Take-up of Medicare Part D: Results From the Health and Retirement Study

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Objectives: To estimate the impact of Medicare Part D on prescription drug coverage among elderly Medicare beneficiaries and to analyze the predictors of program enrollment (“take-up”) among those with no prior drug coverage.


Results: Take-up of Part D among those without drug coverage in 2004 was high; about 50%–60% of this group had Part D coverage in 2006. Only 7% of senior citizens lacked drug coverage in 2006 compared with 24% in 2004. Demand for prescription drugs was the most important determinant of the decision to enroll in Part D among those with no prior coverage. Many of those who remained without coverage in 2006 reported that they do not use prescribed medicines, and the majority had relatively low out-of-pocket spending.

Conclusion: For the most part, Medicare beneficiaries seem to have been able to make economically rational decisions about Part D enrollment despite the complexity of the program.

Key Words: Economic status—Health care policy—Insurance.

The Medicare prescription drug benefit, commonly referred to as “Part D,” went into effect in January 2006. Unlike Medicare Parts A and B, take-up of which is close to universal among eligible individuals as a result of essentially automatic enrollment, Part D requires most beneficiaries to make an active choice about participation. Beneficiaries enrolling in Part D must choose an insurance plan and, in most cases, pay a separate premium for this coverage. How successfully did elderly Medicare beneficiaries navigate the complex set of choices presented by Part D? We are particularly interested in whether people took up the benefits available to them—who signed up, who did not, and why?

Understanding take-up is interesting for two reasons. First, we want to know whether benefits are reaching the individuals they are intended to help. Second, the underlying “managed competition” framework of the Part D program, in which individuals choose private insurance plans in a regulated and subsidized market, forms the basis for many proposals to expand health insurance coverage in the younger-than-65 population as well. The primary alternative model is one in which government functions as insurer, like Medicare Part A. The success or failure of Part D becomes an important test case for the potential of market-based reforms relying on private plans and individual choices to expand coverage.

A priori, there is considerable reason to expect low take-up of Part D. The program presented beneficiaries with a complicated menu of choices. Too many choices may repel people (Iyengar & Lepper, 2000; List, 2002); this may be particularly true for the elderly Medicare beneficiaries (Mikels, Reed, & Simon, in press). Aging-related declines in cognitive ability may make complex decisions particularly difficult for some.

In this article, we present evidence from the Health and Retirement Study (HRS) that in spite of all these challenges, take-up of Part D among elderly Medicare beneficiaries was relatively high. Only 7% of seniors lacked drug coverage in 2006 compared with 24% in 2004. The most important predictors of Part D take-up among those without prior drug coverage are the proxies for the demand for prescription drugs; this is consistent with the idea that beneficiaries made rational cost–benefit trade-offs in deciding whether or not to enroll. Those with less education or income were just as likely to enroll in Part D as were beneficiaries with more education or income. This casts doubt on the idea that confusion or financial barriers presented significant obstacles to enrollment.

Focusing on the relatively small group who remained without coverage in 2006, there is little evidence to suggest that substantial numbers of them were confused or misinformed; rather, they appear to have low demand for prescription drugs, and most of them had low drug spending in 2006. At the same time, there is some evidence that the most cognitively able beneficiaries are more likely to take up benefits and that older beneficiaries are less likely to do so, holding other factors equal, so we cannot rule out the possibility that those who are more mentally acute are better able to navigate the enrollment process. Thus, the overall picture is one in which take-up is driven by economic factors and beneficiaries act rationally, but pockets of confusion may remain, particularly for older beneficiaries or those with lower levels of cognitive ability.
BACKGROUND ON PART D AND THE LOW-INCOME SUBSIDY

The Medicare Modernization Act of 2003 established the benefit known as Part D as well as a means-tested subsidy to help cover premiums and cost sharing for beneficiaries with limited resources. Medicare beneficiaries were affected differently by Part D depending on their prior drug coverage:

- Individuals with “other creditable coverage”—coverage with actuarial value greater than or equal to the standard Part D plan—were instructed to keep that coverage. This was mostly employer-sponsored group coverage, and employers received a subsidy from the government to continue offering it (see Duggan, Healy, & Scott Morton, 2008, for details on this subsidy and other institutional features of the Part D program).

- Medicaid-covered Medicare beneficiaries ("dual eligibles") were automatically enrolled in both Part D and the subsidy.

- Medicare Advantage (MA) plans, also known as Medicare HMOs, were in many cases already providing drug coverage before 2006; in our sample in 2004, 86% of those in MA plans had drug coverage through their MA plan. With the introduction of Part D, nearly all MA plans included Part D drug benefits as part of their coverage.

