THE EFFECT OF MEDICARE COVERAGE FOR THE
DISABLED ON THE MARKET FOR PRIVATE INSURANCE

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ABSTRACT

Subsidies for health insurance for chronically ill, high-cost individuals may increase coverage in the
broader population by improving the functioning of insurance markets. In this paper, we assess an
historical example of a policy intervention of this sort, the extension of Medicare to the disabled, on
the private insurance coverage of non-disabled individuals. We use data on insurance coverage from
the Panel Study of Income Dynamics from before and after the extension of Medicare to the disabled
to estimate the effect of the program on private insurance coverage rates in the broader population.
We find that the insurance coverage of individuals who had a health condition that limited their ability
to work increased significantly in states with high versus low rates of disability. Our findings suggest
that that subsidizing individuals with high expected health costs is an effective way to increase the
private insurance coverage of other high-cost individuals.

John F. Cogan
Hoover Institution
Stanford University
Stanford, CA   94305
cogan@hoover.stanford.edu

R. Glenn Hubbard
Graduate School of Business
Columbia University, 101 Uris Hall
3022 Broadway
New York, NY 10027
and NBER
rgh1@columbia.edu, ws2187@columbia.edu

Daniel P. Kessler
Graduate School of Business
Stanford University
518 Memorial Way, Room L241
Stanford, CA 94305
and NBER
fkessler@stanford.edu

I. INTRODUCTION

Providing affordable health insurance for people who have predictably high medical expenses is one of health policy's most vexing problems. Conventional policy approaches have significant drawbacks. Community rating, for example, requires insurers to sell to any applicant and prohibits them from setting premiums based on expected health spending (except for a specified set of characteristics such as age, gender, or geographic area). Although community rating may enhance the ability of individuals with high expected costs to obtain insurance, it may also lead to increases in premiums that reduce coverage of individuals with low expected costs (Dobson, Lampkin, and Litow, 2003; Monheit and Schone, 2003; Davidoff, Blumberg, and Nichols, 2005; Simon, 2005). State high-risk pools provide subsidized coverage to people who have sought insurance in the individual market but have been unable to obtain it or able to obtain it only at a high price. However, they are frequently financed by a tax on insurance, which tends to undo the coverage gains that the policy seeks to achieve. In addition, many of these pools have sought to control costs by limiting enrollment through arbitrary mechanisms which further limit their effectiveness (see Fernandez and Stone 2006 and Achman and Chollet 2001 for excellent reviews).

Thus, it is not surprising that researchers have suggested alternatives that seek to avoid these policies' limitations. One gives individuals a subsidy in the form of a risk-adjusted voucher or capitation payment from the government or a private market-maker. Another creates a "mandatory high-risk pool" (see van Barneveld, van Vliet, and van de Ven, 1996) in which private insurers periodically determine a small fraction of subscribers whose costs would be pooled and partially publicly financed. These

strategies all seek to provide high-cost individuals with coverage at a something like a community rate, but without forcing low-cost individuals to finance the cost through their purchases of insurance (Holahan, *et al*., 2003). Ideally, such strategies would not only increase coverage of the high-cost individuals that were targeted but would also increase the coverage of *untargeted* individuals, by leading to lower prices or more comprehensive benefits in the broader private insurance market (Swartz, 2003).

Yet, there is little evidence of how these alternatives would perform. In this paper, we assess an historical example of a policy intervention of this sort, the extension of Medicare to the disabled, on the private insurance coverage of non-disabled individuals. In 1973, Congress extended Medicare benefits to beneficiaries of the Social Security Disability Insurance (SSDI) program; prior to then, there was no uniform, comprehensive public insurance program for the disabled. More important for the purposes of our study, extending Medicare to the disabled also had the effect of removing high-cost individuals from the broader pool of the privately insured.

