Trends in Disability and the Use of Disability Insurance

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Introduction

Social Security Disability Insurance (DI) is the nation's most important public support for the working-age population with disabilities: in December, 2017 DI made payments totaling $11.5 billion to 10.1 million people.[1] The health of the working-age population is a key driver of enrollment in and thus spending by the program. Several studies have found that in recent years some dimensions of health of the population approaching retirement has worsened. For at least some segments of the working-age population, unfavorable trends have been documented for obesity, diabetes, having multiple chronic conditions, respondent-assessed fair or poor health, disability, and mortality.[2] In addition, the labor force participation of working-age men has been falling, while that for women has stopped rising. While multiple factors have, presumably contributed to these trends[3] there is some evidence that these trends have been driven, in part, by those in poor health.[4] These unfavorable trends would be expected to cause both applications and new disabled worker awards to increase and portend difficulty for the DI trust fund.

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[1] Social Security Administration. Annual Statistical Report on the Social Security Disability Insurance Program, 2017 [Internet]. 2018 Oct [cited 2019 Jul 5].

[2] Bound J, Geronimus AT, Rodriguez JM, Waidmann TA. Measuring Recent Apparent Declines In Longevity: The Role Of Increasing Educational Attainment. Health Aff (Millwood). 2015 Dec 1;34(12):2167–73; Case A, Deaton A. Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. Proc Natl Acad Sci U S A. 2015 Dec 8;112(49):15078–83; Choi H, Schoeni R, Martin L. Are Functional and Activity Limitations Becoming More Prevalent among 55 to 69-Year-Olds in the United States? PLOS ONE [Internet]. 2016; National Center for Health Statistics. Health, United States, 2016: With Chartbook on Long-term Trends in Health [Internet]. Hyattsville, MD; 2017.

[3] Binder AJ, Bound J. The Declining Labor Market Prospects of Less-Educated Men. J Econ Perspect. 2019 May;33(2):163–90.

[4] Bound J, Lindner S, Waidmann T. Reconciling findings on the employment effect of disability insurance. IZA J Labor Policy. 2014 Jun 5;3(1):11.

Using the two nationally representative surveys, this analysis examines trends in a wide variety of measures of self-reported health, physical limitation and disability. We then model rates of application and award as a function of health and demographic characteristics and calculate how those rates would have trended over a 20-year period if they had driven only by changes in health. Trends in the application for and award of DI and SSI disability benefits have, in the past, been driven by changes that have little to do with the health of the working aged population, including business cycles and program changes. The point of these application and award models is not to try to predict application and awards, but rather to create a health index which will allow us to trace out the implications of health trends for DI and SSI.

We analyzed data on men and women age 55-61 using Health and Retirement Study (HRS) data from 1996-2016, and National Health Interview Survey (NHIS) data from 1998-2017.[5] Both surveys collect information on chronic health conditions, and physical limitations, and difficulty performing activities of daily living (ADL). Both surveys also collect self-reports of having applied for disability benefits from DI and Supplemental Security Income (SSI) and of currently receiving benefits. In addition, the HRS has measures of ever being awarded disability benefits from these programs.

To simulate the effect of health trends on DI and SSI applications and awards, we estimated logistic regression models of every applying to either DI or SSI, current receipt of a disability benefit from either program and ever receiving a DI or SSI award. Each model also includes as predictors age, sex, race, and educational attainment to

[5] This age range was chosen because it is the only age range that is nationally representative in every wave of the HRS. Future analyses will include those age 51-61 in the waves where they are represented.

control for any demographic shifts in the population over the 20-year period. The models also include year indicators to control for any period-specific effects that might explain changes in DI/SSI applications or awards, including business cycles or administrative changes in the programs. Holding population characteristics as well as period-specific effects constant at the beginning of the period, we then estimated what the application and award outcomes would be in each year, if only health variables had changed over time.

We first tabulated prevalence rates for each measure in each survey year and estimated trends for each measure and found general consistency between the two surveys. In both surveys, over the period from the mid-1990s to the most recently available surveys in the mid-2010s we found statistically significant increases in the prevalence of hypertension, diabetes, cancer, and stroke and increased prevalence in measures of ADL disability. In the HRS, we also found increased prevalence of lung disease, heart disease, psychiatric conditions and arthritis. In the NHIS, we found no significant trend in heart disease, but a significant decline in lung disease. The NHIS did not include measures of psychiatric conditions or arthritis. The only other discrepancy was that in the NHIS measures of physical limitations of the upper and lower body increased, while similar measures in the HRS were flat or declined. Overall, however, these trends support previous literature that has found data on worsening health among the older working-age population.