- Individuals with privately purchased prescription drug insurance (including Medigap plans) or without any coverage for prescription drugs had to decide whether to enroll in Part D, and if so, they had to choose a plan. (Medigap plans that included prescription drug coverage before 2006 could continue to sell that product to existing enrollees but could not enroll new members; presumably, many of these plans became Part D plans.) These individuals also had the option of enrolling in an MA plan, many of which were marketed by the same companies as stand-alone Part D plans.

In effect, then, individuals with privately purchased drug coverage and individuals with no drug coverage had to decide whether or not to sign up for Part D and whether or not to apply for the subsidy. MA enrollees had to decide only whether or not to apply for the subsidy. Individuals with employer-sponsored coverage for the most part had no decisions to make. Dual eligibles could either do nothing and be automatically enrolled in both a Part D plan and the subsidy or they could actively choose a plan and switch into it from the one to which they had been automatically assigned. Given that some people had a choice to make and others did not, the issue of how to define take-up is considerably more complicated than it is, for example, in the case of Food Stamps. As we discuss below, we focus primarily on the enrollment decisions of those without drug coverage in 2004.

TAKE-UP OF PART D AND OTHER PROGRAMS BY OLDER ADULTS

Take-up of most social benefits is low (Currie, 2006). Take-up among elderly individuals is especially low (see, e.g., analyses of Food Stamps by Haider, Jacknowitz, & Schoeni, 2003; of Medicaid by Pezzin & Kasper, 2000; and of Supplemental Security Income by McGarry, 1996, and by Elder & Powers, 2004, 2006). In contrast, Medicare Part D is quite different from these programs in several ways. Because Medicare Parts A and B have near-universal take-up, we would not expect much stigma to be associated with Part D. Given the complexity of the program, transaction costs might be quite significant for Part D. Of course, applying for a program like Food Stamps is also complex (e.g., requiring documentation of income), but there is nothing in means-tested programs that is analogous to the choice of a private insurance plan that faces Part D enrollees.

Another way in which Part D differs from means-tested transfer programs is that it has a direct financial cost: the premium the beneficiary must pay. For some individuals—especially those who expect low drug spending—this premium exceeds the expected benefit from the program, so that they may quite reasonably decide not to participate. Under the standard plan in 2006, the break-even point—the level of total prescription drug spending at which signing up yielded a net financial benefit—was $842 or $70 per month (Winter et al., 2006). Heiss, McFadden, and Winter (2007) estimate that enrollment is “immediately beneficial” for almost 80% of those who faced an active choice in the sense that they would pay less out of pocket right away by enrolling in Part D. The timing of enrollment also affects costs in the future because Part D imposes premium penalties on those who delay enrollment; premiums are permanently increased by 1% for each month a beneficiary delays enrolling. In practice, it is unclear how well beneficiaries understood this penalty during the initial open enrollment period in 2005; moreover, penalties were to be waived for low-income individuals. But taking into account this penalty and the insurance value of Part D should make immediate enrollment even more attractive; indeed, Heiss and colleagues estimate that these dynamic considerations make Part D enrollment “intertemporally optimal” for essentially everyone without other drug coverage. In contrast, the expected benefits of signing up are clearly larger for some than for others, and it is an empirical question whether those with greater expected benefits were more likely to sign up.

Two studies to date have addressed the question of who signed up for Part D and who did not. Heiss, McFadden, and Winter (2006) analyzed data on 1,571 elderly Medicare beneficiaries who were interviewed in late 2005 and again in mid-2006; Neuman and colleagues (2007) analyzed data from a survey of 16,072 elderly noninstitutionalized Medicare beneficiaries. Both studies suggest that Part D reached many Medicare beneficiaries (50%–70%, depending on how they define Part D), especially those most in need of coverage because of their high demand for prescription drugs.

One question we do not address here is whether respondents who sign up for Part D choose the best plan for their
needs. Costs may vary considerably across plans, and beneficiaries are not necessarily making informed choices (Davis, Patel, & Halasyamani, 2007; Kling et al., 2008). Additional research on the determinants of plan choice conditional on Part D participation will be valuable particularly because formulary differences across plans may affect beneficiaries’ adherence to medication regimes and, in turn, their health outcomes. We focus instead on the Part D take-up decision for two reasons. First, survey data are not well suited to understanding plan choice; respondents cannot necessarily report accurately which plan they are in especially because a single insurer may offer several different Part D plans in a given market (e.g., “Humana Standard” and “Humana Complete”). Second, because the rules of the Part D program require that all plans have actuarial value at least as great as the standard plan, a beneficiary’s specific choice of plan may be of less consequence for financial well-being than the decision of whether or not to enroll in the program at all. Accordingly, our focus is on program take-up rather than plan choice conditional on take-up.

**METHODS**

**Data**

Data come from the HRS, a longitudinal study conducted since 1992. We used data primarily from the 2004 and 2006 waves of the study, with some additional information on prescription drug insurance coverage in 2002. Our main sample for analysis includes the 9,329 respondents with Medicare who completed core interviews in both 2004 and 2006 and were at least 65 years of age in 2004.

