MARKETWATCH

Medicare Prescription Drug Benefit Progress Report: Findings From A 2006 National Survey Of Seniors

The first in-depth look at the characteristics and experiences of seniors since the implementation of the Medicare drug benefit.

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ABSTRACT: A national survey in 2006 found that Part D secured drug coverage for most seniors who were without it in 2005, prior to the Medicare drug benefit. Seniors without drug coverage in 2006 generally fell into two groups: those in relatively good health and those potentially difficult to reach. Compared with seniors covered through employer plans or the Department of Veterans Affairs, Part D enrollees had higher out-of-pocket spending and greater cost-related nonadherence. Low-income subsidies offered protection against high out-of-pocket spending; without them, one-third of Part D enrollees at or below 150 percent of poverty paid more than $100 a month for their medications. [*Health Affairs* 26, no. 5 (2007): w630–w643 (published online 21 August 2007; 10.1377/hlthaff.26.5.w630)]

With the Medicare drug benefit approaching its third year of operation, there is considerable interest in understanding its effects on beneficiaries' coverage, out-of-pocket spending, and access to needed medications. The Part D benefit was enacted to respond to the well-documented problems facing beneficiaries who lacked drug coverage, particularly those with modest means or high out-of-pocket spending.[1] Since the enactment of the Medicare drug benefit, researchers and policymakers have predicted a range of outcomes and identified a number of issues that were expected to arise.[2] Thus far, the empirical evidence has focused primarily on Part D and low-income subsidy (LIS) participation rates, enrollment by plan type and benefit design, and satisfaction rates, with limited information on actual experiences.[3]

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This paper presents findings from a survey of more than 16,000 noninstitutionalized seniors, providing the first in-depth look at experiences in the first year of the drug benefit, based on self-reported responses to a survey administered in the fall of 2006. The survey instrument included validated questions about drug coverage, use, out-of-pocket spending, and adherence. With administrative data from the Centers for Medicare and Medicaid Services (CMS), including Medicaid and Medicare Advantage (MA) enrollment status, the study design permits comparison of medication use and spending across sources of drug coverage. The oversampling of seniors dually enrolled in Medicare and Medicaid and others with low incomes allows for a detailed examination of their drug coverage status, out-of-pocket spending, and related experiences. The survey provides a baseline for tracking seniors' coverage, medication use, spending, and experiences in the years following implementation of the drug benefit.

This paper addresses five key questions, each with important implications for assessing and improving the Part D benefit. First, what percentage of seniors were enrolled in Part D plans in 2006, and which subgroups were most likely to remain without coverage? Second, how does out-of-pocket prescription drug spending and cost-related nonadherence compare for Part D enrollees and seniors with other drug coverage? Third, how do the characteristics and experiences of Part D enrollees in stand-alone prescription drug plans (PDPs) and MA prescription drug (MAPD) plans differ? Fourth, to what extent does the LIS affect out-of-pocket spending and cost-related nonadherence? Fifth, what were the experiences of dual eligibles after they enrolled in Part D plans?

Study Data And Methods

■ **Study design and sample.** The survey of 16,072 noninstitutionalized Medicare beneficiaries age sixty-five and older used an augmented longitudinal design; it included respondents to our 2003 national survey of seniors and a sample of elderly beneficiaries drawn from a 1 percent national sample provided by the CMS in June 2006.[4] The supplemental sample was defined to proportionately represent those newly enrolled in Medicare (2003–2006) and to mirror our 2003 sampling strata to include (1) seniors dually enrolled in Medicare and Medicaid (23 percent); (2) seniors residing in a low-income census block group (CBG) but not enrolled in Medicaid (47 percent); and (3) all other seniors (30 percent).[5] The CMS provided a current Medicaid buy-in code and MA enrollment status for the full 2006 sample.

■ **Questionnaire.** The questionnaire was administered in English and Spanish between 5 October and 20 December 2006 using a standard five-stage survey protocol involving mail and telephone.[6] The survey instrument consisted of validated questions used previously to collect data on sociodemographic and health characteristics, drug coverage status, medication use, out-of-pocket spending, and cost-related nonadherence.[7] It also incorporated new questions about Part D enrollment, experiences, and knowledge of and enrollment in the LIS program. The survey asked seniors whether they were aware of the LIS benefit under Part D; whether they applied for it; and, if not, the reasons for not applying. Beneficiaries were administered one of three versions of the questionnaire in accordance with their CMS-designated enrollment status: (1) dually enrolled in Medicare and Medicaid; (2) MA; or (3) all others. After accounting for beneficiaries excluded because of death, institutionalization, relocation, non-English/Spanish language, or severe cognitive or physical impairment, the response rate was 56 percent (N = 16,072).

