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Errors in the Social Security Disability Award Process

The multistage process for determining eligibility for Social Security Disability Insurance (DI) benefits has come under scrutiny for the length of time the process can take — 1153 days to move through the entire appeals process, according to a recent Social Security Administration (SSA) analysis — and for inconsistencies that suggest a potentially high rate of errors. One inconsistency is the high reversal rate during the appeals process — for example, administrative law judges, who represent the second level of appeal, award benefits in 59 percent of cases. Another inconsistency is the variation in the award rates across states — from a high of 65 percent in New Hampshire to a low of 31 percent in Texas in 2000 — and over time — from a high of 52 percent in 1998 to a low of 29 percent in 1982.

The SSA has been working on a long-term strategy to address these issues since the mid-1990s. As SSA Commissioner Barnhart said in remarks before the House Social Security Subcommittee in September 2003, "claimants and their families expect and deserve fair, accurate, consistent, and timely decisions."

Despite these concerns, the actual error rate in the DI award process is unknown. The most recent studies on the question date from the 1960s, and thus may not reflect the current situation. In **How Large Are the Classification Errors in the Social Security Disability Award Process?** (NBER Working Paper 10219), **Hugo Benitez-Silva**, **Moshe Buchinsky**, and **John Rust** conduct an audit of the DI award process for a recent sample of applicants and construct an alternative screening mechanism that may have a lower error rate.

The authors use data from the Health and Retirement Study (HRS) for a sample of individuals who applied for DI between 1992 and 1996. The authors first compare self-reported disability status to the outcome of the DI application. Self-reported disability status is based on the respondent reporting that they have "an impairment or health condition that prevents them from working entirely." Working under the assumption that self-reported disability status is equivalent to true disability, the authors find large classification errors in the awards process — 58 percent of those who are denied benefits are truly disabled, while 22 percent of those who are awarded benefits are not truly disabled.

These estimates rest on the assumption that self-reports of disability are truthful and accurate, a subject the authors turn to next. They point out that 18 percent of respondents who receive DI benefits say that they could work, throwing doubt on the theory that people exaggerate health problems to justify benefit receipt. The authors also show that respondents have a similar definition of disability as the SSA, as the self-reported disability rate and DI award rate are similar for people with a given health condition, such as cancer. Finally, the authors recompute the error rate under a less restrictive assumption, that both self-reported disability status and the SSA award decision measure true disability imperfectly but without systematic bias, and find very similar results.

The authors also examine each stage of the award process to see

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where errors are most likely to occur. One interesting finding is that there is a high degree of self-screening by applicants — persons who report that they are disabled are much more likely to apply for DI benefits (47 percent of disabled persons apply vs. 1 percent of non-disabled) and to appeal an unsuccessful initial determination (73 percent vs. 47 percent). The authors suggest that processing delays may discourage non-disabled persons from applying and appealing, as the loss of wages during the award process represents a real cost for applicants who are able to work. While there had been some concern that administrative law judges might be too lenient in awarding benefits, the authors find that the judges' decisions reduce the probability of rejecting a truly disabled person by ten percentage points, without increasing the probability of awarding benefits to a non-disabled person.

Finally, the authors design a new statistical screening rule for DI applicants. To use this rule, one would collect data on an applicant's health conditions and level of functioning, feed this data into a model created by the authors (based on observed relationships between health inputs and self-reported disability status in the HRS) to obtain a predicted probability of disability, and make an initial award to applicants with a sufficiently high probability. The authors estimate that if this screening rule replaced the first stage of DI award process, the probability of awarding benefits to non-disabled applicants in that stage would fall from 29 percent to 18 percent, while the probability of denying benefits to disabled applicants would fall from 67 percent to 53 percent.

The authors caution that there are a number of practical obstacles to implementing such a rule, such as the possibility that applicants may distort reports of their health characteristics to game the system, and that the DI award process can never be completely computerized. Nonetheless, the authors believe that their method may prove useful in helping to redesign the DI award process. They add that some of the changes recently proposed by Commissioner Barnhart, such as providing quick decisions in clear-cut cases and establishing a team of medical experts at each Regional Office, may encourage the implementation of a procedure such as the one the authors describe.