No empirical evidence exists of the impact of this policy, or similar policies, on the private insurance coverage of *non-disabled* individuals. We use data on insurance coverage from the Panel Study of Income Dynamics (PSID) from before and after the extension of Medicare to the disabled to estimate the effect of the program on private insurance coverage rates in the broader population. We find that the insurance coverage of individuals who had a health condition that limited their ability to work increased significantly in states with high versus low rates of SSDI beneficiaries. These "work-limited" individuals included, but were not limited to, SSDI beneficiaries. The increase in the number of work-limited individuals with insurance was far greater than the number

of Medicare eligibles. Thus, the expansion of Medicare not only increased coverage among the targeted population of the disabled, but also among people who were similarly situated but less seriously impaired, suggesting the potential usefulness of subsidies to high-cost individuals in promoting insurance coverage generally.

Then, we use data from the Health Insurance Council[1] from 1970-1980 to estimate the effect of the extension of Medicare on private insurance *comprehensiveness*. As we discuss below, the same model that predicts that the extension of Medicare could have spillover effects also predicts that it could lead to increases in the comprehensiveness of coverage. We find that the comprehensiveness of private health insurance increased significantly after versus before the extension of Medicare in states with high versus low rates of SSDI beneficiaries.

Our analysis proceeds in the next five sections. Section II presents a theoretical framework that explains how targeted subsidies for health insurance can have effects in the broader population. In section III we discuss the data we use for our analysis, describe our methodological approach, and present tabular results which show evidence of a large impact of the extension of Medicare on non-disabled coverage rates. We embed this analysis in a more general econometric model in Section IV and present results. In section V, we estimate the effect of the extension of Medicare on the scope of the policy offerings of private insurers. Section VI concludes.

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[1] The Health Insurance Council became the Health Insurance Association of America, which later became America's Health Insurance Plans.

II. THEORETICAL FRAMEWORK

The canonical Rothschild-Stiglitz (1976) model of insurance markets has two key predictions: heterogeneous individuals can not exist in the same insurance plan, and high-cost individuals obtain the insurance they most prefer. In this model, subsidies to high-cost individuals have no effect on anyone other than the targeted group. Yet, in practice, the stark predictions of Rothschild-Stiglitz do not occur. Employer-based insurance and other institutions lead to considerable pooling. In addition, it is high-cost individuals (not low-cost individuals) who have greater difficulty obtaining their desired level of insurance. This suggests that the canonical model may be a poor tool for predicting the consequences of targeted subsidies.

Joseph Newhouse (1996) shows how extending Rothschild-Stiglitz to include contracting costs makes the model more realistic. In Newhouse's model, fixed costs to writing separate types of insurance policies can make it profitable to offer a policy that both high- and low-cost individuals will buy. If these fixed costs are large enough, then it will not pay for an insurer to move from a pooling equilibrium to one that segregates the two types.

The Newhouse model also generates several intuitive comparative static results. First, increases in the transaction costs of writing separate contracts or, equivalently, decreases in the range of types in the market leads to increases in the extent of pooling. Greater pooling, in turn, means lower premiums and higher coverage rates for high-cost individuals. Second, decreases in the range of types in the market increases the comprehensiveness of insurance policies that are offered in equilibrium. Transaction-cost induced pooling constrains the generosity of plans that can be profitably offered,

because low-cost individuals prefer less than full insurance; but as the types become more similar (holding transaction costs constant) the scope of insurance that will support pooling increases.

Targeted subsidies have the effect of decreasing the effective range of types in the market, either by offsetting the expected medical expenses of high-cost individuals or by removing such individuals from the market entirely. Thus, subsidies may have spillover effects on those who are untargeted but similar. In this paper, we test this prediction: whether the extension of Medicare to the disabled increased the coverage of nondisabled individuals with high expected costs and increased the scope of health insurance offered in the market. To date, no work has provided empirical evidence of such a scheme's incentives in the United States. This paper seeks to fill this gap. We examine a "natural experiment" from the recent past — the extension of Medicare in 1973 to disabled individuals receiving SSDI. This policy had the effect of removing individuals with high expected health costs from private health insurance pools. We estimate the impact of this policy on the coverage of both the population at large and a high-cost segment of the population who was at risk of becoming, but had not yet necessarily become, disabled — individuals who are limited in the kind or amount of work they can do ("work-limited" individuals). We compare trends in coverage of these individuals before versus after the extension of Medicare in states with large versus small SSDI populations. In so doing, we can assess the potential effectiveness of subsidization of high-cost individuals as a policy to improve the functioning of private markets.