Nonresponse was higher among seniors who were racial/ethnic minorities, had fewer years of education, were age eighty-five and older, or were in poorer health. Slightly lower rates of Part D coverage in 2006 among longitudinal respondents (2003 and 2006) compared with the overall 2006 sample suggest that our results might slightly overstate overall coverage rates and, in particular, that Part D coverage might be slightly overstated (by two

to four percentage points). We used multivariate analyses to control for nonresponse effects associated with sociodemographic factors (such as race and age).

■ **Analytic methods and variable definitions.** We used a combination of bivariate and multivariate methods to examine seniors' prescription drug use, out-of-pocket spending, coverage, nonadherence, and experiences since enrolling in a Part D plan. Probability sampling weights were applied to all analyses to correct for unequal sampling probabilities across states and strata. The statistical software used (STATA 7.0) takes these weights into account when computing standard errors.

■ **Prescription drug coverage.** For seniors reporting more than one source of drug coverage, a primary coverage source was assigned based on the following hierarchy: Part D (including dual eligibles), employer-sponsored plans (including TriCare), Veterans Affairs (VA)/Department of Defense, and other. A combination of survey data and CMS administrative data enabled us to designate Part D enrollment and to differentiate between seniors enrolled in stand-alone prescription drug plans (n = 6,366) and MAPD plans (n = 2,411). The CMS administrative data provided for this research did not identify Part D enrollees, but they did delineate Medicaid and MA plan enrollment status and dates.

■ **Income and LIS status.** We used the 2006 federal poverty thresholds ($9,804 single; $13,200 married), together with self-reported income and marital status, to classify seniors into poverty groups.[8] For approximately 12 percent of respondents with missing income data, income was imputed based on Buck's method.[9] We classified respondents as potentially eligible for the LIS if their self-reported income (for self and spouse) was less than or equal to 150 percent of poverty. Although assets are also used by the government to determine eligibility for LIS benefits, we were unable to use asset data from our survey because asset information was missing for 28 percent of respondents. Low-income Part D enrollees for whom we did not know LIS status, because they either did not answer the subsidy question or answered "unsure" with respect to LIS enrollment status (n = 686), were excluded from analyses involving the LIS variable.

■ **Nonadherence.** Cost-related nonadherence was evaluated with previously validated questions about the following two behaviors: (1) not filling a prescription because of cost, and (2) delaying filling or refilling a prescription to avoid spending money. Both questions reference experiences within the past twelve months; thus, it is conceivable that nonadherence reported by Part D enrollees occurred before Part D plan enrollment.

Study Results

■ **Variations in drug coverage among seniors.** Exhibit 1 presents sources of drug coverage for seniors by socioeconomic and health characteristics.[10] Fewer than 10 percent of seniors lacked prescription coverage in the fall of 2006, and half of all seniors were enrolled in a Part D plan. These findings are generally consistent with aggregate CMS coverage data from June 2006.[11] The results reveal much variation in the characteristics and experiences of seniors enrolled in different sources of drug coverage.

Part D. Part D enrollment rates were relatively high among seniors with low incomes, racial and ethnic minorities, women, seniors with one or more chronic conditions, and seniors taking one or more prescription medications (Exhibit 1). Relatively high Part D enrollment rates among low-income seniors are to be expected, in that the CMS automatically enrolled into Part D plans approximately seven million low-income Medicare beneficiaries, both those dually eligible for Medicare and Medicaid and others receiving assistance through the Medicare Savings Programs. Multivariate models suggest that the auto-enrollment of dual eligibles into Part D plans largely accounts for the disproportionate share of African American and Hispanic seniors enrolled in Part D plans, because race and ethnicity were not significantly associated with Part D enrollment after Medicaid status and income were controlled for (data not shown).[12] As might be expected, drug coverage in 2005

