

There is well documented evidence that later life disability has declined over the past two decades (Freedman, Martin and Schoeni, 2002; Freedman, et al. 2004 ; Manton, Gu, and Lamb 2006 ; Schoeni, et al. 2007). This decline could be attributed to compositional shifts in the population, declines in the onset of disabling conditions or better treatment of conditions, changes in underlying functioning, or environmental changes. (Crimmins, Saito, and Reynolds 1997; Cutler 2003). In addition, there is evidence that some older adults recover functional abilities between waves of longitudinal surveys (Wolf, Mendes de Leon, and Glass, 2007). The reasons for recovery, the extent of recovery, and the correlates of recovery are poorly understood.

Earlier research examining the trends in functioning have included recovery in transition models (Crimmins, Hayward, Saito, Freedman, Manton, Jagger, Deeg, Robine, etc.), however the transitions into recovery have not been a focus of that research. One study specifically addressing recovery found a downward trend in the probability of recovering from disability (Wolf, Mendes de Leon, and Glass 2007). Gill and Hardy (2004) have examined the role of health behaviors in the odds of recovery. Melzer, et al. (2001) find that mobility recovery declines with age, an effect not associated with educational level.

This research examines the factors associated with the recovery of functional abilities. Does recovery vary by ADL? Are some “easier” to recover than others? Are some ADL limitations more strongly related to mortality than others? Do the associated chronic conditions vary by ADL and by recovery? That is, are some diseases “easier” to recover from?

Using data from the Health and Retirement Study, I look at the extent to which respondents report improvements in functioning overall, and by specific function and activity. I examine those aged 60 and older in 1998 and follow them until 2006 with follow-ups every 2

years. Health conditions are included as controls, as well as other socio-demographic variables (age, race, gender, education). The overall recovery from any ADL limitation will be examined, followed by recovery from specific ADLs.

Preliminary results indicate that most adults over the age of 60 in the HRS 1998 sample have no limitations in activities of daily living, 85 percent of men and 79 percent of women have zero ADL limitations. Among those with only one limitation in 1998 the number who recovers varies considerably by type of limitation (Figure 1). Of those who report a limitation in getting in and out of bed in 1998, 71 percent of those surviving in 2000 no longer report that limitation. In contrast, among those with difficulty bathing in 1998, less than half (42%) report recovery in 2000. In addition, some limitations appear to be more closely linked with mortality. About 20 percent of those who report a limitation in either eating or bathing in 1998 have died by the 2000 survey.

Among chronic disease conditions, stroke, arthritis, and hip fracture have the largest effects on the odds of having a limitation (Table 2). However, their effect varies across type of activity. Strokes are more significant for eating limitations, than for other types of activities. Lung disease has a larger effect on crossing the room and bathing than on other activities. Clearly, the type of condition is related to the limitation produced.

Among those with only one ADL limitation in 1998, having diabetes, cancer, or lung disease significantly decreases the odds of recovery in 2000 (Table 3). Stroke, arthritis, and hip fracture, most associated with the presence of a limitation, are not significantly related to recovery.

This research will address the persistence of recovery across multiple waves, the association of particular diseases with recovery, and the other socio-demographic characteristics associated with the recovery of functioning.