*Defining respondents’ prescription drug insurance coverage.*—Medicare beneficiaries can get prescription drug coverage from a number of different sources, and the HRS reflects this complexity. In 2004, respondents had up to three opportunities to provide information about coverage:

- Respondents with Medicare or Medicaid insurance coverage are asked if they get these benefits through an HMO. If they do, they are asked whether the Medicare/Medicaid HMO covers prescription drugs.
- For up to three private insurance plans, respondents report the source of coverage (own employer, spouse’s employer, etc.), and whether or not it covers prescription drugs.
- Respondents who regularly take prescription medications are asked, “Have the costs of your prescription medications been completely covered by health insurance, mostly covered, only partially covered, or not covered at all by insurance?” Respondents who do not regularly take any prescription drugs are asked whether they have insurance coverage that would cover the cost of drugs if they took any.

The 2006 HRS also asked respondents whether they signed up for Medicare Part D. Based on this information, we assign prescription drug coverage to respondents in the following hierarchical order (i.e., if a respondent reports more than one of these types of coverage, he/she is assigned the first one in this list):

1. *Employer coverage* (including CHAMPUS/TRICARE)
2. *Medicaid*
3. *Medicare Advantage*
4. *Part D* (2006 only)
5. *Medigap*, that is, private coverage purchased directly from an insurance company
6. *Other* drug coverage; this includes respondents who do not report any of the aforementioned types of prescription drug coverage but who report that their prescription drugs are or would be covered by insurance, as well as respondents with state pharmacy assistance programs (e.g., PACE in Pennsylvania)
7. *No coverage*.

In 2006, drug coverage obtained through Medicaid or through an MA plan is Part D coverage; in our analysis, we distinguish between these types of coverage and coverage that is obtained from a stand-alone Part D plan. We refer to coverage through MA as MA-PD; dual eligibles are referred to as having Medicaid.

*Other variables*

*Prescription drug use.*—Respondents report whether they take medication to treat high blood pressure, diabetes, heart conditions, stroke, or psychiatric conditions. Respondents who do not are asked whether they take any medication regularly for other unspecified condition(s). We use the number of conditions for which medications are taken (zero to five) in 2004 as a measure of demand for prescription drugs.

*Out-of-pocket prescription drug spending.*—Respondents report typical monthly out-of-pocket spending on prescription drugs.

*Cognition.*—Interviewers read a list of 10 words to respondents, who then recall as many words as they can immediately after hearing the list and also several minutes later. We use the sum of these from the 2006 survey, ranging from 0 to 20, as one indicator of cognitive ability. We also use respondents’ scores on the “serial sevens” test, in which respondents are asked to count backward from 100 by sevens. The score is the number of correct subtractions (up to 4). Many respondents who have difficulty with these tasks refuse to complete them; we categorize those with missing data (about 15% for word recall and 7% for serial sevens) into the lowest category on each of these cognitive tests (more detail on the HRS cognition measures is available in Ofstedal, Fisher, & Herzog, 2005).
Health.—Respondents report their own health as excellent, very good, good, fair, or poor.

Income, assets, and subsidy eligibility.—The Part D subsidy is available to beneficiaries with limited economic resources, corresponding roughly to those with income below 150% of the poverty level and very few assets other than a home. The exact income and eligibility requirements are given in the Federal Register (2005): “Social Security Administration; Medicare Part D Subsidies; Final Rule,” Federal Register (Friday, December 30, 2005) 70(250): 77664–77685. We use data on income and assets to estimate subsidy eligibility.

Demographic variables.—We also include education (less than high school, high school graduate, some college, college graduate or more), race (White, Black, other non-White), ethnicity (Hispanic, non-Hispanic), marital status, gender, and age as explanatory variables in our analysis. In the analysis that follows, all estimates except for unweighted sample sizes are weighted using the 2006 respondent weights.

RESULTS

Aggregate Changes in Drug Coverage for Seniors, 2002–2006

Table 1 shows the distribution of prescription drug coverage among all elderly Medicare beneficiaries in 2002, 2004, and 2006. In 2002 and 2004, before the introduction of Part D, about 40% of this group had employer-provided drug coverage and another 7% or 8% had coverage through Medicaid. MA plans provided drug coverage to 11% in 2002 and 14% in 2004; Medigap and other insurance of unknown source covered an additional 15% in each of these years. In all, these sources covered about three quarters of this group, so that one quarter had no drug coverage before Part D. With the introduction of Part D, there is a sharp drop in the fraction without drug coverage; in 2006, only 7% lacked coverage. Twenty-four percent had coverage through a stand-alone Part D plan in 2006. An additional 17% had Part D coverage through an MA-PD plan and another 7% through Medicaid, so that in all, about half of elderly Medicare beneficiaries had Part D coverage in 2006. Employer plans continue to cover 37%, and Medigap and other plans of unknown source now cover about 9%. These results are in line with those of both Heiss and colleagues (2006) and Neuman and colleagues (2007) stated previously, in spite of numerous differences in data and variable definitions.

