



# Research Highlights

## in the Demography and Economics of Aging

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### The Declining Disability of Older Americans<sup>1</sup>

Not long ago, an article on "The Failures of Success" (Gruenberg, 1977) predicted that technology would save people from dying without curing them, producing a pandemic of old age disability and an exponentially increasing burden of health care services and costs. The specter of these dire predictions persisted until Kenneth Manton and colleagues at Duke University published their 1997 findings, demonstrating a dramatic and unexpected reduction in rates of disability among older persons. Similar findings of a decline in disability have since been shown in other data as well.

Evidence of a decline in disability rates is exciting news, most importantly because functional ability is a key aspect of individual wellbeing. But a decline in disability may also moderate other important aspects of population aging. People without disabilities use less medical care, on average, require fewer caregiving services, and face fewer physical impediments to continued work. So the dramatic declines in chronic disability, especially if they continue, could have important economic and social implications as well.

This issue of *Research Highlights* reviews the recent research findings on disability trends in the United States. It reports on research supported by the National Institute on Aging (NIA) and taking place at the NIA-supported Centers at the University of Chicago, Duke University, the National Bureau of Economic Research (NBER), and RAND Corporation; and though an NIA-supported project at the University of Southern California.

#### Recent Evidence on Disability Decline in the United States

The discovery of a recent decline in disability was reported initially by Kenneth Manton, Larry Corder, and Eric Stallard, using data from the National Long-Term Care Survey, or NLTCS. The NLTCS contains information about health and functional ability for a nationally representative sample of about 20,000 people age 65 and older in 1982, 1984, 1989, and 1994. Individuals in the survey are asked whether they have problems with several normal activities of daily living, such as eating, bathing, shopping, or doing laundry. Individuals were categorized as chronically disabled if they had one or more of these functional limitations lasting for at least 90 days. The

researchers found a pronounced decline in age-specific disability rates between 1982 and 1994.

If disability rates had remained unchanged between 1982 and 1994, the number of older Americans with chronic functional limitations would have increased by 1.9 million people (from 6.4 million to 8.3 million), as a result of the increased overall population of older people. The actual number of functionally disabled people, however, increased by only 0.7 million — less than half of the increase that might have been expected. This difference is illustrated in figure 1 (next page).

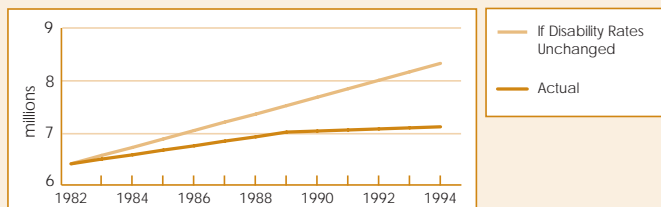
The researchers found a decrease in chronic disability in every age category. They also found that the rate of decrease in chronic disability accelerated over time. The annual rate of decline in disability between 1982 and 1989 was about 1.1 percent per year, while the annual rate of decline in disability between 1989 and 1994 was about 1.5 percent per year.

The core findings from the NLTCS were reaffirmed in a recent study by Vicki Freedman and Linda Martin, using data from the Survey of Income and Program Participation, or SIPP. The analysis by Freedman and Martin focuses on the change in functional ability of individuals between 1984 and 1993,

<sup>1</sup>This issue of *Research Highlights* has reproduced and updated findings originally reported in a predecessor newsletter series on *Aging Trends and Forecasts*, prepared by the Population Reference Bureau for the National Institute on Aging (NIA). The previous issue was entitled "Chronic Disability Declines Dramatically Among Older Americans," Issue No. 3, May 1997.

using data from about 13,000 people age 50 and older in the 1984 and 1993 SIPP surveys. Survey respondents were

**Fig. 1 NUMBER OF CHRONICALLY DISABLED AMERICANS AGE 65 AND OLDER**



asked whether they had any difficulty seeing the words or letters in ordinary newspaper print; lifting and carrying something as heavy as 10 pounds, such as a full bag of groceries; climbing a flight of stairs without resting; and walking a quarter of a mile. The researchers apply a research methodology that controls for other changes in the population that may also be associated with functional ability, such as age, gender, marital status, and education.

