

# Today's Research on Aging

PROGRAM AND POLICY IMPLICATIONS

Issue 7, September 2007

## Trends in Disability at Older Ages

The number of people with disabilities and in need of long-term care is expected to grow dramatically as baby boomers reach retirement age and beyond. Currently, the risk of having a disability accelerates after age 80. But in the future, older Americans may spend more years healthy and disability-free than the current population ages 65 and older (Manton, Gu, and Lamb 2006a; Manton, Gu, and Lamb 2006b).

The National Institute on Aging (NIA) has sponsored research to project the impact of conflicting trends—declining old-age disability and increasing obesity—on disability rates and health care costs. NIA also supports research on the social and technological changes that could mitigate the effects of chronic health problems on old-age disability rates.

### Trends in the Last 25 Years

Because disability is a complex concept, studies may arrive at different conclusions about disability trends depending on the time period, population, and health measures under investigation. Most studies define disability based on a person's ability to live independently and perform daily activities without the assistance of others.

Several types of old-age disability showed improvement during the 1990s (Freedman et al. 2002). Most of these improve-

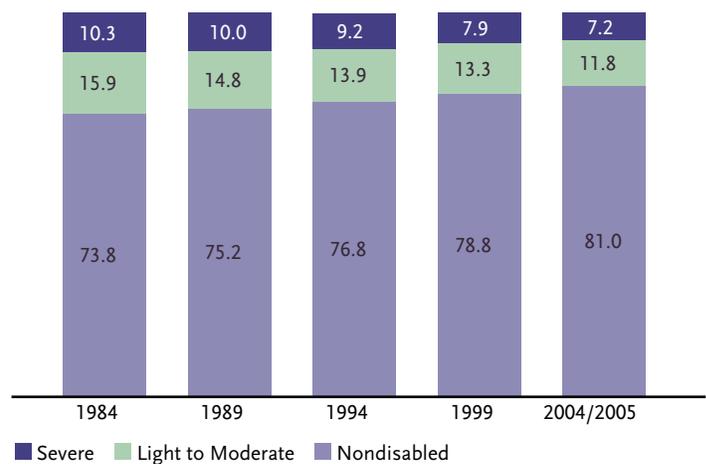
ments were in less severe forms of disability related to instrumental activities of daily living (IADLs) such as doing housework or shopping, and to functional limitations such as memory loss.

Trends in more severe forms of disability related to activities of daily living (ADLs)—including eating, bathing, or dressing without assistance—have not been as clear (Crimmins 2004). Estimates from several national sources show that the proportion of the noninstitutionalized population ages 70 and older with severe disabilities has declined since the mid-1990s (Freedman et al. 2004). Data from the National Long-Term Care Surveys show a longer-term decline in the prevalence of severe disabilities, stretching back to the mid-1980s (see figure) (Manton, Gu, and Lamb 2006a).

Survey data from 10 countries have shown a similar decline in elderly disability in Europe. The proportion of elderly with

### Prevalence of disability in the elderly population has been declining.

Percent disabled



**Source:** Kenneth G. Manton, XiLiang Gu, and Vicki L. Lamb, "Change in Chronic Disability From 1982 to 2004/2005 as Measured by Long-Term Changes in Function and Health in the Elderly Population," *PNAS* 103, no. 48 (2006): 18734-9.

#### In This Issue

- Trends in the Last 25 Years
- Do Obesity and Chronic Diseases Raise Disability Rates?
- Technology and Education
- Disadvantaged Groups
- Implications for Health and Retirement Systems

This review summarizes research related to the objectives of the National Institute on Aging, with emphasis on work conducted at the NIA demography centers. Our objective is to provide decisionmakers in government, business, and nongovernmental organizations with up-to-date scientific evidence relevant to policy debates and program design. These newsletters can be accessed at [www.prb.org/TodaysResearch.aspx](http://www.prb.org/TodaysResearch.aspx).

---

disabilities, as measured by several key activities of daily living, decreased over a 10-year period from 1988-1991 to 1999-2001 (Aijanseppa et al. 2005). However, another study examining trends in 12 countries has found a more mixed pattern (Lafortune et al. 2007). Only five countries—Denmark, Finland, Italy, the Netherlands, and the United States—show clear evidence of a decline in disability among elderly people. In Belgium, Japan, and Sweden, rates of severe disability among people ages 65 and over have increased during the past five to 10 years. Australia and Canada have a stable rate of severe disability. Data on trends in France and the United Kingdom are inconclusive.

