

Does Supplemental Security Income reduce disability in the elderly?

Pamela Herd, Robert F. Schoeni, and James S. House

Pamela Herd is Professor of Public Affairs and Sociology at the University of Wisconsin–Madison and an IRP affiliate. Robert F. Schoeni is Professor of Public Policy and Economics at the University of Michigan and an IRP affiliate. James S. House is Angus Campbell Distinguished University Professor of Survey Research, Public Policy and Sociology at the University of Michigan.

A 1982 report found that over a quarter century of universal health care in the United Kingdom had done little to reduce socioeconomic health disparities.¹ This report inspired decades of research documenting a strong relationship between socioeconomic status and health.² This research has given rise to the fundamental cause theory, which posits that socioeconomic status is a fundamental cause of health differences. This theory suggests that policy solutions aimed at ameliorating health disparities should be focused on changes in social and economic policies as much or more than on factors such as health care and behavioral changes. The study described in this article tests the fundamental cause theory by looking at the health effects on single elderly individuals of one particular income support policy in the United States, the Supplemental Security Income (SSI) program, which is intended, in part, to raise the incomes of the poorest elderly Americans (age 65 and older).³

Fundamental cause theory

Researchers who have documented the consistent and inverse relationship between socioeconomic status and health have been challenging the idea that socioeconomic position is simply a proxy for other factors that affect health, including access to and quality of health care and health behaviors, and have instead theorized that socioeconomic status is a fundamental determinant of health.⁴ The key evidence supporting this fundamental cause theory is that although the intervening links between socioeconomic status and health have changed over time, the link between low socioeconomic status and poor health has not. For example, while over the course of the twentieth century the major causes of mortality have changed from infectious disease to chronic conditions, socioeconomic disparities in health during that period have either persisted or increased.⁵ In addition, the strong link between socioeconomic status and health exists in countries with widely varying social, political, and economic conditions.⁶

According to fundamental cause theory, socioeconomic status promotes or limits access to resources that enable individuals to avoid health risk factors for disease and mortality.⁷ Risk factors include a wide range of environmental and social conditions, including neighborhood violence, drinking water contamination, and squalid housing conditions, which wealthier individuals are able to avoid.

Why study income support policy?

If socioeconomic status is indeed a fundamental cause of health, then policy solutions aimed at ameliorating health disparities should be focused on changes in social and economic policies as much or more than on factors such as health care and individuals' behavioral changes. Similarly, research should assess the efficacy of social and economic policies for reducing health disparities, examining, for example, how health is affected when resources are redistributed.

In the study discussed in this article, we focus on income support policy.⁸ Income is a key indicator of socioeconomic status, and there is extensive evidence of a strong association between income and health, particularly for low-income individuals. Income support programs are also arguably the most important mechanisms through which government can affect individual well-being, with billions of dollars of annual distributions.

There are several reasons why income support policy might affect health. First, there is considerable evidence of a strong association between income and mortality and morbidity. People with lower incomes have shorter lifespans on average than those with higher incomes, have more chronic conditions and functional limitations, have higher rates of mental health problems, and generally report a lower health status.⁹ Second, the effects of income on health, and particularly on morbidity, may be larger for those at the bottom of the income distribution.¹⁰ Since many income support policies target the poorest Americans, the extent to which these policies reduce entrenched poverty could have implications for health. Studies have specifically found that the duration of exposure to poverty or low income matters to health; the more prolonged the exposure is, the greater the effect on health.¹¹ For example, compared with those in the 1984 Panel Study of Income Dynamics who had experienced no poverty over the preceding sixteen years, those who had temporarily experienced poverty had self-reported health scores that were 17 percent lower, and those who had persistently experienced poverty had self-reported health scores that were 32 percent lower.¹²