III.   DATA AND ESTIMATION APPROACH

A. Data

To identify health insurance coverage rates, we use data from the Panel Study of Income Dynamics (PSID), waves 2-5 and 13 (that is, 1969-1972 and 1980). In each of these years, the PSID asked heads of household whether they were "covered by some hospital or medical insurance, like Blue Cross" except in 1980, when it asked whether they were "covered by some hospital or medical insurance, like Medicare, Blue Cross, or Blue Shield." (The health insurance question was not asked in any year 1973-1979.) Our sample is limited to persons age 64 or less, and we omitted all individuals whose response to this question was missing. In each of these years, the PSID also asked heads of household whether they had a "physical or nervous condition that limits the kind or amount of work" they could do.   In 1980, 15.7 percent of the population answered yes to this question (in all years, 16.1 percent answered yes); we classify these individuals as "work-limited" in our subsequent analysis.

Ideally, to measure each state's density of high-cost individuals who would be removed from the private insurance market by the extension of Medicare, we would use the number of nonelderly SSDI beneficiaries *who would be eligible for Medicare* per nonelderly resident. However, only the *total* number of nonelderly SSDI beneficiaries per nonelderly resident is available. Because the latter includes individuals who have been on SSDI for less than 29 months (and therefore are not eligible for Medicare), the former is a more accurate measure of the differential impact across states of the extension of Medicare to the disabled. However, if anything, our use of an imperfect proxy in this context is likely to lead us to understate the effect of interest. If the number of SSDI

beneficiaries who would be eligible for Medicare were a proportion of the total that was constant across states, then our estimate would understate the true magnitude by the inverse of this proportion. (If the number of SSDI beneficiaries who would be eligible for Medicare were a proportion of the total that was *random* across states, this would further bias our estimate towards zero.) Our stratification of states would only bias us in favor of finding an effect if states with expanding private insurance markets also had an expanding proportion of SSDI beneficiaries who would be eligible for Medicare.

We also matched data on the number of nonelderly Medicaid beneficiaries by state for the years 1969, 1972, and 1980 (we calculated data for years 1970 and 1971 by linear interpolation). We divided the number of Medicaid beneficiaries by each state's nonelderly populaton to get state Medicaid enrollment rates. We control for Medicaid enrollment rates in estimating the effect of the extension of Medicare for two reasons. First, and most important, the survey question underlying our dependent variable is ambiguously worded. Ostensibly, the question was intended to measure private insurance coverage, but could be interpreted to include coverage by Medicaid. Because we are seeking to identify the effect of the extension of Medicare on private coverage, not private plus Medicaid coverage, we include Medicaid enrollment as a control variable. Second, even if the survey question measured only private insurance coverage, the endogeneity of state Medicaid policies, combined with Medicaid crowd-out, could lead to correlation between the number of SSDI beneficiaries and private insurance coverage. This result could occur, for example, if Medicaid enrollment is positively related to a state's disability rate, and increases in Medicaid lead to decreases in private insurance coverage.

Table 1 presents descriptive statistics on the PSID population that we analyze. The first row of the table shows that most nonelderly heads of household are covered by insurance and that this share remained roughly constant over our study period. The second row shows that, according to the PSID, roughly 16 percent of the population report themselves to be work-limited, and that this share too remained roughly constant over the 1970s.

Table 2 shows how we classify states based on their rates of SSDI receipt. We coded a state as "high disability" if its disability rate in a given year was above the population-weighted median; we coded it as "low disability" if its disability rate was below the median. The first row contains the list of states in each study year that have above the population-weighted median level of SSDI. The remaining rows provide the median SSDI rate, the 25th - 75th interquartile range of SSDI rates, and the average SSDI rates in high- and low- disability states. In 1980, for example, the median rate of SSDI receipt was 1.37 percent (based on the interquartile range of 1.21, 1.52 percent).