### **Do Obesity and Chronic Diseases Raise Disability Rates?**

Evidence on trends in other health measures raises the question of whether younger adults have experienced declines in disability similar to declines in the elderly population. Analysis of the National Health Interview Survey from 1982 to 2003 finds that over time, people in their 40s and 50s were less likely to report that their health was poor or fair (Martin et al. 2007). Investigating a shorter period, smaller age group, and multiple measures of health from the Health and Retirement Study, one analysis indicated that in 2004, baby boomers ages 51 to 56 were not in better health than were people of similar age in 1992 (Weir 2007). However, another analysis using the same data found that a higher proportion of those ages 51 to 56 in 2004 reported being in poorer health and having more difficulty with daily tasks than those ages 51 to 56 in 1992 (Soldo et al. 2007).

Older people who are overweight or obese have more chronic illnesses, ADL limitations, and higher health care costs than those of normal weight. Based on current trends in obesity for people ages 50 to 69, disability rates could increase during the next decade from 8 percent in 2005 to 9 percent in 2015, reversing some or all of the recent gains (Sturm, Ringel, and Andreyeva 2004).

Some NIA-supported research suggests that recent declines in disability prevalence at older ages are unlikely to produce significant cost savings for Medicare (Goldman et al. 2005; Lakdawalla, Goldman, and Shang 2005). The population eligible for Medicare will increase rapidly as baby boomers reach retirement age. Furthermore, the obesity epidemic may reverse the decline in disability rates, resulting in higher demand for health care in old age. In combination, these trends are expected to reinforce a rise in total Medicare expenditures.

However, other researchers project significant Medicare cost savings because of declining disability rates, lower health costs for the nondisabled, and the potentially diminishing effect of obesity on cardiovascular disease (Manton et al. 2007a).

Increasing obesity rates and reports of chronic conditions do not necessarily preclude further declines in disability rates, which are determined by a broader set of social, medical, and health factors. Disabilities are affected not only by physical and mental abilities, but also by the social and physical environments in which a person lives and the activities that he or she performs every day (Wolf, Hunt, and Knickman 2005).

### **Technology and Education**

Recent increases in chronic illness and declines in disability rates may seem contradictory, but disability trends are determined by factors other than a population's changing health status. As life expectancy has increased, more elderly people are living with chronic illnesses. However, these illnesses are not as disabling as they were in the past. In particular, circulatory conditions, heart disease, vision impairments, and arthritis are now less likely to be reported as causes of disability (Freedman et al., forthcoming).

There are several possible explanations for these trends. Improvements in medical treatments, such as cardiovascular procedures and related medications, and cataract surgery, may help reverse or abate health problems that lead to disability (Cutler, Landrum, and Stewart 2006; Freedman et al., forthcoming). In addition, assistive technologies such as wheelchairs and hearing aids have enabled many older people to stay active or improve their physical abilities. In one study of older people living independently, assistive technologies accounted for half of the decline in the number of people relying on personal care (Freedman et al. 2006).

Education also contributes to improvements in old-age disability (Freedman and Martin 1999). Education can improve elderly functioning by providing greater access to economic resources, which in turn improves access to health care. People with more education are also less likely to engage in risky behaviors or to have jobs that are stressful and pose other health risks. However, the most recent evidence suggests that in the United States, rising education levels may no longer be contributing to declines in disability prevalence (Freedman et al., forthcoming). Although the proportion of the elderly population with fewer than 12 years of education continued to decline during the last decade, this may not contribute as much to the decrease in the disability rate as it did in the past,

---

because the disadvantage of not having a college education grew during the same period.

Some research suggests that improvements in cognitive functioning may be linked to a combination of factors (Manton, Gu, and Ukraintseva, 2005). For example, Manton and his colleagues found a decline in the proportion of people with certain types of cognitive impairment (other than Alzheimer's) since 1982 and linked this decline to higher educational attainment of the oldest-old, recent declines in stroke rates, and medical advances in the treatment of individuals after a stroke. However, analysis of changes in cognitive abilities over time may be confounded by changes in the demographic composition and age distribution of survey participants and by repeated survey administration (Rodgers, Ofstedal, and Herzog 2003).