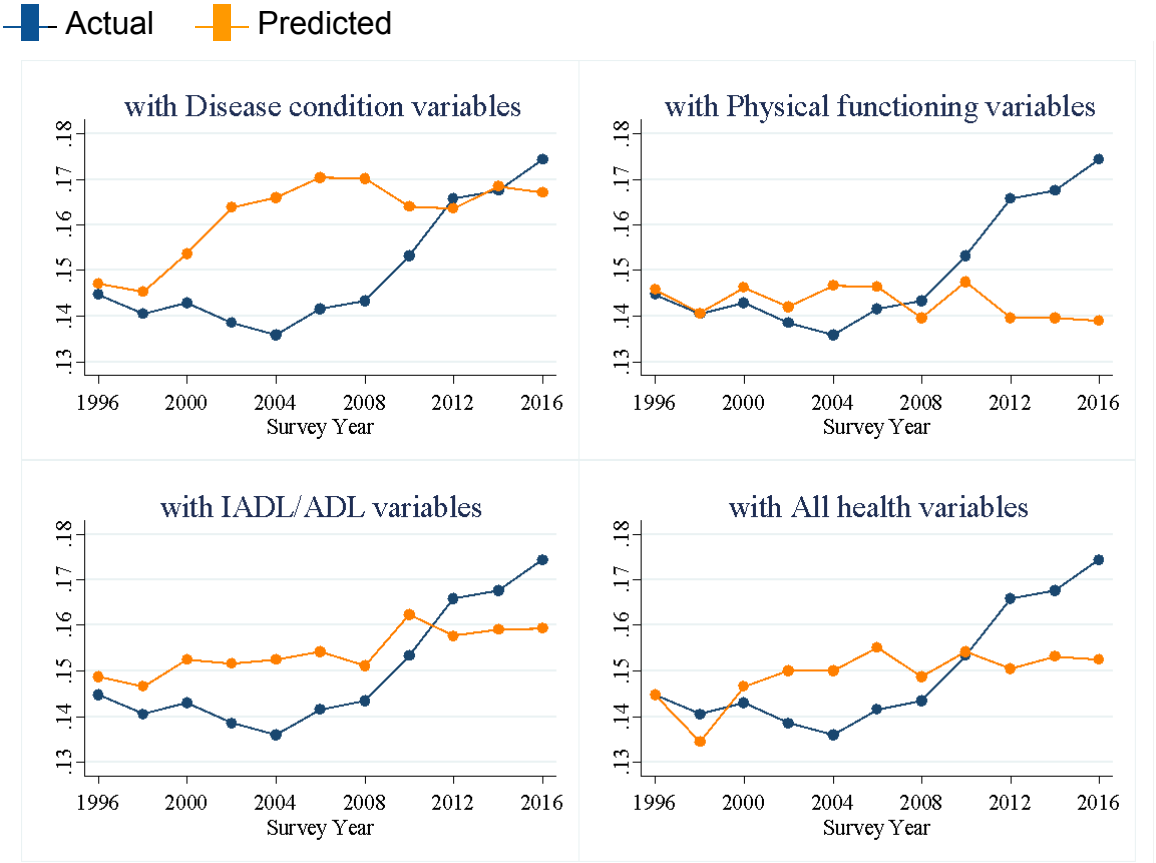
Using the multiple measures of health in the three domains (chronic conditions, physical limitations, ADL difficulty) we constructed a set of indices that summarize the DI/SSI effect of, respectively, all chronic conditions, all physical limitations, all ADL

difficulties, and all three domains together. Each index is a weighted average of the individual measures in the domain, where weights are determined by the measure's estimated effect on disability program application or award.[6] The estimated effects of health conditions on the probability of applying for or being awarded benefits are large and statistically significant. They are also very consistent across the two surveys. For example, other things equal, the odds that an individual with diabetes had applied for DI or SSI were 1.4 times those of an individual without diabetes. The odds of applying for someone who had a stroke were 2.8 times those of a person who had not.

The strength of these estimated effects along with the trends toward worsening health would imply increasing rates of DI/SSI application and award if nothing else had changed. The magnitude of these projected increases depends on the health domain. Specifically, the index based on chronic conditions points to larger increases in applications than indices based on either physical limitation or measures of ADL difficulty. Figure 1 plots these indices against actual change in DI/SSI applications. We find similar differences between domains using the NHIS.

[6] Indices were created using coefficients from logistic regression models of DI/SSI application or award on health variables, with additional controls for age, sex, race, education and year dummies.

Figure 1: Health indices of ever applying for DI/SSI, persons age 55-61, HRS



Conclusions and Policy Implications

Trends in health indices should matter for application and award behavior only if they affect the ability to work. Of the domains studied, physical limitation and ADL difficulties seem most directly relevant to that construct than chronic disease diagnoses. The reduced relevance of chronic disease diagnosis is supported by the enormous recent growth in diagnosis of mental illness that may overestimate the effect of those illnesses on work capacity. That functional indices point to a smaller increase in demand for disability benefits suggests that observed trends toward worsening health may not warrant dire predictions for the country's disability programs.