B. The Effect of Medicare for the Disabled on Private Insurance Coverage Rates

Table 3 presents average insurance coverage rates in high- versus low-disability states for the years before (1969-72) and after (1980) the extension of Medicare to the disabled. The top panel of the table presents coverage rates for respondents who were not work-limited; the bottom panel presents the same data for those who were work-limited. We also present standard errors of the differences in parentheses. We calculate

the standard errors allowing for arbitrary correlation of coverage rates across individuals within a state over time.[2]

The top panel shows that the insurance coverage rate for heads of household who were not work-limited fell by 2.3 percentage points less in high- versus low-disability states, although the difference is not statistically significant. The coverage rate in high-disability states declined by 0.3 percentage points, while the coverage rate in low-disability states declined by 2.6 percentage points. The difference in trends in coverage between these two types of states is the difference-in-difference (DD) estimator of the effect of the expansion of Medicare.

The bottom panel of the table presents the same coverage rates for respondents who were work-limited. The effect of Medicare's expansion on this population is far more dramatic: The coverage rate in high-disability states rose by 20.2 percentage points, from 57.7 to 77.9 percent. The coverage rate in low-disability states rose also, but by only 1.7 percentage points. For work-limited individuals, then, the DD estimator of the effect of the expansion of Medicare is 18.5 percentage points (with a heteroscedasticity-consistent standard error allowing for within-state correlation of residuals of 4.5 percentage points).

The final rows of the table present the difference between these two DD estimates — that is, the difference in trends in coverage for work-limited versus not work-limited individuals in high- versus low-disability states. This difference-in-difference-in-difference (DDD) estimator of the effect of Medicare is 16.2 percentage points (with a standard error of 3.6 percentage points). The DDD estimator is more conservative than

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[2] Bertrand, Duflo, and Mullainathan (2004) show that the standard errors of difference-in-difference estimators assuming independence of individual observations are, in general, inconsistent.

the DD estimator on the work-limited population. The DDD estimate assumes that the difference in trend coverage between high- and low-disability states for not work-limited individuals was not due to the change in Medicare coverage policy.

The DDD estimate of the increase in coverage due to the extension of Medicare is much larger than number of people actually covered by the program itself. In 1980, the average SSDI rate (population weighted according to the PSID) in high-disability states was 1.7 percentage points, as compared to an average in low-disability states of 1.2 percentage points (not in any table). According to the simple DDD estimate, then, the 0.5 percentage point of additional coverage offered by Medicare's expansion led to a total of 2.5 percentage points of additional insurance coverage (0.025 = 0.162 percentage point increase in coverage*0.157 of population that was work-limited in 1980). In other words, the extension of Medicare to the disabled led to 2 percentage points (0.02 = 0.025 - 0.005) of additional private insurance coverage.

This simple estimate, however, does not account for time-varying differences across states that may be correlated with differences in the disability and private insurance coverage rates. It also does not account for the fact that Medicaid may have expanded differentially across states during this period or be otherwise correlated with private insurance coverage. Finally, it does not investigate whether the effect of state disability rate has a significant effect on the trend in coverage of work-limited individuals in less restrictive specifications.

IV.   ECONOMETRIC MODELS AND RESULTS

A. Models

To explore these possibilities, we specify a model of insurance coverage. We analyze individual heads of household $i = 1,\ldots,$ N in states $j = 1,\ldots, 50$ for the years $t = 1969, 1970, 1971, 1972, 1980$. An individual has characteristics X_{ijt} that include age, gender, family size, family income, education, occupation, whether self-employed, and whether out of the labor force. We define age as a series of indicator variables denoting whether the individual is age 25-34, age 35-44, age 45-54, or age 55-64 (age 15-24 is the omitted group). We define family income as two indicator variables, one for families with incomes between $8,000 and $24,999 (in 1980 dollars), and one for families with incomes greater than $24,999 (income less than $8,000 is omitted group). We define educational attainment as a series of indicator variables denoting whether the individual is high-school-educated, has some college education, or is a college graduate (less-than high school education is the omitted group); occupation is an indicator variable for whether the policyholder is a professional or technical worker (all other occupations are the omitted group). We use the variable W_{ijt} to capture whether an individual is work-limited.

