispanic origin, and sex," Table 1. 2003b. http://ferret.bls.census.gov/macro/032003/perinc/new01_019.htm

US Census Bureau. U.S. interim projections by age, race, sex, and Hispanic origin, Tables 2a and 2b. 2004. http://www.census.gov/ipc/www/usinterimproj/natprojtab02a.pdf

Waite LJ. Does marriage matter? Demography 1995;32(4):483–508. [PubMed: 8925942]