What is it about having a low income that is bad for one's health? Lack of health insurance surely adversely affects one's access to and quality of health care, but this is only part of the puzzle. Perhaps more important than health care and health insurance is the deprivation associated with lower incomes. Poor people have more difficulty meeting basic needs necessary for good health, including good nutrition and safe and healthy environments at home and at work.¹³ Children in low-income families, for example, are far more likely than those in higher income families to report food insufficiencies, and are more likely to be iron deficient.¹⁴ Poor housing quality, including dampness, inadequate heat, presence of mold, and pest infestations, is associated with asthma.¹⁵ Some studies find that a substantial part of the relationship between low incomes and health can be explained by deprivation, such as being unable to afford basic amenities like housing, food, and clothing.¹⁶

Another important explanation is that low incomes are predictive of other psychosocial and behavioral risk factors, which are in turn predictive of health.¹⁷ Low-income people are more likely to face high levels of stress, which play a significant role in the onset of disease.¹⁸ Low-income individuals are more socially isolated and feel they have less control over their lives, both of which are predictive of poor health.¹⁹ Finally, individuals with low incomes are more likely to smoke, be obese, be sedentary, and consume too much (or too little). However, any single set of these factors (health behaviors, stress, social relationships and support, or psychological disparities) accounts for approximately 20 percent of the association between socioeconomic status and health.²⁰

While the potential pathways by which income can influence health are numerous, not all researchers agree that low income has a causal effect on health. Some argue that health is a human capital variable (like education or training) that determines economic well-being rather than the reverse.²¹ Health shocks lead to high out-of-pocket medical expenses, job loss and wage reductions, as well as changes in consumption behavior, all of which limit the ability to accumulate income and assets.²² Alternatively, it has been argued that some other factors may causally influence both income and health. For example, perhaps there are genetic factors that determine both health and income.

Exploring the relationship between income support policies and health may help clarify the relationship between income and health. Most researchers conclude that income is likely a determinant of health and that health is likely a determinant of income, but the strength of the relationship in either direction is contested.²³

Supplemental Security Income

Old-age policy in the United States provides a promising avenue for research because income supports are so substantial among the elderly, especially in comparison with

income supports early in the life course. Social Security, of course, is the most extensive income support program, and it has substantially increased income levels and reduced poverty levels among the elderly.²⁴ Since health events are concentrated among older people, it is often difficult to capture significant levels of variation in health among younger individuals, especially using standard survey measures of health. Looking instead at policies directed at the elderly better provides this variation.

Our study exploits this variation by studying one policy that affects the elderly—SSI. Our study examines the relationship between income and health by testing whether within-state changes in maximum SSI benefits led to changes in disability among the elderly. The SSI program was created in 1972 to provide a minimum income guarantee for the elderly, and is targeted at the poorest elderly Americans. At the time of the program's creation, minimum income guarantees varied greatly at the state level. Congress subsequently established a federal minimum income guarantee, set at about three-quarters of the poverty line. In 2000, the federal monthly maximum benefit for the elderly under SSI was \$512 for single individuals and \$769 for married couples. About 6 percent of the elderly in the United States receive SSI benefits. States may choose to supplement the federal minimum benefit, and twenty-six states do so. Thus, SSI maximum benefits vary between states and within states over time. It is this variation within states over time that allows us to test the effect of changing benefit levels on disability among the elderly.

Do higher benefits reduce disability rates?

We used census data from 1990 and 2000 for single individuals aged sixty-five or older to examine the effect of the SSI program on disability among elderly Americans. Within-state changes in SSI benefit policy over the period provide a natural experiment, offering a way to address the causal direction of the relationship between income and health. Our indicator of disability, obtained from the 1990 and 2000 censuses, is a self-reported measure of whether the respondent had any health condition that had lasted six or more months, and that made it difficult or impossible to function independently in public.

We find that between 1990 and 2000, within-state changes in the maximum state SSI benefit were correlated to changes in self-reported disability rates among elderly individuals, with higher benefits associated with lower disability rates. Among all single elderly individuals, a \$100 increase in the maximum monthly SSI benefit was associated with a decrease in the rate of mobility limitations of 0.46 percentage points. However, this effect size is spread across the entire population of single elderly Americans, only about 10 percent of whom report receiving SSI benefits. Thus, the effect on the population of those receiving SSI could be much larger. We conducted several sensitivity analyses, and found that our results were robust to a number of changes, including in the disability measure and in sample definition.