EXHIBIT 1
Distribution Of Seniors By Primary Source Of Drug Coverage, 2006

	Part D	Employer	VA	Other	None
Raw N	8,777	4,236	452	1,170	1,437
Total	50.2%	30.8%	3.1%	7.5%	8.5%
Age (years)					
65–74[a]	50.4	33.6	2.5	6.3	7.2
75–84	49.8	29.5**	3.9**	8**	8.9**
85+	50.6	22.4**	3.1	10.9**	12.9**
Sex					
Male[a]	44.9	34.5	6.8	5.8	7.9
Female	53.9**	28.2**	0.5**	8.6**	8.8
Urban/rural location					
Urban[a]	50.1	32.0	2.7	7.3	7.9
Rural	50.6	27.1**	4.2**	7.8	10.3**
Race/ethnicity					
White[a]	48.4	32.5	3.4	7.8	8.0
African American	61.7**	21.4**	1.4**	3.9**	11.6**
Nonwhite Hispanic	66.1**	16.8**	1.2**	5.8	10.1
Asian	54.3	26.6	0.7**	5.1	13.3
Other	47.7	28.4	0.5**	12.5	11.0
Education					
Less than high school	63.1**	15.5**	2.9	6.6	11.8**
High school graduate	48.9**	31.1**	3.4	8.3	8.2**
Some college or more[a]	44.6	39.0	2.9	7.1	6.4
Poverty level					
≤100%	74.1**	4.7**	1.9**	5.6**	13.7**
101–150%	63**	13.4**	2.9	9.8**	10.9**
151–200%	54**	25.4**	5.4**	7.5	7.6
>200%[a]	39.7	43.5	3.0	7.1	6.6
Chronic conditions					
None[a]	40.5	26.7	1.8	7.9	23.1
1 or 2	50**	33.2**	2.8**	7.1	6.9**
3 or more	54**	29.6**	3.9**	7.7	4.8**
Number of prescriptions					
None[a]	41.6	26.5	2.0	7.8	22.2
1 or 2	49.6**	30.7**	2.0	7.7	10**
3 or 4	52.6**	30.1**	3.0	8.3	6**
5 or 6	50.1**	33**	3.9**	7.1	5.9**
7 or more	53.2**	32.4**	4.1**	6.5	3.9**
Drug coverage, 2005					
None[a]	60.7	7.4	4.6	7.1	20.2
Any	45.5**	43.6**	2.4**	7.4	1.1**

SOURCE: National Survey of Seniors and Prescription Drugs, 2006.

NOTES: Weighted percentages; nonweighted Ns. Characteristics in rows add to 100 percent. "Other coverage" includes respondents who said that they have drug coverage and said yes to having other programs or insurance that pay for their prescription medicines; it includes respondents who confirmed that they had drug coverage but did not indicate the source. VA is Department of Veterans Affairs.

[a] Reference group.

**$p < 0.05$

was highly correlated with Part D enrollment in 2006, particularly among dual eligibles and seniors who were in an MA plan in 2005 (data not shown).[13] Among seniors who had no drug coverage in 2005, 61 percent were enrolled in a Part D plan in 2006.

No drug coverage. The voluntary nature of the Medicare drug benefit, and the fact that ob-

taining coverage under a Part D plan typically requires a person to take action to enroll, creates challenges for ensuring that all beneficiaries have drug coverage. One-third of seniors said that they had no drug coverage in 2005, and among them, 20 percent remained without any coverage in 2006. Seniors without coverage in the fall of 2006 generally fell into two groups: (1) those who are potentially hard to reach because of sociodemographic characteristics; and (2) those who are in relatively good health (Exhibit 1). The sociodemographic characteristics significantly associated with lacking prescription coverage were age seventy-five and older, African American, income at or below 150 percent of poverty, no education beyond high school, and rural residence. In contrast to this potentially hard-to-reach subgroup, the results also highlight those in relatively good health (no chronic conditions, no prescription medications) as disproportionately represented among seniors lacking drug coverage—presumably because they perceive little need for the Part D benefit.

Other sources of drug coverage. Coverage under employer plans in 2006 was more common for seniors with higher incomes, seniors living in urban areas, whites, and seniors with some college education. The vast majority of seniors who said that they had drug coverage from an employer plan in 2005 retained that coverage in 2006 (data not shown).