## Disadvantaged Groups

Improvements in old-age disability rates have been widespread, occurring across different racial, ethnic, educational, and income groups (Schoeni et al. 2005). Racial and ethnic minorities experienced declines in disability rates (measured in terms of ADL and IADL limitations) similar to those of non-Hispanic whites. However, average declines were smaller for those with less income and education. As a result, existing socioeconomic disparities in disability rates have persisted or increased over time.

Socioeconomic status is also linked to the likelihood of having a disability during the last few years prior to death (Schoeni, Freedman, and Wallace 2002). Those with more education and income are less likely to have a disability in their last years of life.

These research findings have important implications for future cohorts of elderly Americans, who will likely be more racially and ethnically diverse. The lower socioeconomic status of African Americans and Hispanics is expected to contribute to greater health disparities in old age and could slow future declines in disability rates.

## Implications for Health and Retirement Systems

The U.S. Census Bureau projects that by 2030, there will be 71 million people ages 65 and older—more than double the number in 2000. The oldest baby boomers will start to turn 65 in 2011. Yet millions in the leading edge of the baby boom have already left the labor force because they are disabled or because they have retired (Congressional Budget Office 2004).

If this pattern were to persist, health and retirement systems would experience serious fiscal problems well before 2030.

Recent estimates by the Bureau of Labor Statistics suggest that labor force participation among people ages 55 and older is growing. Under this emerging scenario, baby boomers might retire at later ages and use fewer health benefits relative to the current generation of elderly. For example, Manton and his colleagues (2006a) project that further declines in disability rates will compress the demand for long-term care among the oldest-old and boost productivity of the young-old—those ages 65 to 84. Furthermore, current Medicare and Medicaid benefits should be sustained or increased in order to accelerate health improvements in old age and to help raise the retirement age.

With the elderly constituting an increasingly larger proportion of the labor force, having more elderly people physically and cognitively capable of work will be vital to the growth of the U.S. economy (Manton 2007b). Further research is needed to determine whether trends in disability will continue or reverse in the coming decades and to estimate the potential impact of these complex trends on the labor force and on health care costs.

---

## References

- Sinikka Aijanseppa et al., "Physical Functioning in Elderly Europeans: 10 Year Changes in the North and South: the Hale Project," *Journal of Epidemiology and Community Health* 59, no. 5 (2005): 413-19.
- David M. Cutler, Mary Beth Landrum, and Kate A. Stewart, "Intensive Medical Care and Cardiovascular Disease Disability Reductions," *NBER Working Paper* No. 12184 (November 2006).
- Eileen M. Crimmins, "Trends in the Health of the Elderly," *Annual Review of Public Health* 25 (2004): 79-98.
- Congressional Budget Office, *Disability and Retirement: The Early Exit of Baby Boomers From the Labor Force* (2004), accessed online at [www.cbo.gov](http://www.cbo.gov).
- Vicki A. Freedman et al., "Trends in the Use of Assistive Technology and Personal Care for Late-Life Disability, 1992-2001," *The Gerontologist* 46, no. 1 (2006): 124-27.
- Vicki A. Freedman et al., "Resolving Inconsistencies in Trends in Old-Age Disability: Report From a Technical Working Group," *Demography* 41, no. 3 (2004): 417-41.