What are the individual transitions that underlie these aggregate changes? Table 2 shows a matrix of transitions in coverage from 2004 to 2006 for those who are 65 years and older with Medicare in both years. Focusing on individuals who had no drug coverage in 2004—who faced the most straightforward decision about signing up for Part D—fully half of them were in stand-alone Part D plans in 2006, with another 9% covered through MA-PD plans and another 3% through Medicaid. This suggests a central estimate of Part D take-up of about 60% among those who had no drug coverage in 2006.

Individuals who were without coverage in 2004 made up about half of those in stand-alone Part D plans in 2006; another 25% or so had Medigap or other coverage of unknown origin. The majority of Part D enrollees, then, appear to be those whom the program was intended to reach. At the same time, a significant minority of enrollees in stand-alone Part D plans (424 of 2,199 or about one fifth) came from the

<table>
<thead>
<tr>
<th>Year</th>
<th>Employer</th>
<th>Medicaid</th>
<th>Medicare Advantage</th>
<th>Stand-alone Part D</th>
<th>Medigap</th>
<th>Other</th>
<th>None</th>
<th>Total</th>
<th>Sample n</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>0.403</td>
<td>0.073</td>
<td>0.109</td>
<td>—</td>
<td>0.086</td>
<td>0.071</td>
<td>0.258</td>
<td>1.000</td>
<td>10,562</td>
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<tr>
<td>2004</td>
<td>0.398</td>
<td>0.077</td>
<td>0.143</td>
<td>—</td>
<td>0.083</td>
<td>0.061</td>
<td>0.238</td>
<td>1.000</td>
<td>10,697</td>
</tr>
<tr>
<td>2006</td>
<td>0.362</td>
<td>0.070</td>
<td>0.171</td>
<td>0.239</td>
<td>0.043</td>
<td>0.045</td>
<td>0.071</td>
<td>1.000</td>
<td>10,940</td>
</tr>
</tbody>
</table>

Note: Source: Health and Retirement Study.
Table 3. Prescription Drug Coverage for Elderly Medicare Beneficiaries in 2002 and 2004

<table>
<thead>
<tr>
<th>2002</th>
<th>Employer</th>
<th>Medicaid</th>
<th>Medicare Advantage</th>
<th>Medigap</th>
<th>Other</th>
<th>None</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer</td>
<td>0.761 (2,735)</td>
<td>0.010 (47)</td>
<td>0.075 (264)</td>
<td>0.045 (156)</td>
<td>0.048 (177)</td>
<td>0.061 (225)</td>
<td>1.000 (3,604)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>0.032 (25)</td>
<td>0.776 (607)</td>
<td>0.039 (29)</td>
<td>0.012 (8)</td>
<td>0.077 (62)</td>
<td>0.065 (50)</td>
<td>1.000 (781)</td>
</tr>
<tr>
<td>Medicare Advantage</td>
<td>0.121 (121)</td>
<td>0.044 (50)</td>
<td>0.662 (656)</td>
<td>0.043 (44)</td>
<td>0.046 (53)</td>
<td>0.085 (85)</td>
<td>1.000 (1,009)</td>
</tr>
<tr>
<td>Medigap</td>
<td>0.142 (117)</td>
<td>0.031 (26)</td>
<td>0.163 (109)</td>
<td>0.358 (256)</td>
<td>0.059 (47)</td>
<td>0.246 (181)</td>
<td>1.000 (736)</td>
</tr>
<tr>
<td>Other</td>
<td>0.390 (244)</td>
<td>0.128 (102)</td>
<td>0.063 (42)</td>
<td>0.064 (43)</td>
<td>0.199 (145)</td>
<td>0.156 (111)</td>
<td>1.000 (687)</td>
</tr>
<tr>
<td>None</td>
<td>0.084 (186)</td>
<td>0.037 (102)</td>
<td>0.053 (123)</td>
<td>0.099 (198)</td>
<td>0.051 (133)</td>
<td>0.675 (1,558)</td>
<td>1.000 (2,300)</td>
</tr>
<tr>
<td>Total</td>
<td>0.383 (3,428)</td>
<td>0.085 (934)</td>
<td>0.139 (1,223)</td>
<td>0.085 (705)</td>
<td>0.062 (617)</td>
<td>0.245 (2,210)</td>
<td>1.000 (9,117)</td>
</tr>
</tbody>
</table>

Notes: Table entries are weighted row percentages, with unweighted cell counts in parentheses. Source: Health and Retirement Study.

