



Perspectives on the Recent Decline in Disability at Older Ages

This brief summarizes a recent study exploring the decline in disability observed among the elderly population in national, longitudinal surveys between 1982 and 1999.¹ The brief outlines survey design features that may contribute to reports of declining disability. In addition, the brief explores social trends, such as reduced availability of informal care, increased use of assistive technologies and changes in respondents' perceptions of "disability" over time that may be important contributors to declining disability. Finally, the brief presents the results of a reanalysis of the National Long Term Care Survey (NLTC) to evaluate the role of several survey design and social factors on reported declines in disability. Using alternative measures of disability, this reanalysis confirmed that disability declined among the elderly population. However, the study found a more gradual decline in any disability compared to previous analyses of the NLTC. These results point to the importance of survey design features and societal trends in interpreting recent declines in disability among the elderly. Further, the effects of survey design and societal factors on disability estimates make it difficult to extrapolate current disability trends into the future and to predict costs to Medicare, Medicaid and other public programs that serve the elderly.

Background

Recent analyses of longitudinal surveys of elderly, including the National Long Term Care Survey, reported declining disability among the elderly over time. If declining disability reflects real improvements in the general health status of the elderly population, the financial pressure on Medicare, Medicaid, and other public programs may lessen in the future. However, other factors may affect reported disability trends, such as survey design features and changes over time in availability and use of informal help, new technologies, and the definition of "disability." If reductions in disability are attributable to these other factors, the cost pressures on Medicare, Medicaid and other public programs are unlikely to diminish.

It is critical to understand how surveys define and measure disability, and to understand other societal trends that may affect whether survey respondents report disability, to evaluate whether declines in disability likely reflect improvements in health.

Survey-Based Estimates of Disability

Defining Disability

Disability is typically defined as difficulty conducting any activities due to a health or physical problem (Verbrugge & Jette, 1994). It reflects the interaction

¹This brief is based on: Wolf, D.A., Hunt, K., & Knickman, J. (2005). Perspectives on the recent decline in disability at older ages. *The Milbank Quarterly*; 83(3): 365-395.

between individuals and their environments. For example, modifying environments to remove barriers to conducting activities may resolve disability.

Measuring Disability

Survey-based measures of disability among the elderly often ask respondents or proxy-respondents about ability to conduct activities of daily living (ADLs) and instrumental activities of daily living (IADLs).² Surveys often ask about *difficulty* or whether respondents *receive help* conducting ADL and IADL tasks.

Survey Design Issues

Several design features of surveys may affect reported disability rates. It is critical to understand how these features may influence survey responses when interpreting survey results.

1. Question Wording

- Surveys that ask about *difficulty* conducting ADL and IADL tasks may underestimate disability in the population, if respondents with physical limitations adapt to their limited condition and develop new strategies for conducting tasks without perceived difficulty.
- Surveys that ask whether respondents *receive help* with ADL and IADL tasks may overestimate disability in the population, if respondents receive help with tasks that they could do on their own.

2. Interview Mode

- Surveys of disability among the elderly typically use in-person or telephone interviews, and some surveys use a combination of both. In surveys that use both in-person and telephone interviews, it is unknown whether respondents report disability differently based on the interview mode.

²Activities of Daily Living include tasks such as: walking around inside, transferring, bathing, eating, dressing, and toileting. Instrumental Activities of Daily Living include tasks such as: doing laundry, doing light housework, preparing meals, making telephone calls, managing money, taking medications, and going grocery shopping.

3. Self-Reported versus Proxy-Reported Disability

- Proxy respondents often over-report disability, particularly when they are reporting on elderly individuals.
- It is often impossible to avoid proxy reports in surveys of the elderly, but changes in the overall mix of proxy- and self-respondents over time, as well as within-subject changes between proxy and self-report status over time, may cause spurious changes in the prevalence of disability.