Our models specify insurance coverage, $C_{ijt,}$ as a function of state fixed effects, $\alpha_{j,}$ and time fixed effects, θ_t ; state Medicaid enrollment rates, M_{jt}; the characteristics of individuals, X_{ijt} and W_{ijt}; a variable capturing the state's SSDI enrollment rate, D_{jt}; interactions between D_{jt}, W_{ijt}, and an indicator for 1980 (the only study period after the extension of Medicare); and an individual-specific error term ε_{ijt}:

$$C_{ijt} = \alpha_j + \theta_t + \delta M_{jt} + X_{ijt}\beta + W_{ijt}\gamma + \pi_1 D_{jt} + \pi_2(D_{jt} * W_{ijt}) +$$

$$\pi_3(W_{ijt} * I_t(t{=}1980)) + \pi_4(D_{jt} * I_t(t{=}1980)) + \pi_5(D_{jt} * W_{ijt} * I_t(t{=}1980)) + \varepsilon_{ijt.} \qquad (1)$$

The coefficient π_5 is the DDD effect of the extension of Medicare— that is, the differential trend in coverage in high- versus low-disability states, for work-limited individuals relative to those who are not work-limited.

B. Results

Table 4 reports estimates of π, γ, and δ from equation (1). The results show that the simple DD and DDD estimators from Table 3 present an accurate portrait of the effect of the expansion of Medicare. Results in column (2) show that moving from a low- to a high-disability state leads to a 13.3 percentage point increase in the coverage of work-limited versus not work-limited individuals (with a standard error of 3.7 percentage points), controlling for state and year fixed effects, the state's Medicaid coverage rate, and a variety of individual characteristics. Comparing column (1) to column (2) shows that the results are not sensitive to the inclusion of individual characteristics X_{ijt}. We also re-estimated models (1) and (2) without controls for state Medicaid enrollment rates; this did not change the results at all.

The results in column (4) show that the estimated effect declines in a linear specification, but it remains economically and statistically significant. According to that model, an increase in the state SSDI rate of 0.5 percentage-point leads to a 7.8 ($=0.5*15.5$) percentage point increase in the coverage of work-limited versus not work-limited individuals (standard error 3 percentage points). By comparison, the results in column (2) suggest that an increase in the state SSDI rate of 0.5 percentage points from

1.2 to 1.7 percentage points leads to a 13.3 percentage point increase in the trend in relative coverage rates.

V.   THE EFFECTS OF THE EXTENSION OF MEDICARE ON THE COMPREHENSIVENESS OF COVERAGE

It is possible that our results could be generated by an unobserved process that is correlated with both changes in private insurance coverage rates and changes in disability rates across states. To investigate this concern, we test whether differences in trends in disability rates across states affect the comprehensiveness of private insurance, as economic theory suggests that it should. If the extension of Medicare to the disabled increased private insurance coverage rates by increasing the extent of pooling, then it should have increased the scope of coverage as well.