**TABLE 1: ADJUSTED RATES OF FUNCTIONAL LIMITATION BY AGE GROUP (PERCENT OF POPULATION REPORTING DIFFICULTY)**

	Age 50-64		Age 65-69		Age 80+	
	1984	1993	1984	1993	1984	1993
Seeing	11.1	7.8	21.1	17.0	35.2	27.0
Lifting	16.6	13.5	30.5	24.6	51.5	41.0
Climbing	16.2	14.7	32.3	30.4	47.2	40.6
Walking	15.2	13.7	29.9	25.4	41.5	35.9

As shown in table 1, the SIPP findings show a reduction in disability rates in every age group, and for every functional measure. The extent of improvement varies with age; the smallest absolute gains are for those between ages 50 and 64, and the largest gains involve those age 80 and older. Among people age 65 and older, the relative annual decline in disability rates ranged between 0.9 percent and 2.3 percent, comparable and perhaps slightly higher than the results from the NLTCS.

Freedman and Martin suggest that their results are likely to reflect real improvements in underlying physiological health. Some of the traditional measures of disability, they argue, may be altered by environmental changes (such as the increasing use of walk-in showers), changes in social

roles (such as the increased acceptance of men doing laundry and grocery shopping), changes in the use of assistive devices (such as the increasing use of walkers and canes) and demographic changes (such as increased education levels). Their research design, on the other hand, relies on functional ability measures that are less likely to be influenced by these other factors, and that more effectively control for changes in the demographic composition of the population.

An additional analysis of disability trends, using yet another data source and another measure of functional ability, also concludes that disability rates have declined. Eileen Crimmins, Sandra Reynolds and Yasuhiko Saito use data from the 1982 and 1993 National Health Interview Survey to explore self-reported ability to work and the causes of work limitations. They, too, find significant declines in disability among men and women in their 60's, as measured by the proportion of individuals at each age who report that they are unable to work.

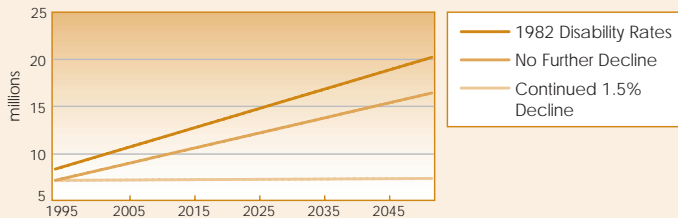
## Will The Decline Continue?

The long-term implications of disability decline depend in large part on whether the trend continues and at what pace. Figure 2 (next page) illustrates why the future is so critically important. If age-specific disability rates continue to decline at 1.5 percent annually, then the number of older Americans with chronic disabilities is projected to remain around 7 million, even as the total population of older people grows rapidly. By contrast, if disability rates remain constant at their current levels, one might expect more than twice as many chronically disabled older people by 2050; if disability rates had remained constant at their 1982 levels, one might have expected almost three times as many chronically disabled older people by 2050. The economic implications of having 7 million chronically disabled older Americans, as compared with 16 million or 20 million, are dramatically different.

A recent study by Singer and Manton makes a similar series of projections, based on different assumptions of future disability. For this study, Singer and Manton calculate a "disability adjusted support ratio," which is the number of people between ages 20 and 64 for every chronically disabled person age 65 and older. The number of working age people relative to disabled older people, they argue, is a good measure of the national health care burden of chronic illness. They ask what will happen to the support ratio in the future, with and without a continued 1.5 percent decline in disability. Based on current disability rates, with no further decline in disability, they project far fewer working age people in the future per disabled older person. The support ratio drops

dramatically from 22:1 (22 working age people for every chronically disabled person age 65 or older) to 8:1. If disability rates continue to decline 1.5 percent annually, however, then there would likely be more working age people

**Fig. 2 PROJECTED NUMBER OF DISABLED AMERICANS AGE 65 AND OLDER**



in the future per disabled older person. Again, these results illustrate the potentially massive economic implications of continued disability decline. The differences between these alternative scenarios would be felt through the caregiving demands within families, and the financial burden of health and long-term care services.

While expectations about future disability rates are necessarily speculative and in need of further analysis, researchers point to a number of factors that may promote continued declines in disability. For example, continuing advances in medical technology and pharmaceutical product development are thought to be important in decreasing chronic illness and in better managing the functional limitations associated with chronic illness. Researchers also point to the continuing trend toward higher levels of education and financial resources among older Americans and their strong association with improved functional ability. Moreover, ongoing improvements in health-related behavior in the population and continued government efforts in health promotion may also lead to continued disability decline. Finally, as mentioned above, the rate of decline in disability appears to have accelerated in the 1990's, as compared with the 1980's. While more concrete findings about the causes of disability decline will undoubtedly evolve from future research, these observations suggest that disability rates have a very good chance of declining further in the future.

Another indication that disability decline is not confined to the 1980's and 1990's comes from the historical insights of Dora Costa and Robert Fogel. Their research has documented the evolving health of Union Army and World War II veterans over much of the past century. The findings from this work suggest that the prevalence of chronic disease and disability may have been declining in the United States for a much longer period.