Other Factors Affecting Disability Measures

1. Supply of Informal Caregivers

- Family members have become a relatively less prominent source of care for the elderly over time. Several social factors may explain this trend, including:
 - Increased divorce rates among elderly couples that may have reduced children's willingness to provide care due to reduced interaction between parents and children.
 - Women's increasing labor force participation that may reduce the amount of time daughters are able to provide informal care.
 - Later childbearing may also decrease the number of hours adult children can devote to parents' needs.
- If a reduced supply of informal care results in the elderly conducting tasks that they could have done on their own previously, it will decrease disability estimates based on questions about whether the respondent receives help. However, it may increase disability estimates based on questions about whether the respondent has any difficulty, because respondents have less informal help to do their tasks.

2. Technologies

- Increased use of assistive technology (AT), such as canes, wheelchairs and hearing aids over time may lower reported disability if AT use effectively diminishes task difficulty.
- Advances in medical technologies over time may improve elderly patients' ability to care for themselves. This may reduce self-reported disability among

respondents with medically-oriented disabilities.

- Improved housing for people with physical limitations, such as assistive living, may lower disability prevalence. Respondents living in assisted living environments may not notice they are receiving help with various ADLs and IADLs.

3. Social Perceptions of Disability

- Individual perceptions of disability may have changed over time, including expectations regarding self-care and care from others. In particular, the “independent living” movement that started in the 1970's changed attitudes, whereby barriers confronting people with disabilities were attributed to environmental, social, architectural, and legal factors rather than individual characteristics.
- The changing psychology of disability may have reduced disability estimates in the population due to decreased emphasis of individual physical limitations in the definition of disability and increased emphasis on external factors.

Disability Estimates from the National Long Term Care Survey

The NLTCs is a nationally representative longitudinal survey of health and disability among the elderly population. The first survey wave started in 1982. Subsequent survey waves were conducted in 1984, 1989, 1994 and 1999. Each survey wave includes new respondents who reached age 65 in the period between survey waves.

Survey Modes and Measures

- The NLTCs starts with a short, telephone-based screener survey that asks respondents questions about *difficulty* with ADL and IADL tasks.³ Respondents who report difficulty, and for whom

difficulty lasted or is expected to last for 3 months are categorized as disabled and scheduled for a detailed survey.

- The detailed survey is conducted in person, and includes questions about whether respondents *receive help* with ADL and IADL tasks.⁴

Other Important Design Features of the NLTCs

- Respondents who report disability are automatically included in the next survey waves. These respondents are not given the screener survey in subsequent waves, and do not get asked questions about *difficulty* with ADL and IADL tasks.
- Proxy respondents are allowed to respond for elderly participants. Declining prevalence of dementia among the elderly over time suggests that fewer proxies were needed in later survey waves.

Potential Sources of Bias

- The screener survey may have underestimated disability by only asking about *difficulty*.
- Responses to the detailed survey may overestimate disability among those respondents who screened disabled in previous waves and who recovered function, but continued to receive help.
- The change in the mix of proxies and self-respondents may have affected disability prevalence.

A Reanalysis of NLTCs Data

The goal of the reanalysis was to compare an existing definition and measure of disability with a new measure to understand how survey design features may have affected the decline in disability over time. The existing measure provides an estimate of chronic disability in the population, and is based on responses to both the screener and detailed surveys. The new disability measure provides a point-in-time estimate of disability and is

⁴The detailed survey includes such questions as: “During the past week...did any person help [you] eat? {If not}, did [you] use special utensils or special dishes to help [you] eat? {If neither}, did someone usually stay nearby just in case [you] might need help? {If none of the above}, do [you] need help with ...?”

³The NLTCs screener survey uses the word “problem” rather than difficulty. For example, the screener asks: “First, I’d like to ask about [your] ability to do everyday tasks without help. By help, I mean either the help of another person, including people who live with [you], or the help of special equipment. Do [you] have any problem...eating without the help of another person or special equipment?...getting in or out of bed without the help of another person or special equipment,” etc.

based on the responses to the screener survey. The specific measures are:

<p>Existing Measure <i>Difficulty with ADL and IADL tasks for at least 3 months or receipt of help.</i></p>	<p>New Measure <i>Difficulty with ADL and IADL tasks, no time limit.</i></p>
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The advantage of the new disability measure is that it only asks about one type of disability (i.e., difficulty with a task), whereas the existing measure asks about difficulty *or* receipt of help. Because the same person may respond differently to questions about difficulty and help, the new measure does not confuse these concepts. The new measure also permits comparison with the existing measure of all disabled respondents

