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Social Security and Elderly Poverty

Elderly poverty in the U.S. decreased dramatically during the twentieth century. Between 1960 and 1995, the official poverty rate of those aged 65 and above fell from 35 percent to 10 percent, and research has documented similarly steep declines dating back to at least 1939. While poverty was once far more prevalent among the elderly than among other age groups, today's elderly have a poverty rate similar to that of working-age adults and much lower than that of children.

Social Security is often mentioned as a likely contributor to the decline in elderly poverty. Enacted in 1935, the Social Security system experienced rapid benefit growth in the post-WWII era. In fact, there is a striking association between the rise in Social Security expenditures

per capita and the decline in elderly poverty, as Figure 1 illustrates (with both series scaled to fit on the same figure).

This association is investigated further by researchers **Gary Engelhardt** and **Jonathan Gruber** in **Social Security and the Evolution of Elderly Poverty**, (NBER Working Paper 10466). Using data from the 1968 through 2001 March Current Population Surveys, the authors first examine aggregate trends in elderly poverty then conduct a statistical analysis to assess the role of Social Security in driving the decline in elderly poverty.

The authors draw several interesting conclusions from their analysis of aggregate trends. First, when poverty is measured relative to median non-elderly income rather

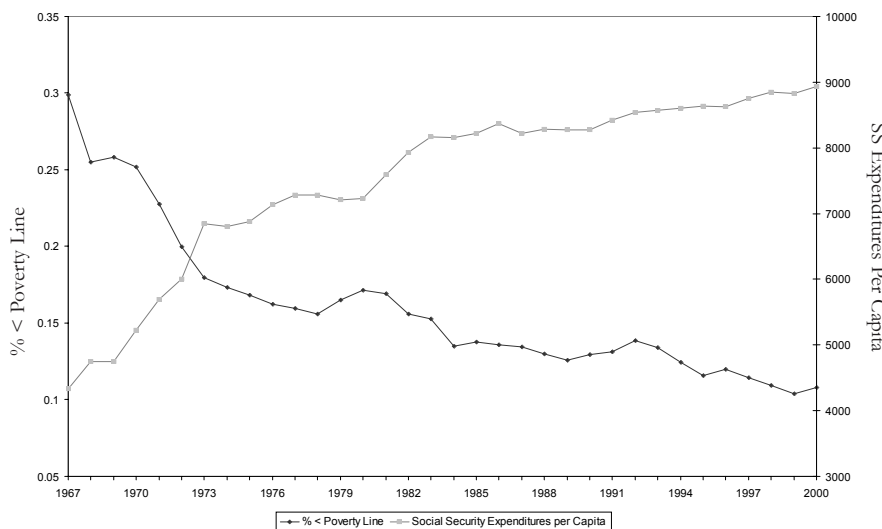
The NBER Bulletin on Aging and Health summarizes selected Working Papers recently produced as part of the Bureau's program of research in aging and health economics. The Bulletin is intended to make preliminary research results available to economists and others for informational purposes and to stimulate discussion of Working Papers before their final publication. The Bulletin is produced by David Wise, Area Director of Health and Aging Programs, and Courtney Coile, Bulletin Editor. To subscribe electronically to the Bulletin, please send a message to: ahb@nber.org.

than relative to the official poverty line, the decline in elderly poverty ended in the early 1980s. Income inequality has increased markedly since then among the elderly and non-elderly alike. Second, poverty rates are strongly cyclical — rising during recessions and falling during economic expansions — for the non-elderly but not for the elderly, highlighting the protective effect of Social Security. Third, decreases in elderly poverty over time have been similar across age groups but larger for married couples than for other groups.

As the authors note, assessing the causal effect of Social Security on poverty is difficult. For example, individuals may work and save more when benefits are less generous, so a simple calculation of the increase in poverty that would result from eliminating Social Security income would likely overstate the true effect by ignoring these behavioral responses.

To avoid this problem, the authors construct a measure of Social Security benefits that depends only on the Social Security rules that apply to each birth cohort and not on workers' actual labor market

Figure 1: Elderly Poverty and Social Security Expenditures Over Time



experience. They examine the relationship between this measure and poverty rates for people born between 1880 and 1935. For some of the analysis, the authors focus on a narrower range of birth cohorts, making use of the sharp drop in benefits experienced by the “notch” cohorts of 1917-1921.

The authors estimate that a \$1,000 increase in Social Security benefits is associated with a 2 to 3 percentage point reduction in poverty rates for elderly house-

holds. They also find no statistically significant effect of benefits on income inequality, suggesting that higher-income and lower-income elderly benefit similarly from increases in Social Security.

Applying this estimate to the change in Social Security benefits between 1967 and 2000 suggests that the increase in benefits can explain all of the 17 percentage point decline in poverty that occurred during this period. The authors also find that higher bene-

fits lead some elderly to live independently rather than with family members, and conclude that the effect of Social Security on poverty would have been even more dramatic in the absence of these changes in living arrangements.

This research was supported by the National Institute on Aging (grant P01 AG005842). It was summarized by Courtney Coile.

