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The effect of Medicare coverage for the disabled on the market for private insurance

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ABSTRACT

We investigate whether the removal of high-cost individuals from private insurance markets leads to greater coverage for individuals who are similar but not as high cost. Using data on insurance coverage from the Panel Study of Income Dynamics, we estimate the effect of the extension of Medicare to the disabled on the private insurance coverage of non-disabled individuals. 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.

1. Introduction

Does the removal of high-cost individuals from private insurance markets lead to greater coverage for individuals who are similar but not as high cost? In theory, if removing high-cost individuals reduces the range of hidden information in insurance markets, then it will dampen insurers' incentives to protect themselves against adverse selection. As incentives to protect against adverse selection decline, pooling increases, which benefits the high-cost individuals who remain (Newhouse, 1996).

The answer to this question is central to current health policy debates. Subsidies for insurance for the chronically ill, for example, seek to provide high-cost individuals with coverage at something like a community rate, but without forcing low-cost individuals to finance the cost through their purchase of insurance (Swartz, 2003; Holahan et al., 2003). The general equilibrium effect of these subsidies, however, depends on how they affect the form and extent of coverage in the broader insurance market. Yet, despite this, there is little empirical evidence how such policies might 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.

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Then, we use data from the Health Insurance Council[2] from 1970 to 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 2 presents a theoretical framework that explains how targeted subsidies for health insurance can have effects in the broader population. In Section 3 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 4 and present results. In Section 5, we estimate the effect of the extension of Medicare on the scope of the policy offerings of private insurers. Section 6 concludes.

2. Theoretical framework

The canonical Rothschild and Stiglitz (1976) model of insurance markets has two key predictions: heterogeneous individuals cannot 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. In general, 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.

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 non-disabled 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. 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.

3. Data and estimation approach

3.1. 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).[3] 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% of the population answered yes to this question (in all years, 16.1% 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 expand-

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

[3] The PSID is a longitudinal survey of a representative sample of U.S. individuals and their families, started in 1968. Data are collected annually, and the data files contain the full span of information collected over the course of the study. The study's original households constitute a national probability sample of U.S. households as of 1967. Its rules for following household members were designed to maintain a representative sample of families at any point in time as well as across time. The most detailed information is collected each year about the heads of family units. Around the time that Medicare was extended to the disabled, data on health insurance was asked only of heads, and only in 1969, 1970, 1971, 1972, and 1980.