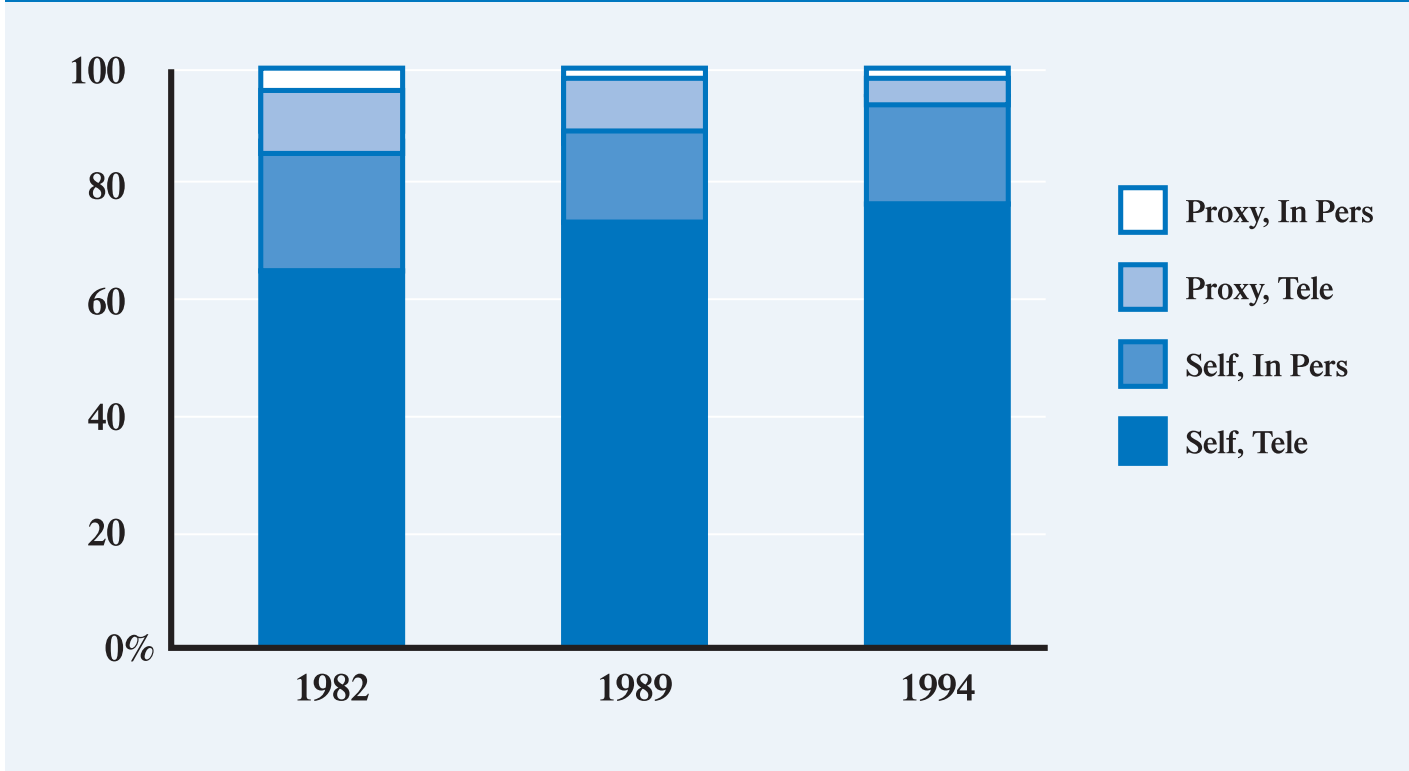
(i.e., without regard to the length of time of the disability), and chronically disabled respondents (i.e., with a disability that lasts at least 3 months).

These analyses were limited to respondents aged 65 to 69 in the 1982, 1989, 1994, and 1999 survey waves. The rationale for limiting the age range of respondents was to ensure that all respondents received the screener survey. In addition, analyses with the new measure evaluated proxy and survey mode factors.