Medical Report Cards and Hospital Quality

The quality of the U.S. health care system has come under increasing scrutiny in recent years. A 1999 Institute of Medicine report estimated that preventable medical errors result in the deaths of at least 44,000 people each year, more than the number of deaths from motor vehicle accidents, breast cancer, or AIDS. In addition to the loss of life, these errors are estimated to result in at least \$8.8 Billion in unnecessary health care costs and billions more in lost productivity.

In the wake of this and similar reports, public and private sector leaders have come together to found new initiatives for health care quality, such as the National Quality

Forum and the Leapfrog Group. These organizations seek to measure the quality of health care providers and to make this information publicly available to enable consumers to make more informed choices.

While the idea of medical report cards is increasingly popular, their effects on medical productivity are not yet well understood. In **The Role of Information in Medical Markets: An Analysis of Publicly Reported Outcomes in Cardiac Surgery**, (NBER Working Paper 10489), **David Cutler**, **Robert Huckman**, and **Mary Beth Landrum** examine the effects of a medical report card program in New York State.

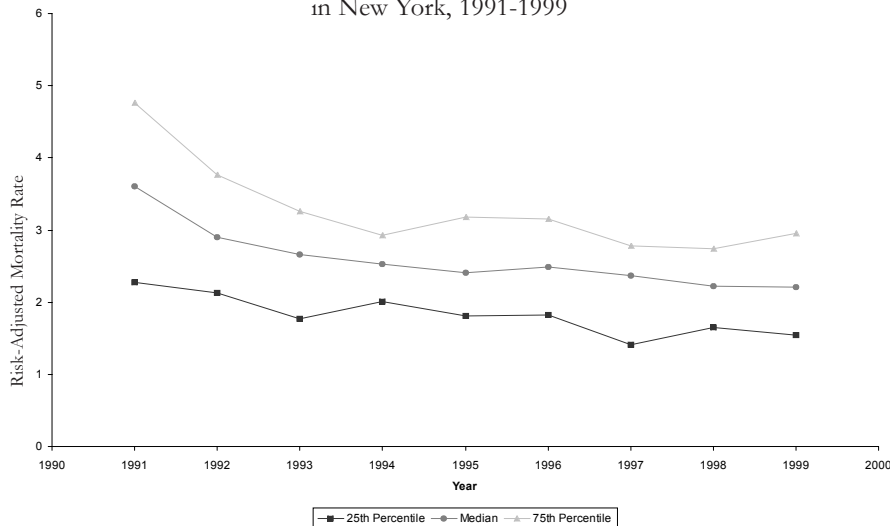
While most previous analyses have focused on comparing trends in states with and without report cards, the authors examine the effect of report cards on providers in a given state, allowing them to observe bigger differences in quality among their sample and to make use of detailed data on patient health.

New York’s Cardiac Surgery Reporting System (CSRS), which began in the late 1980s, collects data on patients’ medical history and on whether they die in the hospital following surgery. Every 12 to 18 months, the State announces which hospitals performed better or worse than the statewide average by a statistically significant margin. To account for the fact that some hospitals treat more severely ill patients, the State compares each hospital’s mortality outcome to that which would be expected given the composition of its patient population (the “risk-adjusted” mortality rate).

The authors first examine the effect of the report card program on the distribution of risk-adjusted mortality rates across hospitals. As Figure 1 illustrates, the difference between the mortality rate of hospitals at the 25th and 75th percentiles of the distribution narrowed significantly in the early years of the program, suggesting improved performance by low-quality hospitals.

The authors test for this response more directly in a statistical analysis and find that receiving a high-mortality flag is associated with a 1.2 percent-

Figure 1: Distribution of Hospital-Level Risk-Adjusted Mortality Rates in New York, 1991-1999



age point decrease in the hospital's risk-adjusted mortality rate over the next 12 months. As the average mortality rate in the sample is 2.55 percent, this is a very large response.

Finally, the authors examine how the allocation of patients across hospitals is affected by the report card program. They find that receiving a high-mortality flag results in a decrease in bypass surgery volume of about 10 percent for an average-

sized hospital. Interestingly, this effect is driven entirely by a decrease in volume among healthier patients.

As the authors note, this finding is compatible with either a demand-side response — patients who do not need surgery immediately (or their referring doctors) may choose to pass over low-quality hospitals — or a supply-side response — some surgeons at poor-performing hospitals may do fewer procedures or

leave the hospital, which would generate a less healthy patient pool if those surgeons were handling more routine cases. The authors conclude that further research is warranted to better understand the effects of medical report cards.

This research was supported by the National Institute on Aging (grant P01 AG005842). This research was summarized by Courtney Coile.

The Effect of ADHD on Educational Outcomes

In recent years, Attention Deficit Hyperactivity Disorder (ADHD) has been a subject of increasing public attention and concern. Affecting an estimated 4 to 5 percent of children, ADHD is the most common chronic mental health problem among young children in the U.S.