Only a small share of seniors (7.5 percent) reported "other" sources of prescription coverage, defined to include coverage that could not be categorized as Part D, employer, or VA. This category includes beneficiaries who reported drug coverage from sources that might or might not be creditable, including Medigap, state pharmacy assistance programs, and other vendors.[14] Disproportionately represented in the group with other coverage were those age seventy-five and older, women, and those with incomes at or below 150 percent of poverty.

Four percent of seniors reported purchasing drugs from Canada or Mexico, with higher rates reported among seniors without drug coverage (10 percent) than among those in Part D plans (5 percent). Only 1 percent said that they receive help from a program sponsored by a pharmaceutical company (data not shown).

■ **Cost-related experiences of seniors, by source of drug coverage.** *Out-of-pocket spending and nonadherence.* Exhibit 2 summarizes the mean number of prescription medicines, out-of-pocket spending, and cost-related nonadherence (not filling or delaying filling/refill-

EXHIBIT 2
Cost-Related Drug Experiences Among Seniors With Different Sources Of Drug Coverage, Total And Those With Three Or More Chronic Conditions, 2006

	Source of coverage					
Total	**Total**	**Part D**	**Employer**	**VA**	**Other**	**None**
Mean Rx per month (number)	4.9	5.0	5.0	5.6**	4.7**	4.0**
Spent more than $300 per month	7.0%	7.8%	4.8%**	4.7%**	8.1%	10.9%**
Did not fill/delayed fill of Rx	15.6	19.5	8.1**	11.5**	15.3	23.2**
3+ chronic conditions						
Mean Rx per month (number)	6.3	6.3	6.5	6.5	5.8	5.6
Spent more than $300 per month	10.0%	11.1%	7.8%**	6.6%**	11.2%	13.6%
Did not fill/delayed fill of Rx	20.6	24.8	11.9**	15.6**	18.1**	35.0**

SOURCE: National Survey of Seniors and Prescription Drugs, 2006.

NOTES: Limited to 89 percent of seniors who reported taking at least one medication. "Did not fill/delayed fill of Rx" refers to not filling or delay filling or refilling a prescription because of cost in the past twelve months. VA is Department of Veterans Affairs. Reference group for statistical significance is Part D coverage. A graphical version of this exhibit is available online at http://content.healthaffairs.org/cgi/content/full/hlthaff.26.5.w630/DC2.

**$p < 0.05$

ing prescriptions) reported by seniors overall and by coverage status. Seniors without coverage reported using significantly fewer medications but had higher rates of out-of-pocket spending and cost-related nonadherence than seniors in Part D plans or with other sources of drug coverage.

A larger share of seniors in Part D than in employer plans or the VA spent more than $300 per month, despite taking a similar or smaller number of medications ($p < 0.05$). Rates of cost-related nonadherence among Part D enrollees (that is, those reporting having forgone or delayed filling/refilling prescriptions) were approximately twice as high as they were for seniors getting prescriptions from an employer plan or the VA.

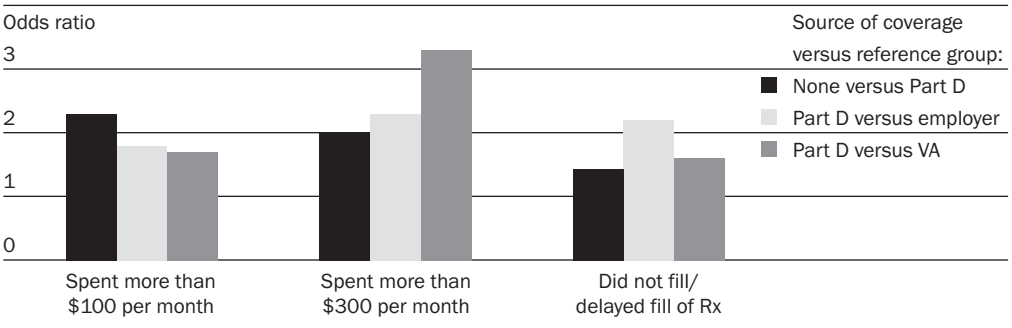
These results were confirmed by multivariate analyses (Exhibit 3). After sociodemographic characteristics, medication use, chronic conditions, and other health measures were controlled for, the odds of Part D enrollees spending at least $300 per month on medications were more than twice those of seniors with employer-sponsored coverage (odds ratio = 2.3; $p < 0.05$) and more than three times those of seniors with VA drug benefits (OR = 3.3; $p < 0.05$). Similarly, the multivariate analysis shows that the odds of Part D enrollees not filling or delaying filling or refilling because of cost were more than twice those of seniors in employer plans (OR = 2.2; $p < 0.05$).