group with employer coverage in 2004. Does this suggest that Part D may be crowding out employer-sponsored drug coverage for some individuals? Because the program was rolled out nationally at a single point in time, there is no obvious source of exogenous variation in the availability of Part D that would allow us to answer this question. But we can offer some suggestive evidence on the potential for crowd out by comparing the 2004–2006 transition matrix in Table 2 with a similar one constructed for 2002–2004 (Table 3). Three quarters (76.1%) of those with employer-sponsored drug coverage in 2002 retained it in 2004; the comparable fraction between 2004 and 2006 was only slightly lower: 72.5%. The impact of Part D is evident in what happens to those who lose employer coverage, however; 11.6% of the total or nearly half of those leaving employer plans between 2004 and 2006 ended up in stand-alone Part D plans in 2006. The rates of transition to MA plans (about 7%) and Medicaid (1%) do not change between the two periods, but the fraction becoming uninsured was 6.1% in 2002–2004 and only 2.1% in 2004–2006. Although this does not rule out the possibility that some individuals dropped employer drug coverage because of Part D, it suggests that most new Part D enrollees are individuals who would have remained uninsured or purchased Medigap in the absence of Part D.

We also consider the flip side of this; that is, how many of the uninsured would have gained coverage even in the absence of Part D? Thirty-two percent of those without drug coverage in 2002 gained coverage by 2004; the comparable figure for the period 2004–2006 is 78%. This suggests that although some of the uninsured who took up Part D in 2006 would have gained coverage if Part D had not existed, most of them would not. Most strikingly, the fraction that moves from no coverage to employer coverage is virtually unchanged between the two periods: 8.4% in 2002–2004 and 8.0% in 2004–2006, suggesting very little crowd out on this margin. In contrast, the fraction moving from no coverage to Medicaid is much smaller in the later period, as is the fraction remaining uninsured. The probability of moving from no drug coverage to coverage through an MA plan is higher in the second period (.091 vs. .053); this may be because the Part D benefits made MA coverage more attractive to them or simply because the MA market was changing in other ways. Overall, these results offer strong circumstantial evidence that there was very little crowd out associated with the introduction of Part D and that individuals transitioning from employer coverage to Part D would likely have lost that coverage anyway. This does not rule out the possibility of crowding out in the longer run, especially in an environment where employer-provided health insurance benefits for retirees are already declining (Weller, Wenger, & Gould, 2004). The general equilibrium effect of Part D on markets for employer-sponsored retiree drug coverage remains a topic for future research.

The aggregate results presented in this section show that take-up of Part D was high, particularly among those who had no drug coverage in 2004. We turn next to understanding the individual-level determinants of the enrollment decision. We focus on the subgroup that had the most straightforward decision to make: those with no drug coverage in 2004. Before analyzing which characteristics predict take-up of Part D among this group, we consider how they differ from those who already had some drug coverage before Part D.

Who Was Uninsured Before Part D? Individual Characteristics by Insurance Status in 2004

Table 4 presents characteristics of the sample in 2004 by their insurance coverage in 2004. The uninsured are, on nearly every dimension examined, significantly different from those with drug coverage. The starkest contrasts are with those who have employer coverage and those who have Medicaid. Compared with those who have employer-provided drug coverage, the uninsured are less likely to use drugs regularly (82% vs. 89%) but spend more out of pocket on drugs, with median monthly spending of $60 versus $30. In terms of health, the uninsured are slightly more likely than those with employer coverage to be in fair or poor health (27% vs. 23%); they are also slightly older, on average. The fact that they are in worse self-reported health than the employer coverage group, but are less likely to use drugs regularly, may reflect the higher prices they face for drugs (Goldman, Joyce, & Zheng, 2007; Leibowitz, Manning, & Newhouse, 1985). The uninsured are less well educated, perform slightly worse on cognitive tests, and have lower
The Determinants of Program Take-up Among the Uninsured

Next, we focus on the group without any drug coverage in 2004 (2,186 respondents) and look at their characteristics in 2004 as a function of what drug coverage they have in 2006 (Table 5). The most interesting comparison is between those who are in stand-alone Part D plans and those who remain without coverage. The main difference is that those who signed up are sicker, are more likely to use prescription drugs, and have higher out-of-pocket spending in 2004 than those who remained without coverage. In other words, there is adverse selection into Part D. This selection seems to occur almost entirely based on health status and use of prescription drugs because most other characteristics do not differ significantly between the two groups. In particular, those who did not sign up are similar to those who did in terms of cognitive ability, education, and eligibility for the Part D subsidy.