Results

The proportion of respondents interviewed in-person (versus by telephone) and by proxy (versus self-report) varied from year to year. No data on telephone versus in-person interviews were available for 1999; however, in 1999, 86% of respondents were self-report, compared to 92% in 1994, 87% in 1989 and 86% in 1982. Thus, there was no consistent pattern for survey mode over time (see Figure 1).

Figure 1. Screener Survey Mode, 1982-1994*



*Data on in-person versus telephone mode were unavailable for 1999 survey.

Proxy respondents were more likely to report disability than self-respondents. There was no statistically significant difference in disability prevalence estimates based on in-person and telephone surveys.

Both the existing and new disability measures showed declining disability over time (see Figure 2). The new disability measure showed smaller average annual declines in disability from 1982 to 1999 compared to the existing measure for “any disability” (i.e., any ADL and IADL disability). Consistent with prior analyses of the NLTCs, these analyses found a steeper decline in “any disability” over time than in “any ADL” disability (data not shown).

Conclusions

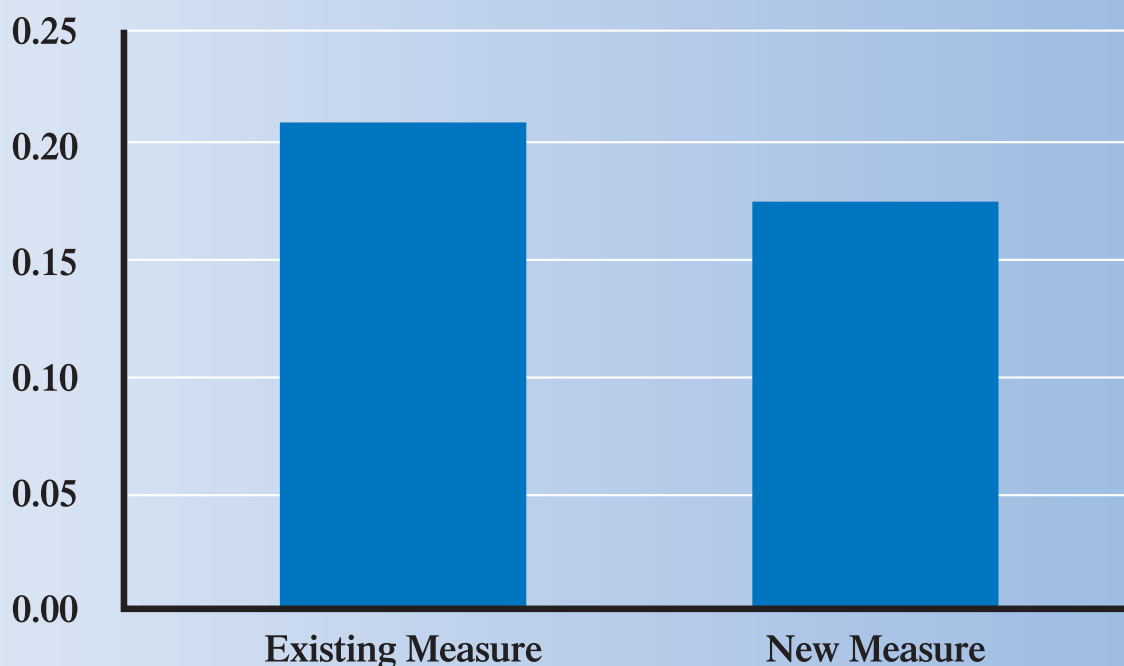
The reanalysis provides additional evidence that disability declined over time. The observed decline was lower for the new disability measure compared

to existing measures from the NLTCs, casting some doubt on the real magnitude of the decline in disability over time. These results suggest the importance of survey methods in evaluating disability trends. In addition, other non-health factors such as changes in informal care, new technologies and self-perceptions of disability may be important contributors to reductions in disability among the elderly population. Because various non-health factors may explain some of the decline in disability, it may be unwise to extrapolate recent trends in disability forward into the future.

References

Verbrugge, L.M. & Jette, A.M. (1994). The disablement process. *Social Science and Medicine*; 38:1-14.

Figure 2. Average Annual Decline: Any Disability, 1982-99



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WE WOULD LIKE TO THANK THE ROBERT WOOD JOHNSON FOUNDATION FOR THEIR
SUPPORT OF THIS PROJECT.



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