Complex chronically ill. A similar pattern was revealed among seniors with three or more chronic conditions. In this group, 14 percent of seniors lacking prescription coverage reported spending $300 or more per month on their medications, and approximately one-third (35 percent) reported cost-related nonadherence (Exhibit 2). Among seniors with multiple chronic illnesses, Part D enrollees continued to appear more vulnerable than those in employer plans and those getting medications through the VA—taking the same number of medicines, on average, but spending significantly more out of pocket (11 percent, 8 percent, and 7 percent, respectively, spent more than $300 per month on prescriptions; $p < 0.05$) and with significantly higher rates of cost-related nonadherence (25 percent, 12 percent, and 16 percent, respectively; $p < 0.05$).

■ **Characteristics and cost-related experiences of part D enrollees, by plan type.** Beneficiaries can receive Part D coverage from either a stand-alone PDP or MAPD plan. In 2006, 70 percent of respondents in Part D plans were enrolled in a PDP, and 30 percent were in an MAPD plan.

Exhibit 4 reveals significant differences in the characteristics of seniors enrolled, by plan type. PDP enrollees tended to be older, poorer, and sicker than their MAPD plan counterparts

EXHIBIT 3
Summary Of Multivariable Results Showing Association Between Sources Of Drug Coverage And Cost-Related Experiences, Odds Ratios, 2006



SOURCE: National Survey of Seniors and Prescription Drugs, 2006.
NOTES: Findings based on three separate models, each of which controlled for demographics, health measures, self-reported diseases, number of dual eligibles, and source of coverage. "Did not fill/delayed fill of Rx" refers to not filling or delaying a prescription or refill because of cost in the past twelve months. VA is Department of Veterans Affairs.

EXHIBIT 4
Selected Characteristics And Experiences Of Medicare Part D Enrollees, Overall And By Plan Enrollment Status, 2006

		Part D plan type	
	Total	**PDP**	**MAPD**
Raw N	8,777	6,366	2,411
Characteristics			
Age 85+	11.6%	12.4%**	9.5%
Female	63.5	65.9**	58.0
Rural location	23.7	30.6**	7.4
Race/ethnicity			
White	82.8	83.3	81.7
African American	7.6	7.8	7.1
Nonwhite Hispanic	6.2	5.4**	8.1
Poverty level			
≤100%	20.6	23.7**	13.3
101–150%	22.6	23.1	21.2
Subsidy status			
Dual eligible (also in Medicaid)	20.5	24.0**	12.2
LIS (not dual eligible)	3.9	4.8**	1.7
No LIS (≤150% of poverty)	15.1	14.3**	17.0
Number of Rx (monthly)			
Mean Rx monthly (number)	5.0	5.1**	4.7
7+ Rx	27.6%	29.6%**	22.8%
3+ chronic conditions	42.5	45.0**	36.5
Coverage in 2005			
No Rx coverage	40.0	47.4**	23.0
MA[a]	22.6	1.9**	71.4
Cost-related experiences[b]			
Spent >$100 per month	26.4	28.3**	22.1
Spent >$300 per month	7.8	8.3**	6.5
Did not fill/delayed fill or refill due to cost in past 12 months	19.5	20.7**	16.8
Experiences since enrolling in Part D plan[b]			
Changed Part D plans	7.8	7.6	8.3
Needed special permission to get Rx filled	11.3	12.7**	8.2
Switched to cheaper Rx	25.7	28.1**	20.5
Started ordering Rx by mail	14.8	10.0**	25.0

SOURCE: National Survey of Seniors and Prescription Drugs, 2006.

NOTES: Weighted percentages. 30 percent of sampled Part D enrollees were in Medicare Advantage (MA) prescription drug (MAPD) plans; 70 percent were in freestanding prescription drug plans (PDPs). Significance testing: PDP versus MAPD plan. LIS is low-income subsidy.

[a] Seniors in Medicare Advantage (MA) plans in 2005 might or might not have had drug coverage.

[b] Based on respondents who reported using at least one prescription medication.