While there is much speculation that disability rates can continue to decline in the future, there is an alternative view as well. The alternative view is that the decline in disability in recent years resulted largely from improvements in health and nutrition around the turn of the century, and that these improvements in the pre-natal and early childhood experience of today's elderly, plus the introduction of antibiotics, provided the basis for their lower disability rates. The suggestion is that we have already seen the benefits of these health and nutritional advances. Which perspective proves true will depend on the underlying causes of disability decline, which are not currently well understood.

## The Economic Implications of Disability Decline

There may be many potential economic benefits of disability decline. Since people are physically capable of working longer, more may choose to defer retirement and to continue working until older ages. This has implications for Social Security and for the overall productive capacity of the economy. Declining rates of chronic disability may also moderate the burden of caregiving, including the informal care provided within families, the care provided through home health care services, and the care provided in long-term care institutions. The implications for Medicaid may be particularly important, since Medicaid pays for almost half of all nursing home costs.

One analysis estimates the cost savings in institutional care, comparing the number of people in long-term care institutions in 1994 with the number that might have been expected if 1982 disability rates had remained unchanged. There were about 1.7 million people in long-term care institutions in 1994. If 1982 chronic disability rates had remained unchanged, however, an estimated 2.1 million people would have been institutionalized in 1994. At an annual per capita nursing home cost in 1994 of \$43,300, the difference suggests savings of up to \$17.3 billion in nursing home expenses that year. Although part of this amount may only be deferred costs, the analysis still suggests substantial savings.

Disability decline also may affect medical care expenditures, though the relationships between medical costs and disability are more complicated. On the one hand, the investment in biomedical advances and the cost of providing state-of-the-art medical services may contribute importantly in enabling disability rates to decline. From this perspective, one can view the declines in chronic illness and disability as important

## The National Long Term Care Survey

The National Long Term Care Survey (NLTCS) is a longitudinal survey designed to study changes in the health and functional status of older Americans age 65+). It also tracks health expenditures, service use, and the availability of personal, family and community resources. The survey began in 1982, and follow-up surveys were conducted in 1984, 1989 and 1994. A fifth follow-up survey will be conducted during 1999.

*Sample Design.* The NLTCS began in 1982 with a sample of 35,000 people drawn from national Medicare enrollment files. Subsequent samples of between 20,000 and 22,000 Medicare enrollees have been maintained by adding 5,000 people passing age 65 between successive surveys. This technique insures a large, nationally representative sample at each point in time. Both elderly in the community and those residing in institutions are represented in the samples. The response rate is above 95 percent in each survey year.

*Content.* Participants are asked about their health and functional status, nutritional status, physical activities, types of services and equipment used, and family, social, and economic resources. Records are linked to Medicare part A and B service use, as well as mortality records. With 12 years of data currently available, and 17 years of data becoming available, it is now possible to study changes in health as individuals age over time, as well as differences between different birth cohorts (that is, persons age 85 in 1982 and those age 85 in 1999). These differences could have considerable consequences for estimating national health costs.

*Sponsoring Agencies.* The NLTCS is sponsored by the National Institute on Aging (NIA). The Office of the Assistant Secretary for Policy and Evaluation (ASPE) and the Health Care Financing Administration (HCFA) also provide funding.

*For More Information.* Contact the Center for Demographic Studies at Duke University (919-684-6126), or visit their web site at <http://cds.duke.edu>.

products of *higher* health care spending. On the other hand, improvements in health and functional ability generally reduce the need for medical care, and may contribute to reduced costs. The combination of these factors complicates predictions of how trends in functional ability and trends in health care costs will relate in the future.

While there is still much uncertainty, the far-reaching potential implications of disability decline have inspired continuing research on a wide range of questions. What factors have been most important in causing disability rates to decline? Can these same factors lead to future improvements in functional ability? To what extent will future changes depend on continuing advances in medicine or improvements in health-related behavior? Ultimately, we will gain a clearer understanding of how to further the disability decline and discern its implications for work, caregiving, living arrangements, health and long-term care costs, and other areas of social and economic well being.

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The National Institute on Aging supports nine research centers on the demography and economics of aging, based at the University of California at Berkeley, the University of Chicago, Duke University, Johns Hopkins University, the University of Michigan, the National Bureau of Economic Research, the University of Pennsylvania, RAND Corporation, and Syracuse University. *Research Highlights in the Demography and Economics of Aging* is prepared for NIA as a cooperative activity of these NIA research centers. The managing editor is Richard Woodbury. For information on the Centers, call Lora Myers at 734-998-8693; for NIA programs in the demography and economics of aging, call 301-496-3138; for the series editor, call 207-847-9300.