References

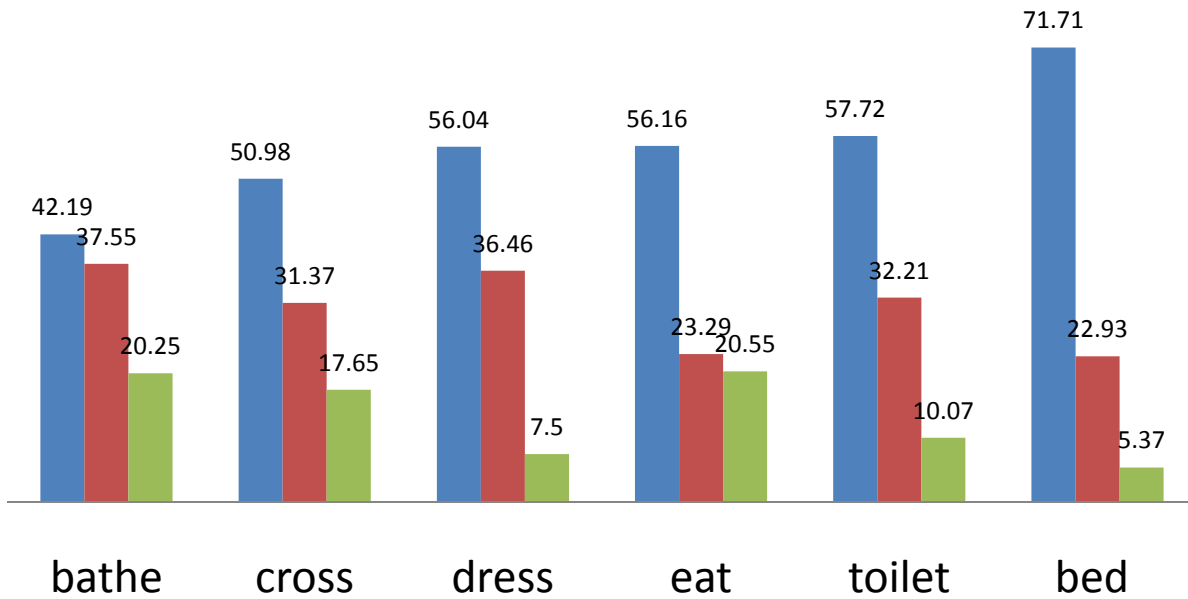
- Crimmins, E.M., Saito, Y., & Reynolds, S.L. 1997. Further evidence on recent trends in the prevalence and incidence of disability among older Americans from two sources: The LSOA and the NHIS. *Journal of Gerontology: Social Sciences*, 52B, S59-S71.
- Cutler, David. 2003. Intensive medical technology and the reduction in disability. In Wise D., ed. *Analyses on the Economics of Aging*. Chicago, IL:University of Chicago Press.
- Freedman, V.A., L.G. Martin, R.F. Schoeni. 2002. Recent trends in disability and functioning among older adults in the United States: a systematic review. *JAMA* 288:3137-3146.
- Freedman, V.A., Crimmins, E.M., Schoeni, R.F., Spillman, B.C., Aykan, H., Kramarow, E., et al. 2004. Resolving Inconsistencies in Trends in Old-Age Disability. *Demography*, 41, 417-442.
- Hardy, SE and TM Gill. 2004. Recovery from disability among community-dwelling older persons. *JAMA* 291 : 1596-1602.
- Manton, Kenneth G., XiLiang Gu, and Vicki L. Lamb. 2007. Change in chronic disability from 1982 to 2004/2005 as measured by long term changes in function and health in the U.S. elderly population. *PNAS* 103:18374-18379.
- Melzer, D. et al, 2001. Educational differences in the prevalence of mobility disability in old age: The dynamics of incidence, mortality, and recovery. *Journal of Gerontology* 56 :S294-S301.
- Schoeni, RF, Freeman, VA, Martin LG, et al. 2007. Chronic conditions and the decline in late-life disability. *Demography* 44 :459-477.
- Wolf, D., Mendes de Leon C., Glass, T. 2007. Trends in rates of onset and recovery from disability at older ages: 1982-1994. *Journal of Gerontology* 62:S3-S10.

Baseline Characteristics, 1998 HRS.

| | Men | Women |
|---------------------------|------------|--------------|
| Mean Age | 68.2 | 69.3 |
| % zero ADL limitations | 85.1% | 79.0% |
| % zero Chronic conditions | 19.1% | 16.3% |
| N | 7,783 | 9,859 |

Of those with only 1 ADL limitation in 1998, outcome in 2000

■ recover ■ persist ■ die



Effect of disease conditions on odds of having a specific ADL limitation; HRS 1998

| | Dress | Cross | Bathe | Eat | Bed | Toilet |
|---------------|--------------|--------------|--------------|------------|------------|---------------|
| Age | 1.049* | 1.067* | 1.084* | 1.073* | 1.032* | 1.056* |
| Female | 0.938 | 1.486* | 1.495* | 1.360* | 1.355* | 1.763* |
| Non-white | 1.770* | 1.757* | 1.729* | 1.738* | 1.609* | 1.510* |
| Obese | 1.889* | 1.489* | 1.456* | 0.916 | 1.292* | 1.667* |
| Hypertension | 1.230* | 1.354* | 1.197* | 1.232* | 1.201* | 1.265* |
| Diabetes | 1.406* | 1.700* | 1.606* | 1.709* | 1.416* | 1.487* |
| Cancer | 1.00 | 1.010 | 0.959 | 1.068 | 0.962 | 0.980 |
| Lung disease | 1.767* | 2.051* | 2.052* | 1.354* | 1.707* | 1.585* |
| Heart disease | 1.484* | 1.521* | 1.528* | 1.326* | 1.640* | 1.505* |
| Stroke | 3.226* | 3.695* | 3.714* | 6.133* | 3.179* | 3.247* |
| Arthritis | 2.584* | 2.391* | 2.166* | 1.644* | 2.924* | 2.818* |
| Hip Fracture | 3.349* | 4.534* | 3.703* | 3.232* | 3.050* | 4.467* |

Effect of disease conditions on the odds of recovery of an ADL function

| | |
|---------------------|---------------|
| Age | 0.963* |
| Female | 1.456* |
| Non-white | 0.990 |
| Hypertension | 1.092 |
| Diabetes | 0.741* |
| Cancer | 0.575* |
| Lung disease | 0.709* |
| Heart disease | 0.850 |
| Stroke | 0.748 |
| Arthritis | 0.944 |
| Hip Fracture | 1.220 |