Multivariate analyses confirm these results. Table 6 presents the results of linear probability models analyzing three different definitions of take-up; estimates from probit models yield similar results and are available upon request. The first model (column 1) defines take-up as enrollment in a stand-alone Part D only; the second (column 2) includes also those who have MA-PD coverage as taking up; and the third (column 3) further expands the definition of take-up to include those who have Part D through Medicaid. The fourth column reports results from a model with dependent variable equal to one if the respondent had drug coverage from any source in 2006. The table reports the results of parsimonious analyses in which explanatory variables are included linearly; we also estimated extended models in which explanatory variables were included as sets of dummies (e.g., a dummy for health = poor, another for health = fair, etc.). In all cases, these extended models yield the same basic intuition as the parsimonious analyses reported here, so we do not report the extended models in full, although we do mention their results in the following whenever they help illuminate the relationship between respondent characteristics and take-up.

The results in Table 6 show that the number of conditions for which the respondent was regularly taking medication in 2004—a proxy for the demand for prescription drugs—is a highly significant predictor of take-up of Part D, using any of the three definitions. Individuals with high demand for drugs are also significantly more likely to have some form of drug coverage. Age is also a significant determinant of
take-up; like Haider and colleagues (2003), we find that older individuals are less likely to take up benefits, and we also find that they are significantly more likely to lack drug coverage. We also find some evidence that more cognitively able individuals are more likely to take up Part D; those with higher serial sevens scores are more likely to sign up, holding other factors equal. The results of extended models entering the serial sevens score as a set of dummies show that these effects are driven by higher take-up among those with the highest possible score. In spite of their higher rates of Part D take-up, those with better cognitive ability are not significantly more likely to have drug coverage from any source. On the contrary, there is some evidence that those with better memory scores are less likely to be insured (column 4).

In models not reported here, we also included an interaction between cognitive ability (either word recall or serial sevens score) and the number of conditions for which medication is taken. These interactions are consistently small and insignificant. This means that the effect of demand for prescription drugs on take-up of Part D is the same regardless of cognitive ability; in other words, economic considerations drove take-up for those both with high and with low cognitive ability. This is perhaps the strongest evidence against the idea that confusion was a major factor preventing some beneficiaries from signing up for Part D. If confusion had caused significant problems, we would expect these effects to be greater for individuals with low cognitive ability, so that low-cognition individuals might have stayed out of the program even if they had high demand for prescription drugs. This is not what we find; on the contrary, demand for drugs trumps cognition as a determinant of take-up.

The regressions also show that holding other factors constant, unmarried men are significantly less likely to sign up for Part D and significantly less likely to have any coverage. This result stands in contrast to the conclusion of Heiss and colleagues (2006), based on bivariate results, that widows and unmarried women are at risk of lacking coverage. We find that the problematic group is in fact unmarried men. Our result is consistent with other research showing the beneficial effects of marriage for men; perhaps one pathway through which marriage may improve men’s health is that their wives help them sign up for Part D. In any case, further attention to the challenges unmarried men may face in taking advantage of Part D benefits is warranted.

Other factors—education, homeownership status, and income and assets—have no significant effect on take-up or