ADHD is characterized by an inability to pay attention, hyperactivity, or both. A formal diagnosis of ADHD is based on exhibiting these behaviors to a degree that is inconsistent with the child's development level, in multiple settings, and over a prolonged period of time. ADHD is typically treated with drug therapy (often stimulants such as Ritalin) or psychiatric counseling. Much of the controversy over ADHD has focused on whether it has been under or over diagnosed and treated.

Despite the concern about ADHD, there are relatively few studies of its effect on children's educational outcomes. **Janet Currie** and **Mark Stabile** explore this subject in **Child Mental Health and Human Capital Accumulation: The Case of ADHD** (NBER Working Paper 10435).

The authors use data on children aged 4 to 14 in the 1990s from the U.S. National Longitudinal Survey of Youth and the Canadian National Longitudinal Survey of Children and Youth. They focus on a continuous measure of symptoms from an ADHD screening test administered to all children rather than reported cases of ADHD to avoid the prob-

lem of imperfect diagnosis and to examine the effect of lower levels of symptoms. They also use diagnoses from two sources, the child's parents and teacher, to better measure the child's true level of ADHD.

The authors pay particular attention to the possibility that some children — for example, those in low-income households — may be more likely to have ADHD and also more likely to have worse outcomes, which could confound estimates of the effect of ADHD on outcomes. To address this, they control for factors such as family income and mother's education in their analysis. They also estimate models comparing differences in outcomes among siblings with different levels of ADHD symptoms, to control for the effect of any household-level factors that are not observable in the data.

The authors find that children with more symptoms of ADHD — such as being impulsive or restless — have significantly lower math and reading scores on standardized tests several years later. These children also have an increased probability of grade repetition, enrollment in special education, and delinquency, which includes behaviors such as stealing, hitting people, or using drugs. The results are similar for U.S. and Canadian children.

The magnitude of these effects is large. For example, being in the top 10 percent of the ADHD symptom distribution (which may correspond roughly to having ADHD), is

estimated to nearly double the probability of grade repetition and to lower math and reading test scores by 8 to 10 percent relative to average test scores for U.S. children. Strikingly, the effects of ADHD on child outcomes are much larger than the effects of physical health problems such as having asthma or being in poor health.

Interestingly, the authors find that experiencing an additional symptom of ADHD is associated with a similar deterioration in outcomes both for children with low and high levels of ADHD symptoms. This suggests to the authors that “even children with scores low enough that they would never be diagnosed with ADHD may nonetheless suffer ill effects of behaviors associated with the disorder.”

As boys are two to three times more likely to suffer from ADHD than girls, it is interesting to compare whether the effects of ADHD on outcomes differ by gender. The authors find that the boys and girls with moderate symptoms are similarly affected, but that boys with severe symptoms are much more likely to be enrolled in special education and to have lower test scores than comparable girls.

The authors also examine whether the effects of ADHD and treatment for the disorder vary by income level. They find that children in high-income families are less likely to be retained in grade, but are otherwise similarly affected by ADHD symptoms as children in low-income

families. Surprisingly, children in high-income families are no more likely to be treated for ADHD, in stark contrast with treatments for physical health problems. The authors suggest that low-income families may have access to ADHD treatment through Medicaid or school referrals or that high-income families may avoid treatment for ADHD due to

perceived stigma.

The authors conclude that “the severity of problems associated with ADHD and the pervasiveness of its symptoms suggest that efforts to find better ways to teach the relatively small number of children diagnosed with ADHD could have a larger payoff in terms of improving the academic outcomes of many

children with milder symptoms.”

The authors acknowledge financial support from the Social Science and Humanities Research Council of Canada, Princeton University’s Center for Health and Well-Being, and the Canadian Institutes for Health Research. This research was summarized by Courtney Coile.

NBER Profile: Kathleen McGarry

Kathleen McGarry is a Research Associate in the NBER’s Aging Program. Affiliated with the NBER since 1992, she was a National Fellow at the NBER during the 2001-02 academic year and will be in residence at the NBER during the 2004-05 academic year.

McGarry is a Professor of Economics at UCLA. She joined the UCLA faculty in 1992 and has won numerous teaching awards during her tenure there. In 2000-2001, McGarry served as a Senior Economist at the Council of Economic Advisers working for both the Clinton and Bush administrations in the areas of health, education and welfare. McGarry received both her Ph.D. in Economics and her B.S. in Mathematics from the State University of New York, Stony Brook.

McGarry’s research encompasses a wide variety of topics in the

economics of aging and has received financial support from the National Institutes of Health and the Social Security administration. Much of McGarry’s work has focused on the importance of public and private transfers. She has studied financial transfers from parents to their adult children as well as transfers of both time and money to elderly parents. She has also analyzed public transfers through the SSI program and related work with the Social Security and Medicare programs. McGarry’s current research focuses on the long-term care and health insurance markets.

In her free time McGarry enjoys hiking, cooking, and exploring the farmers’ markets of Southern California. During the coming year she is looking forward to spending time with her nieces and nephew in



New England, and making the occasional trip to the Metropolitan Opera in New York.

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