From a theoretical perspective, our study provides evidence supporting the potential for using social and economic policy solutions to address socioeconomic disparities in health. Fundamental cause theory would predict that by shifting resources to those at the bottom of the income distribution, income supports would improve health. But most policy efforts to improve the population's health have focused on factors such as health care and behavioral changes (e.g., quitting smoking, exercising), and particularly on attempts to expand access to health care through varying health policy mechanisms. While these strategies are effective in improving health, they are likely incomplete, as illustrated by continuing socioeconomic disparities in health in countries with universal access to health care.²⁵ Our study reveals the potentially beneficial impact on elderly disability of increasing income supports, particularly among the poorest Americans, as an alternative or supplemental strategy for improving their health.

Study limitations

There are some important caveats to our findings. First, to address selection effects, we did not restrict the analysis to SSI recipients. Thus, although we correctly estimated the effects on the population we examined—that is, how changes in maximum SSI benefits would affect disability prevalence among single elderly Americans—we were not looking at how increasing SSI benefits affected specific individuals receiving those benefits. Logic and sensitivity analyses that include only SSI recipients suggest that the effect would be larger in this group, but by an amount that is impossible to estimate precisely with the available data. Second, a key assumption of our study is that changes in state SSI policies are unrelated to changes in state old-age disability rates, conditional on changes in sociodemographic and other factors in the state accounted for in the regression. A potential weakness with our model is that there could be unobserved variables that are associated with within-state changes in maximum SSI benefits, which could explain the relationship we observe between SSI and functional limitations among the elderly. In this case, we were concerned that changes in SSI eligibility could be correlated with changes in Medicaid receipt for the elderly; however, we found no evidence for this.

Conclusions

Our study tested the theory that socioeconomic status is a fundamental cause of health differences by exploiting state-level changes in an income support policy over time to address the causal direction of the relationship between income and health. Specifically, we looked at the relationship between changes in the maximum SSI benefit between 1990 and 2000 and disability among single elderly individuals. We did find that higher benefits were linked to lower disability rates; a \$100 increase in the monthly benefit amount was associated with a 4.6 percentage point reduction in the rate of mobility limitations, which is essentially an 11 percent

reduction for a 15 to 20 percent change in income. Because only about 10 percent of single elderly individuals receive SSI, the effect on SSI recipients could be much larger.

We are hesitant to draw strong conclusions about the size of the effect until further studies are done. Nonetheless, it is important to say something about the plausibility of the effect size that we did find. It is difficult to make comparisons with other studies, in part because many of the existing studies do not take into account the possibility that the effects of income may be larger for lower-income people. In addition, the measures used differ across studies, and as mentioned in our introduction, there is little to no agreement in the literature on the magnitude of the effects of income on disability or health. One true income experiment among the poor elderly is PROGRESA, which was conducted in Mexico in the late 1990s, with about one in nine Mexican households receiving PROGRESA benefits, which increased their income by about 20 percent.²⁶ That study found that for those aged 50 and older, the 20 percent increase in income led to about a 20 percent reduction in the number of days reported having difficulty completing normal activities of daily living. Thus, the effect in Mexico was about twice as large as what we found, though this seems reasonable given the greater severity of poverty in Mexico. Thus, it appears that the magnitude of the effect we estimated among poor elderly in the United States is at least plausible.

Further research is needed on the question of whether and how social and economic policies affect health. The United States spends nearly twice as much on health care as other industrialized countries do, but lags behind on basic health measures. While most would agree that access to and the quality of medical care, and access to that care, is an important predictor of good health, it is becoming increasingly clear that medical care is not the only or even the primary predictor of good health. Thus, research that concentrates on connections between social and economic factors and health sets the stage for analyses like ours, which explicitly explore whether there are connections between social and economic policies and health. Ultimately, if public policy is to play a role in improving population health, we must have a clearer understanding of the different ways in which it can do so. ■

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