To investigate whether this was so, we use data from the Health Insurance Council from 1970-1980. We construct a measure of the comprehensiveness of coverage in state j at year t, Q_{jt}, equal to the number of people with coverage for hospital and general medical expenses divided by the number who were reported to have had coverage for hospital expenses. Early health insurance policies offered only coverage for hospital stays, but over the 1970s, policies began to include a wider range of services. We specify Q_{jt} as a function of state fixed effects, α_j, and time fixed effects, θ_t; state Medicaid enrollment rates, M_{jt}; hospital insurance coverage rates C_{jt}; a variable capturing the state's SSDI enrollment rate, D_{jt}; interactions between D_{jt} and indicator variable(s) for periods after the extension of Medicare; and a state-year error term ε_{jt}:

$$Q_{jt} = \alpha_j + \theta_t + \delta M_{jt} + \beta C_{jt} + \pi_1 D_{jt} + \pi_2(D_{jt} * I_t(t \geq 1973)) + \varepsilon_{jt}. \qquad (2a)$$

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and

$$Q_{jt} = \alpha_j + \theta_t + \delta M_{jt} + \beta C_{jt} + \pi_1 D_{jt} +$$

$$\pi_2(D_{jt} * I_t(1975 \geq t \geq 1973)) + \pi_3(D_{jt} * I_t(t \geq 1976)) + \varepsilon_{jt.} \quad (2b)$$

and

$$Q_{jt} = \alpha_j + \theta_t + \delta M_{jt} + \beta C_{jt} + \pi_1 D_{jt} + \pi_2(D_{jt} * I_t(t \geq 1976)) + \varepsilon_{jt.} \quad (2c)$$

Each of these specifications makes a slightly different assumption about the timing of the effect of interest. Model (2a) assumes that private insurance markets responded immediately to Medicare's coverage of the disabled. Models (2b) and (2c) assume that markets responded with a lag. Model (2b) estimates both the short-run and long-run effects, whereas model (2c) constrains the short-run effect to be zero.

Table 5 presents estimates from these models. The table shows that the comprehensiveness of private coverage expanded more in response to Medicare in states that had large disabled populations than in states that did not. Depending on specification, the share of hospital insurance policies that also provided medical expense coverage grew between 2.5 and 4.4 percentage points more in high-disability states. Descriptive statistics not presented in any table show that this effect was due to comprehensiveness starting lower in high-disability states, but catching up coincident with the extension of Medicare. In 1970, the proportion of hospital insurance policies that provided medical expense coverage was 75.9 percent in high-disability states and 84.7 percent in low-disability states. In 1973, the proportions were 82.5 and 86.5 percent; by 1980, the proportions had become almost identical, at 89.5 and 90.6 percent.

VI. CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

Using an important policy natural experiment, we have estimated the extent to which subsidies to cover high-cost individuals affect insurance coverage of others. According to our estimates, extension of Medicare to an additional 0.5 percent of the population through the Social Security Disability Insurance program led to an increase in private insurance coverage of between 7.8 and 13.3 percentage points among individuals who described themselves as limited in the kind or amount of work that they can do. Although we measure this effect for work-limited individuals, one can extrapolate its significance to the population at large. In 1980, these work-limited individuals were 15.7 percent of the total population. Thus, extending Medicare to an additional 0.5 percentage points of the population increased total insurance coverage by 1.2 (= 0.157 * 7.8) to 2.1 (=0.157 * 13.3) percentage points. Subtracting off the 0.5 points due to the direct effect of the program gives a range for the spillover effect of 0.7 (= 1.2 - 0.5) to 1.6 (= 2.1 - 0.5) percentage points. Thus, this increase implies that subsidizing individuals with high expected health costs is an effective way to increase the private insurance coverage of other high-cost individuals.

In addition, our results can be used to calculate the marginal "target efficiency" of extending Medicare to the disabled in the 1970s. Gruber (2003), for example, suggests evaluating such programs in terms of a "bang for the buck" — the total government spending per dollar of insurance cost covered (that is, the cost per newly insured weighted by the cost of those who are gaining insurance). Medicaid expansions to low-income adults, according to Gruber, have a budget cost of $1.30 per dollar of previously uncovered health costs. The budget cost exceeds $1.00 because of crowding-out of

private coverage; for every $1.00 the government spends to newly insure someone with Medicaid, it must also give insurance to some number of individuals who would have had private coverage.