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<table>
<thead>
<tr>
<th>Prescription drug coverage in 2006</th>
<th>Employer</th>
<th>Medicare Advantage</th>
<th>Stand-alone Part D (base)</th>
<th>Medigap</th>
<th>Other</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any regular Rx use?</td>
<td>0.825</td>
<td>0.758</td>
<td>0.784**</td>
<td>0.868</td>
<td>0.835</td>
<td>0.870</td>
</tr>
<tr>
<td>Conditions with Rx if &gt;0</td>
<td>1.3</td>
<td>1.3</td>
<td>1.4</td>
<td>1.4</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Monthly out-of-pocket Rx spending, median ($)</td>
<td>50**</td>
<td>65**</td>
<td>60**</td>
<td>100</td>
<td>60**</td>
<td>60**</td>
</tr>
<tr>
<td>Spending ≥$70?</td>
<td>0.414**</td>
<td>0.459</td>
<td>0.486*</td>
<td>0.581</td>
<td>0.469*</td>
<td>0.435</td>
</tr>
<tr>
<td>Fair/poor health</td>
<td>0.231</td>
<td>0.498**</td>
<td>0.211</td>
<td>0.295</td>
<td>0.309</td>
<td>0.349</td>
</tr>
<tr>
<td>Age</td>
<td>76.4**</td>
<td>75.1</td>
<td>75.1</td>
<td>74.8</td>
<td>75.5</td>
<td>76.6**</td>
</tr>
<tr>
<td>Other characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.600</td>
<td>0.609</td>
<td>0.610</td>
<td>0.637</td>
<td>0.542</td>
<td>0.566</td>
</tr>
<tr>
<td>Married</td>
<td>0.498</td>
<td>0.237**</td>
<td>0.590</td>
<td>0.559</td>
<td>0.593</td>
<td>0.448</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>0.941</td>
<td>0.560**</td>
<td>0.884</td>
<td>0.899</td>
<td>0.938</td>
<td>0.732**</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>0.042</td>
<td>0.181**</td>
<td>0.060</td>
<td>0.061</td>
<td>0.038</td>
<td>0.181**</td>
</tr>
<tr>
<td>Other race, non-Hispanic</td>
<td>0.000</td>
<td>0.009</td>
<td>0.009</td>
<td>0.006</td>
<td>0.009</td>
<td>0.018</td>
</tr>
<tr>
<td>Hispanic (any race)</td>
<td>0.015</td>
<td>0.250**</td>
<td>0.048</td>
<td>0.035</td>
<td>0.015</td>
<td>0.069</td>
</tr>
<tr>
<td>Less than high school education</td>
<td>0.183</td>
<td>0.549**</td>
<td>0.206</td>
<td>0.257</td>
<td>0.310</td>
<td>0.415</td>
</tr>
<tr>
<td>High school</td>
<td>0.406</td>
<td>0.314</td>
<td>0.439</td>
<td>0.389</td>
<td>0.356</td>
<td>0.295</td>
</tr>
<tr>
<td>Some college</td>
<td>0.203</td>
<td>0.046**</td>
<td>0.199</td>
<td>0.199</td>
<td>0.199</td>
<td>0.161</td>
</tr>
<tr>
<td>College graduate or more</td>
<td>0.209</td>
<td>0.090</td>
<td>0.156</td>
<td>0.155</td>
<td>0.135</td>
<td>0.129</td>
</tr>
<tr>
<td>Word recall (0–20)</td>
<td>8.0</td>
<td>6.3***</td>
<td>7.9</td>
<td>8.1</td>
<td>7.1</td>
<td>6.7**</td>
</tr>
<tr>
<td>&quot;Serial sevens&quot; score (0–4)</td>
<td>2.4</td>
<td>1.8***</td>
<td>2.5</td>
<td>2.6</td>
<td>1.9**</td>
<td>1.7**</td>
</tr>
<tr>
<td>Homeowner</td>
<td>0.772</td>
<td>0.558**</td>
<td>0.834</td>
<td>0.836</td>
<td>0.854</td>
<td>0.744**</td>
</tr>
<tr>
<td>Subsidy eligible? (2005)</td>
<td>0.164**</td>
<td>0.626**</td>
<td>0.291</td>
<td>0.230</td>
<td>0.186</td>
<td>0.310</td>
</tr>
<tr>
<td>Median countable income (2005), $</td>
<td>26,160</td>
<td>10,968**</td>
<td>20,760</td>
<td>23,740</td>
<td>22,648</td>
<td>20,100</td>
</tr>
<tr>
<td>Median countable assets (2005), $</td>
<td>35,241</td>
<td>9,967**</td>
<td>10,050**</td>
<td>24,000</td>
<td>27,500</td>
<td>1,000**</td>
</tr>
<tr>
<td>Row %</td>
<td>0.080</td>
<td>0.027</td>
<td>0.092</td>
<td>0.497</td>
<td>0.051</td>
<td>0.035</td>
</tr>
<tr>
<td>Sample n</td>
<td>167</td>
<td>87</td>
<td>199</td>
<td>1,076</td>
<td>105</td>
<td>91</td>
</tr>
</tbody>
</table>

Notes: Source: Health and Retirement Study.

*Significantly different from mean/median for base group at 5% level; **significantly different from mean/median for base group at 1% level.
on the probability of being insured in these multivariate models. In particular, there is no evidence that the cost of Part D prevented lower income households from taking up coverage, in spite of concern over low take-up of the Part D subsidy. This result is confirmed in models that allow for nonlinear effects of income and assets.

The results across columns 1–3 of Table 6 are consistent, suggesting that regardless of which definition of take-up is used, the determinants are more or less the same. The one striking exception is that the coefficient on the dummy variable for Hispanic is small and insignificant when the definition of take-up does not include Medicaid (columns 1 and 2) but large and significant when it does (column 3). This suggests that Hispanics are much more likely than non-Hispanics to become eligible for Part D through Medicaid, although they are no more likely to sign up for coverage through either stand-alone Part D or MA-PD plans.

Overall, then, the multivariate results confirm the basic finding from the descriptive results that proxies for the demand for prescription drugs are some of the most important determinants of take-up of Part D. We find no gradient in determination yet, which may reflect the fact that enrollment in Part D was open through May 15, 2006, and HRS interviews took place throughout 2006. However, reestimating all the multivariate models using only HRS interviews conducted in June 2006 and later (approximately half the sample) to eliminate this potential problem yields results that are generally similar to the ones previously reported. Twelve percent said they had not signed up because the Medicare plan was too expensive. Ten percent of these respondents report by analyzing respondents’ stated reasons for not signing up for Part D.

Why Do People Say They Did Not Sign Up?

Respondents were also asked an open-ended question about their reasons for not signing up. Interviewers coded these responses into the following categories: (a) already have good coverage, (b) did not know it was available, (c) heard about it too late, (d) Medicare plan too expensive, (e) Medicare plan too restrictive, (f) have not made a decision yet, and (g) other. The majority of “other” responses include additional information in a text field, which was analyzed for us by an undergraduate research assistant.