This research was summarized by Courtney Coile.

Does Enrolling in Medicare HMOs Affect Mortality?

In 2002, 5 million Medicare beneficiaries, or 12 percent of the Medicare population, were enrolled in the Medicare+Choice (M+C) program. Under M+C, beneficiaries forgo the traditional fee-for-service (FFS) Medicare insurance program and enroll in a qualified HMO, which often provides benefits not covered by FFS Medicare, such as prescription drugs, eye care, or dental care. Medicare HMOs may become even more popular in the future, as the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 will increase payments to these plans, particularly those offering prescription drug coverage.

A critical question raised by the growth of the M+C program is whether beneficiaries experience better health outcomes in Medicare HMOs or in traditional FFS Medicare. In theory, beneficiaries in M+C may experience better outcomes because Medicare HMOs often provide greater coverage for preventative care such as diabetes screening and for prescription drugs. On the other hand, beneficiaries in M+C may receive fewer health care services — providers are reimbursed a fixed amount per patient per year and thus have lower profits when they treat patients more intensively — and this could result in worse health outcomes.

In **Managed Care, Drug Benefits, and Mortality: An Analysis of the Elderly** (NBER Working Paper 10204), **Gautam Gowrisankaran** and **Robert Town** explore how enrollment in Medicare HMOs affects one particular health outcome measure, mortality rates. Typically, this is a difficult relationship to quantify — beneficiaries who choose to enroll in Medicare HMOs may be systematically healthier than beneficiaries who opt for traditional Medicare, so that any observed relationship between HMO enrollment and health outcomes may not represent a causal effect of HMOs on health.

The authors offer a novel solution to this problem. They begin by noting that M+C payment rates are based on the average cost of treating FFS Medicare patients in that county three to eight years earlier, and suggest that insurers will be more likely to offer M+C plans and to provide drug coverage as part of those plans if payment rates are higher. The authors then predict the fraction of the population in a given county and year that will be enrolled in M+C plans with and without drug coverage based on the payment rate. In their analysis, the authors estimate the relationship between the predicted M+C enrollment rates and the mortality rate at the county level.

The sample for the study is counties with population over 100,000 in the years 1993-2000. The data comes for a variety of sources, including the National Vitality Statistics, Center for Medicare and Medicaid Services, and the Bureau of the Census.

The authors' principal finding is that mortality rates for beneficiaries in M+C plans with drug coverage are similar to those for beneficiaries in traditional FFS Medicare, while mortality rates for beneficiaries in

M+C plans without drug coverage are substantially higher. The authors' estimates imply that a ten-percentage point shift in coverage from FFS Medicare to M+C without drug coverage would result in 51,000 additional deaths per year among the elderly.

These findings have important policy implications, though one must be cautious in drawing inferences from the results, as the plan types differ in many ways, making it difficult to attribute mortality differences to a single factor.

One implication is that prescription drug coverage may reduce elderly mortality. Roughly two-thirds of FFS Medicare beneficiaries currently have prescription drug coverage, typically through Medicaid or a supplemental Medigap policy, as do all beneficiaries in M+C plans with drug coverage. Thus it is plausible that increased access to prescription drugs explains the lower mortality rate for beneficiaries in these two plan types, though it could also result from other differences in covered benefits.

A second implication is that Medicare HMOs with drug benefits provide care (as measured by mortality outcomes) that is as good as that received by the typical beneficiary enrolled in traditional FFS Medicare. This could imply that the financial incentives for providers to offer fewer services to patients in Medicare HMOs either do not affect treatment decisions or that the reduction in services has no effect on mortality. On the other hand, it is also possible that there are negative mortality impacts of managed care but that they are offset by the positive impact of greater drug coverage.

Finally, it is worth noting that the authors look only at the effect of Medicare HMO enrollment on contemporaneous mortality; thus, their analysis does not measure other health effects, such as changes in level of functioning, or any mortality effects that might occur in future years. Nonetheless, the study's findings should be of great interest to those involved in Medicare policymaking and analysis.

This research was summarized by Courtney Coile.

Do Longer Maternity Leaves Affect Maternal Health?