**$p < 0.05$

($p < 0.05$). They were also more likely to live in rural areas. The PDP population had a disproportionate share of dual eligibles and LIS recipients, likely attributable to the auto-enrollment and facilitated-enrollment processes that assigned them to stand-alone PDPs (rather than MAPD plans). The PDP and MAPD plan populations had roughly the same shares of whites and African Americans, although MAPD plans had a higher share of nonwhite Hispanic seniors, most likely because the areas where they reside tend to have

higher-than-average MA plan concentration. Most MAPD plan enrollees (71 percent) were in an MA plan in 2005 (data not shown).

Experiences. Out-of-pocket prescription drug spending and cost-related nonadherence were higher among PDP enrollees than MAPD plan enrollees (Exhibit 4). For example, 28 percent of PDP enrollees reported spending more than $100 per month on prescriptions, compared with 22 percent of MAPD enrollees ($p < 0.05$); differences were also significant for spending greater than $300 per month. Likewise, a larger share of PDP than MAPD plan enrollees reported not filling or delaying filling or refilling a prescription because of cost. Relatively high out-of-pocket spending and higher rates of cost-related nonadherence among PDP enrollees, as compared to MAPD plan enrollees, were confirmed by multivariate analyses that controlled for such factors as sociodemographics, drug utilization, chronic conditions, and other health measures.

A number of factors may account for these differences. First, MAPD plans typically had lower cost-sharing requirements than PDPs had in 2006.[15] Second, the majority of MAPD plan enrollees were in MA plans in 2005 and might have switched to lower-cost medications in previous years; this is supported by the higher rates of medication switching reported by PDP than MAPD plan enrollees in 2006 (Exhibit 4). Third, 25 percent of MAPD plan enrollees said that they started ordering prescriptions by mail—more than twice the rate reported by PDP enrollees (10 percent)—which might have contributed to their lower out-of-pocket spending. Over time, it will be important to track the extent to which differences persist between MAPD plan and PDP enrollees' drug practices and health status.

■ **Other changes in Part D enrollees' drug practices.** One in four Part D enrollees reported switching to a cheaper medication after they enrolled in a Part D plan, with little variation by income (Exhibit 5). This could include switching from a high-cost to lower-cost brand-name drug or from a brand-name to a generic drug. The relatively high rate of switching to cheaper medications might be a function of beneficiaries moving into plans that use financial incentives (such as tiered copayments) and cost management tools (such as step therapy) to steer enrollees toward lower-cost medications.

More than one in seven Part D enrollees said that they started ordering prescriptions by mail since they signed up for their Medicare drug plan (Exhibit 5). An interesting and somewhat unexpected finding was the relatively high use of mail order under Part D plans among higher-income enrollees. One possible explanation for this difference is that lower-income people might not have the means to pay more to purchase multiple months of medication at one time despite discounts that might be offered for using mail order to purchase medications. Seniors living on limited budgets might be more inclined to purchase their medications month by month.

■ **Low-income seniors and the Medicare drug benefit.** *Demographic and health characteristics.* Exhibit 5 compares Part D enrollees by income and LIS status. Compared with enrollees having incomes above 200 percent of poverty, a higher percentage of Part D enrollees with incomes below 200 percent of poverty were age eighty-five or older, female, living in rural areas, and members of racial and ethnic minority groups. Lower-income Part D enrollees also had higher rates of health problems than their higher-income counterparts, reflected in the share reporting three or more chronic conditions and in the mean number of medications taken.

Out-of-pocket spending and nonadherence. The results presented in Exhibit 5 affirm the beneficial effects of the LIS benefit under Part D. Rates of out-of-pocket spending in excess of $100 and $300 per month were significantly lower for LIS recipients (including dual eligibles) than for other Part D enrollees ($p < 0.05$), despite their greater reliance on medications. Seven percent of seniors with Medicaid and 11 percent of other Part D LIS recipients reported spending more than $100 per month on their medications. By contrast, one-third of low-income enrollees not receiving the LIS reported spending more than $100 per month on medi-

EXHIBIT 5
Selected Characteristics And Experiences Of Part D Enrollees, Overall And By Poverty And Low-Income Subsidy (LIS) Program Enrollment Status, 2006