Our analysis of these responses for the approximately 450 respondents who were without drug coverage in 2006 reveals that the largest single group (22%) is those who say they did not sign up because they take no medications. A substantial fraction (13%) report not having made a decision yet, which may reflect the fact that enrollment in Part D was open through May 15, 2006, and HRS interviews took place throughout 2006. However, reestimating all the multivariate models using only HRS interviews conducted in June 2006 and later (approximately half the sample) to eliminate this potential problem yields results that are generally similar to the ones previously reported. Twelve percent said they had not signed up because the Medicare plan was too expensive. Ten percent of these respondents report
that they did not sign up for Part D because they already had good coverage, raising concern about measurement error in our drug coverage variable. Very few uninsured respondents say they did not know about the plan (<1%) or heard about it too late (2.2%). The “other” text responses suggest a wide range of reasons for not enrolling, some of which may reflect confusion (e.g., “forgot”), whereas others reflect low demand for drugs (e.g., “no need for it”). Overall, however, there is very little evidence that most of those who did not sign up failed to do so as a result of confusion.

Who Made Mistakes?

The multivariate results suggest that use of prescription drugs in 2004 was one of the most important determinants of take-up. That is, people who used a lot of drugs signed up for Part D, suggesting relatively few ex ante mistakes in program take-up. But what about ex post mistakes: How many of those who remained uninsured had high out-of-pocket drug spending in 2006? And were ex post mistakes systematically related to other characteristics, such as cognitive ability? We focus on individuals who were without drug coverage in both 2004 and 2006 and see how many of them made short-run mistakes by not signing up in the sense that their drug spending in 2006 was greater than $70 per month. This is a narrower definition of “mistake” than the one implied in the analysis by Heiss and colleagues (2007), who argue that taking up Part D is intertemporally optimal for everyone, so that anyone who remained uninsured was making a mistake. Still, it is interesting to see whose short-term bet paid off. We find that 30% of those who remained uninsured had drug spending in 2006 that exceeded $70 per month and would have been immediately better off had they signed up for Part D. Almost all these ex post mistakes were also ex ante mistakes in the sense that the individuals making them regularly took medications in 2004. Moreover, a multivariate analysis confirms that there is no systematic relationship between cognitive ability, education, or economic status and the probability of making an ex post mistake, lending further support to the idea that confusion was not a major obstacle to enrollment in Part D.

Discussion

Our results suggest that take-up of Part D was indeed high, especially compared with means-tested public programs: about 60% in the target population of those without any drug coverage. We find very little (admittedly circumstantial) evidence that this high take-up was associated with significant crowding out of private coverage. Take-up appears to reflect rational economic choices by beneficiaries; the most important determinant of take-up among this group was the demand for prescription drugs. Most of those who remained uninsured appeared to have made a rational choice in the sense that their prescription drug spending in 2006 remained low. The most common reason for remaining uninsured that respondents themselves offer is that they do not take medications. Thus, the bulk of the evidence suggests that beneficiaries made rational economic decisions about whether or not to take up Part D.

We also find no evidence that cost concerns prevented respondents from taking up coverage, in spite of widespread concern about low take-up of the Part D subsidy. Respondents are unlikely to report cost concerns, and there is no evidence of lower take-up among those with low incomes, assets, or education.

At the same time, we find some suggestive evidence that individuals with better cognitive ability may have been more likely to take up Part D. In particular, older beneficiaries are less likely to sign up, and those with higher scores on the serial sevens test were significantly more likely to sign up. We also find that unmarried men are less likely to sign up and more likely to be without coverage. These results suggest that additional outreach to vulnerable populations might be targeted to the very old, the cognitively impaired, and unmarried men.

A number of interesting questions remain. We conclude that beneficiaries generally made good decisions about whether or not to sign up for Part D, but as already noted, this does not mean that they made optimal decisions about which Part D plan to choose. The apparent economic rationality governing the take-up decision may mask rampant confusion at the level of plan choice, and understanding the determinants of plan choice remains an interesting area for future research. Another high priority is to understand the impact of these dramatic changes in insurance coverage on other outcomes. Several studies using pharmacy claims data have suggested that Part D increased the use of prescription drugs by older adults (Lichtenberg & Sun, 2007; Yin et al., 2008). A full evaluation of the impact of Part D must include an evaluation of how these changes affect the health and financial security of elderly Medicare beneficiaries as well.

Funding

This work was supported by a grant from the Social Security Administration through the Michigan Retirement Research Center (grant 10-P-98362-5-04). The findings and conclusions expressed are solely those of the authors and do not represent the views of the Social Security Administration, any agency of the federal government, or the Michigan Retirement Research Center.

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References