Half of all mothers of infants in the US work outside of the home, with most of them returning to work by the third month. Recent research suggests that longer maternity leaves may benefit infant health and development — children whose mothers take longer leaves have been found to have lower mortality rates and higher test scores. Yet little is known about the effect of longer maternity leaves on the physical and mental health of mothers.

This question is of definite interest to policymakers. When the Family and Medical Leave Act of 1993 (FMLA) passed, one of its goals was to help new parents balance the demands of work and family by allowing them to take up to twelve weeks of unpaid leave. The act might be expected to have had beneficial effects on the mental and physical health of postpartum women, yet a decade later, it remains an open question whether there was such an effect. Furthermore, several states have recently passed or are considering legislation that would require businesses to provide paid family leave. These laws would likely result in longer maternity leaves at some cost to businesses, employees, and states, and it is difficult to evaluate such laws unless one can weigh the costs against the benefits, including any maternal health benefits.

In **Does the Length of Maternity Leaves Affect Maternal Health?** (NBER Working Paper 10206), **Pinka Chatterji** and **Sara Markowitz** explore whether mothers who return to work later have better mental and physical health. The data for their analysis is the National Maternal and Infant Health Survey, which includes data on prenatal care and postpartum outcomes for a sample of about 1,800 women who had live births and returned to work in 1988. The authors use the well-known Center for Epidemiologic Studies Depression Scale (CES-D) to measure mental health and the number of maternal postpartum outpatient visits to measure overall physical and mental health.

One difficulty in studying this question is that maternal health may affect the decision to return to work and returning to work may affect maternal health, making it difficult to isolate the causal effect of length of maternity leave on health. To surmount this problem, the authors make use of the fact that prior to passage of the FMLA, the states had different maternity leave laws. The authors are able to predict the length of a mother's maternity leave based on the generosity of her state's leave law and other factors unrelated to her health, such as local economic conditions. In their analysis, they estimate the relationship between their predicted length of maternity leave measure for each mother and her physical and mental health.

The authors find that returning to work later is associated with a reduction in the CES-D scale. This means that mothers who return to work later are reporting fewer symptoms of depression, such as "my sleep was restless" or "I could not get going," or are experiencing such symptoms with less frequency or both. Somewhat surprisingly, however, returning to work later is not associated with a decrease in the probability of being clinically depressed, as measured by reaching a threshold value on the CES-D scale. The authors reconcile these findings by showing that returning to work later is beneficial for

women in relatively good mental health, but less so for severely depressed women.

The authors' analysis also suggests that the biggest improvements in mental health come from increasing the length of the maternity leave from under eight weeks to eight to twelve weeks; additional gains from extending maternity leave beyond twelve weeks are substantially smaller. Finally, the authors find that returning to work later is associated with only a very small reduction in the probability of having at least three postpartum outpatient visits.

The authors conclude that policies that encourage longer maternity leaves may reduce depressive symptoms among employed mothers, but that there is no evidence that longer maternity leaves reduce the number of cases of clinical depression or affect overall physical and mental health as measured by the number of outpatient visits.

This research was summarized by Courtney Coile.

NBER Profile: *David Cutler*

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David Cutler is a Research Associate in the NBER's Programs on Aging, Health Care, Public Economics, and Productivity.

He is a Professor in both the Department of Economics and the Kennedy School of Government at Harvard University. He is also Dean of Social Sciences in the Faculty of Arts and Sciences at Harvard.

Cutler is an elected member of the Institute of Medicine, a fellow of the Employee Benefit Research Institute, a member of the Scientific Advisory Board's Alliance for Aging Research, and a director of the National Academy of Social Insurance.

He is author of the recently released *Your Money or Your Life: Strong Medicine for America's Health Care System*. He is also Associate Editor at the *Journal of Economic Perspectives* and the *Journal of Public Economics*, and former editor of the *Journal of Health Economics*.

Cutler received his Ph.D. in Economics from MIT and his A.B. in Economics from Harvard. He joined the Harvard faculty in 1991.

Cutler's varied research interests include the productivity, cost, and financing of health care, as well as the Medicare and Medicaid programs.

He is married and his wife is expecting their first child this spring. Cutler is an avid long-distance runner and eager reader.

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