			≤150% of poverty			
	Total Part D	Dual eligibles	With LIS	Without LIS	151%–200% of poverty	>200% of poverty
Characteristics						
Age 85+	11.6%	13.2%**	17.8%**	14.1%**	10.4%	8.9%
Female	63.5	76.0**	77.5**	70.3**	63.6**	54.0
Rural location	23.7	27.7**	32.3**	27.8**	25.2**	18.3
Race/ethnicity						
White	82.8%	56.6%**	83.6%**	85.8%**	89.3%**	92.7%
African American	7.6	19.2**	9.1**	5.9**	5.8**	2.7
Nonwhite Hispanic	6.2	16.3**	6.9**	5.6**	3.3	2.5
Number of Rx						
Mean number	5.0	6.0**	5.7**	5.0**	4.8	4.5
7+ Rx	27.6%	40.3%**	36.6%**	26.3%**	25.0%	21.7%
3+ chronic conditions	42.5	57.4**	54.1**	42.0**	43.6**	34.2
Cost-related experiences[a]						
Spent >$100 per month	26.4%	7.3%**	11%[b]**	32.3%	34.5%	32.8%
Spent >$300 per month	7.8	2.1**	3.5[b]**	8.5	11.3	9.8
Did not fill/delayed fill or refill due to costs in past 12 months	19.5	19.9**	21.6**	26.6**	25.9**	14.7
Experiences since enrolling in Part D plan[a]						
Changed Part D plan	7.8%	11.4%**	7.9%	7.6%	8.2%	5.9%
Needed special permission to get Rx filled	11.3	19.9**	12.9	7.2	8.2	9.6
Switched to cheaper Rx	25.7	26.1	29.1	26.4	27.9	24.5
Started ordering Rx by mail	14.8	5.8**	8.5**	14.7**	13.3**	20.9

SOURCE: National Survey of Seniors and Prescription Drugs, 2006.

NOTES: Weighted percentages. Poverty and subsidy columns exclude seniors for whom LIS status is unknown (n = 686). Significance testing: >200% of poverty as reference group, except as indicated.

[a] Based on respondents who reported using at least one prescription medication. At or below 150% of poverty excludes dual eligibles.

[b] Indicates significance testing of non–dual eligibles with LIS to non–dual eligibles without LIS.

**$p < 0.05$

cations. Similarly high rates of out-of-pocket spending were also evident among near-poor and higher-income Part D enrollees with incomes above 150 percent of poverty who were not eligible for LIS assistance.

Cost-related nonadherence rates varied by income but not by subsidy status. More than one in four Part D enrollees with incomes of 150 percent of poverty or below who were not receiving the LIS said that they did not fill or delayed filling or refilling a prescription because of cost in the past twelve months. Cost-related nonadherence rates among Part D enrollees were significantly higher for those at or below 200 percent of poverty than for those at higher income levels ($p < 0.05$).

■ **Other experiences of dually eligible enrollees in Part D plans.** Dually eligible seniors had the highest rates of changing Part D plans (11 percent) across all Part D enrollees (Exhibit 5). This is most likely because they are permitted to change Part D plans monthly, while others are not. In addition, one in five dual eligibles reported needing special permission to get a prescription filled—double the rate reported by seniors with incomes above 200 percent of poverty.[16] The fact that dual eligibles were more likely than other Part D

enrollees to report needing such permission in 2006 could be attributable to the nature of the drugs they take or to the possibility of being autoassigned to a plan that uses utilization management tools, such as prior authorization, that might restrict access to the high-cost medications used disproportionately by dual eligibles.[17]