Using the midpoint of our range of estimates of the extent of crowding-in of the non-disabled population of 1.15 percentage points $(1.15 = ((0.7 + 1.6) / 2))$ per 0.5 percentage points of Medicare expansion, the formula for the target efficiency of the program is:

$$[0.5c_d] / [1.15c_n + (1 - \lambda)*0.5c_d],$$

where λ is the extent of crowding-out of private insurance by Medicare; c_d is the cost of public insurance for a newly covered disabled person; and c_n is the cost of private insurance for a newly covered non-disabled person.

As the formula shows, one cannot calculate the target efficiency of the policy without information on extent of crowding-out of the program, the health spending of the newly covered disabled individuals, and the health spending of the newly covered non-disabled individuals. However, it *is* possible to calculate the conditions under which it is more target-efficient than a typical Medicaid expansion,[3] or under which it achieves a target efficiency of less than one dollar per dollar of previously uncovered health costs -- that is, *no* target efficiency cost. For example, assuming complete crowding-out of private insurance coverage $(\lambda = 1)$ for the disabled, the target efficiency of the program reduces to $0.5c_d / 1.15c_n$. Thus, even with 100 percent crowd-out, the program is still more target-efficient than a typical Medicaid expansion, as long as $0.5c_d / 1.15c_n < 1.3$,

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[3] In principle, the coefficient from Table 4 on the number of Medicaid beneficiaries in a state could be used to assess the extent of Medicaid crowd-out. However, because states with low rates of private insurance coverage may (endogenously) expand their Medicaid programs, we instead use estimates of the target efficiency of Medicaid from other research.

or $(c_n/c_d) > 0.33$; the program has no target efficiency cost at all as long as $0.5c_d / 1.15c_n$

< 1, or $(c_n/c_d) > 0.43$. In 2003, Medicare reimbursed \$6,471 per disabled enrollee in the

program, while the annual premium for a conventional, single-person employer-

sponsored insurance policy was \$3,576 (Kaiser Family Foundation, *Employer Health*

Benefits 2003 Survey), yielding an estimate of (c_n/c_d) of 0.553. Hence, at recent values of

c_n and c_d, the program is highly target-efficient.

   Future work might seek to use these estimates to simulate the effects of programs

that are similar but not identical to the extension of Social Security to the disabled. For

example, although partial subsidization of the costs of private insurance of high-cost

individuals might be less costly than full public provision of insurance, the consequences

and optimal design of such a program remain open questions.

	1969-1972	1980
Covered by insurance	0.832	0.840
Has condition limiting kind or amount of work	0.163	0.157
Family income $8,000 - $24,999 (1980 $)	0.511	0.486
Family income > $24,999 (1980$)	0.363	0.360
Professional/technical occupation	0.236	0.273
Self-employed	0.050	0.018
Not in labor force	0.117	0.152
High-school education	0.311	0.364
Some college	0.158	0.181
College or postgraduate degree	0.144	0.195
Female	0.204	0.244
Age	41.03 (12.76)	39.24 (12.82)
Family size	3.441 (1.976)	2.862 (1.575)
Medicaid/population in state of residence	0.084 (0.054)	0.102 (0.038)
N	16,747	5,655

Notes: Reported statistics are calculated using PSID population weights.

Table 2: States with high (above-median) disability rates

	1969	1970	1971	1972	1980
	AL AR AZ CA FL GA KY LA ME MO MS NC OK OR PA SC TN VA WV	AL AR AZ CA DC FL GA KY LA ME MO MS NC NY OK OR PA SC TN VA WV	AL AR AZ CA DC FL GA KY LA ME MO MS NC NM OK OR PA SC TN VA VT WV	AL AR AZ CA DC FL GA KY LA ME MO MS NC NM OK OR PA SC TN VA VT WV	AL AR AZ DE FL GA KY LA ME MO MS NC NY OH OK PA RI SC TN VA WV
Population median disability rate [25th – 75th interquartile range]	0.0075 [0.0064, 0.0081]	0.0079 [0.0070, 0.0087]	0.0083 [0.0074, 0.0096]	0.0090 [0.0081, 0.0107]	0.0137 [0.0121, 0.0152]
Average disability rate in above-median states	0.0089	0.0094	0.0103	0.0113	0.0162
Average disability rate in below-median states	0.0064	0.0066	0.0073	0.0081	0.0118

Note: Rates are calculated using PSID population weights.