- Vicki A. Freedman and Linda G. Martin, "The Role of Education in Explaining and Forecasting Trends in Functional Limitations Among Older Americans," *Demography* 36, no. 4 (1999): 461-73.
- Vicki A. Freedman, Linda G. Martin, and Robert F. Schoeni, "Recent Trends in Disability and Functioning Among Older Adults in the United States: A Systematic Review," *Journal of the American Medical Association* 288, no. 24 (2002): 3137-46.
- Vicki A. Freedman et al., "Chronic Conditions and the Decline in Late-Life Disability," *Demography* (forthcoming).
- Dana P. Goldman et al., "Consequences of Health Trends and Medical Innovation for the Future Elderly," *Health Affairs* online special issue, "Health and Spending of the Future Elderly" (2005): R5-17.
- Gaetan Lafortune et al., "Trends in Severe Disability Among Elderly People: Assessing the Evidence in 12 OECD Countries and the Future Implications," *OECD Health Working Papers* 26 (2007).
- Darius N. Lakdawalla, Dana P. Goldman, and Baoping Shang, "The Health and Cost Consequences of Obesity Among the Future Elderly," *Health Affairs* online special issue, "Health and Spending of the Future Elderly" (2005): R30-41.
- Kenneth G. Manton, XiLiang Gu, and Svetlana V. Ukraintseva, "Declining Prevalence of Dementia in the U.S. Elderly Population," *Advances in Gerontology* 16 (2005): 30-37.
- Kenneth G. Manton, XiLiang Gu, and Vicki L. Lamb, "Change in Chronic Disability From 1982 to 2004/2005 as Measured by Long-Term Changes in Function and Health in the Elderly Population," *PNAS* 103, no. 48 (2006a): 18734-9.
- Kenneth G. Manton, XiLiang Gu, and Vicki L. Lamb, "Long-Term Trends in Life Expectancy and Active Life Expectancy in the United States," *Population and Development Review* 32, no. 1 (2006b): 81-106.
- Kenneth G. Manton, Vicki L. Lamb, and XiLiang Gu, "Medicare Cost Effects of Recent Disability Trends in the Elderly: Future Implications," *Journal of Aging and Health* 19 (2007a): 359-82.
- Kenneth G. Manton et al., "Labor Force Participation and Human Capital Increases in an Aging Population and Implications for U.S. Research Investment," *PNAS* 104, no. 26 (2007b): 10803-7.
- Linda G. Martin et al., "Feeling Better? Trends in General Health Status," *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 62, no. 1 (2007): S11-21.
- Willard Rodgers, Mary Beth Ofstedal, and A. Regula Herzog, "Trends in Scores on Tests of Cognitive Ability in the Elderly US Population, 1993-2000," *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 58, no. 6 (2003): S338-46.
- Robert F. Schoeni, Vicki A. Freedman, and Robert B. Wallace, "Late-Life Morbidity Trajectories and Socioeconomic Status," *Annual Review of Gerontology and Geriatrics* 22 (2002): 184-206.
- Robert F. Schoeni et al., "Persistent and Growing Disparities in Disability Among the Elderly: 1982-2002," *American Journal of Public Health* 95, no. 11 (2005): 2065-70.
- Beth J. Soldo et al., "Cross-Cohort Differences in Health on the Verge of Retirement," in *Redefining Retirement: How Will Boomers Fare?* ed. Brigitte Madrian, Olivia S. Mitchell, and Beth Soldo (New York: Oxford University Press, 2007).
- Roland Sturm, Jeanne S. Ringel, and Tatiana Andreyeva, "Increasing Obesity Rates and Disability Trends," *Health Affairs* 23, no. 2 (2004): 199-205.
- David R. Weir, "Are Baby Boomers Living Well Longer?" in *Redefining Retirement: How Will Boomers Fare?* ed. Brigitte Madrian, Olivia S. Mitchell, and Beth Soldo (New York: Oxford University Press, 2007).
- Douglas A. Wolf, Kelly Hunt, and James Knickman, "Perspectives on the Recent Decline in Disability at Older Ages," *Milbank Quarterly* 83, no. 3 (2005): 365-95.

## The NIA Demography Centers

The National Institute on Aging supports 13 research centers on the demography and economics of aging, based at the University of California at Berkeley, the University of Chicago, Harvard University, the University of Michigan, the National Bureau of Economic Research, the University of North Carolina, the University of Pennsylvania, Pennsylvania State University, Princeton University, RAND Corporation, Stanford University, the University of Southern California/University of California at Los Angeles, and the University of Wisconsin.

This newsletter was produced by the Population Reference Bureau with funding from the University of Michigan Demography Center. This center coordinates dissemination of findings from the 13 NIA demography centers listed above. This issue was written by Mark Mather, deputy director of domestic programs, Population Reference Bureau; and Marlene Lee, senior policy analyst, Population Reference Bureau.

## For More Information

### TRENDS in Disability

<http://trends.psc.isr.umich.edu/>

### Population Reference Bureau

*Disability in America*

[www.prb.org/Source/59.3DisabilityInAmerica.pdf](http://www.prb.org/Source/59.3DisabilityInAmerica.pdf)

### Institute of Medicine

*The Future of Disability in America*

<http://iom.edu/CMS/3740/25335/42494.aspx>



POPULATION REFERENCE BUREAU

1875 Connecticut Ave., NW, Suite 520, Washington, DC 20009 USA

Tel.: 202-483-1100 | Fax: 202-328-3937

E-mail: [popref@prb.org](mailto:popref@prb.org) | Website: [www.prb.org](http://www.prb.org)