Table 3: Average insurance coverage rates in high- versus low-disability states,
respondents with and without a work limitation, heads of household
Panel Study of Income Dynamics, 1969-1972 and 1980

High-disability states			Low-disability states			**DD effect of Medicare extension**
Before Medicare extension (1969-72)	After Medicare extension (1980)	Percentage point change	Before Medicare extension (1969-72)	After Medicare extension (1980)	Percentage point change	After-Before extension, high-low disability states
Respondents who are not work-limited						
0.839	0.836	-0.003 (0.015)	0.897	0.871	-0.026 (0.018)	0.023 (0.027)
Respondents who are work-limited						
0.577	0.779	0.202 (0.025)	0.731	0.748	0.017 (0.033)	0.185 (0.045)
DDD effect of Medicare Extension Difference in work-limited versus not work-limited After-Before extension, high-low disability states						0.162 (0.036)

Note: Heteroscedasticity-consistent standard errors allowing for within-state correlation
are in parentheses. Estimates are calculated using PSID sample weights. N = 22,402,
and the number of states (and number of clusters) is 50.

Table 4: The effect on insurance coverage rates of extending Medicare to the disabled,
Panel Study of Income Dynamics, 1969-72 and 1980

	(1)	(2)	(3)	(4)
Effect of Medicare extension				
Work-limited* high-disability state*1980	0.164 *** (0.037)	0.133 *** (0.037)		
Work-limited* state disability rate*1980			22.377 *** (7.197)	15.508 *** (5.999)
Lower-level interaction terms				
High-disability state*1980	-0.018 (0.024)	-0.018 (0.023)		
High-disability state*work-limited	-0.089 *** (0.029)	-0.049 ** (0.023)		
High-disability state	0.000 (0.020)	0.014 (0.018)		
State disability rate*1980			-1.377 (5.106)	-5.461 (5.345)
State disability rate*work-limited			-17.849 *** (5.415)	-8.958 ** (3.770)
State disability rate			-4.649 (8.054)	8.378 (8.420)
Work-limited*1980	0.044 (0.031)	0.080 *** (0.028)	-0.089 (0.098)	-0.021 (0.088)
Work-limited	-0.165 *** (0.025)	-0.058 *** (0.016)	-0.059 (0.053)	-0.006 (0.035)
State Medicaid/pop rate	-0.509 *** (0.154)	-0.257 * (0.148)	-0.493 *** (0.139)	-0.253 * (0.134)
In regression but not reported in table	State, year FE	State, year FE Individual controls	State, year FE	State, year FE Individual controls

Note: See note to Table 3.

Table 5: The effect on the comprehensiveness of health insurance of extending Medicare
to the disabled, 1970-1980

			Dependent variable:			
	Proportion of those with hospital insurance who have medical expense coverage					
	(1)	(2)	(3)	(4)	(5)	(6)
Effect of Medicare extension						
High-disability state* 1973 or later	0.035 * (0.020)			0.013 (0.023)		
High-disability state* 1973-1975		0.022 (0.017)			-0.004 (0.023)	
High-disability state* 1976 or later		0.044 * (0.024)	0.032 * (0.017)		0.025 (0.025)	0.028 * (0.016)
Lower-level interaction terms						
High-disability state	-0.017 (0.019)	-0.018 (0.019)	-0.008 (0.015)	-0.003 (0.019)	-0.003 (0.019)	-0.005 (0.016)
Population weights?	No	No	No	Yes	Yes	Yes

Note: Heteroscedasticity-consistent standard errors allowing for within-state correlation
are in parentheses. All estimates control for state fixed effects, year fixed effects, State
Medicaid/pop rate, and state hospital insurance rate. N = 561, and the number of states
(and number of clusters) is 51 (includes DC).

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