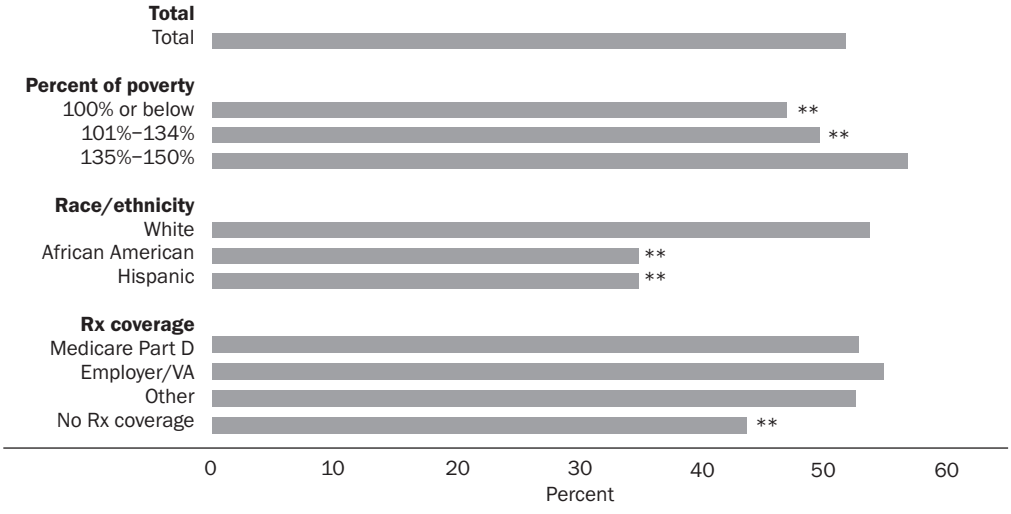
■ **Sources of drug coverage among low-income seniors without LIS.** Half of all seniors with incomes of 150 percent of poverty or below who were potentially eligible for but not receiving LIS benefits were enrolled in a Part D plan (data not shown). The lack of LIS benefits among low-income seniors enrolled in Part D plans suggests a potential opportunity for plans to play a greater role in educating their enrollees about this benefit. Nearly a quarter (23 percent) of these seniors had prescription drug coverage from an employer plan or through the VA, and 13 percent said that they had drug coverage from another source. Sixteen percent had no drug coverage at all.

■ **Awareness of low-income subsidies.** Among seniors with incomes of 150 percent of poverty or below who were not receiving LIS benefits, only half said that they were aware of the LIS program (Exhibit 6). Much lower awareness rates were reported by low-income African American and Hispanic seniors not receiving LIS benefits than by their white counterparts. Awareness rates were higher among those with more income and were lower among those who lacked drug coverage than among those in Part D plans.

Among low-income seniors who said that they were aware of the LIS benefit but did not apply for it, 46 percent said that they did not apply because they thought they would not qualify; 35 percent said that they did not need help with drug costs; 7 percent said that they did not know how to apply or that it was too much trouble, and 21 percent said that they did not apply for another, unspecified reason. Understanding the characteristics of seniors who are not aware of the LIS program and the

EXHIBIT 6

Percentage Of Seniors With Incomes At Or Below 150 Percent Of Poverty Who Said That They Were Aware Of The Part D Low-Income Subsidy (LIS), Among Those Not Receiving The LIS, 2006



SOURCE: National Survey of Seniors and Prescription Drugs, 2006.
NOTES: Weighted percentages. Excludes dual eligibles and others receiving LIS. Employer/VA (Department of Veterans Affairs) includes Federal Employees Health Benefits (FEHB) plan and TRICARE. Reference groups for significance: 135%–150% of poverty, white, and Part D coverage.
** $p < 0.05$

reasons why low-income seniors do not apply for LIS benefits is important for developing well-targeted education and outreach efforts.

Discussion And Policy Implications

This paper provides the first in-depth look at the characteristics and experiences of seniors since the implementation of the Medicare drug benefit. The survey on which it is based provides insights that reveal how the new benefit is working for seniors and identifies potential areas for improvement. Overall, the findings suggest that the Medicare drug benefit reached the majority of seniors who lacked drug coverage in 2005. The findings indicate that in 2006, seniors who enrolled in Part D plans fared better than those who lacked drug coverage, in terms of both out-of-pocket costs and cost-related nonadherence. At the same time, our findings indicate that Part D plans provide less financial protection against high out-of-pocket drug spending than either employer plans or the VA.

"Our findings indicate that Part D plans provide less financial protection against high out-of-pocket drug spending than either employer plans or the VA."

■ **Seniors' drug coverage.** Our survey found nearly 10 percent of seniors lacking drug coverage in 2006 after the close of the annual enrollment period and another 8 percent of seniors with coverage that was not Part D, employer, or VA—which might or might not be "creditable." Seniors lacking drug coverage generally were either potentially hard to reach (older, lower income, and less education) or in relatively good health. These findings have important implications for outreach efforts designed to maximize Part D participation.

■ **Out-of-pocket spending.** Despite the introduction of Medicare Part D, out-of-pocket spending remains high for a sizable share of U.S. seniors. More than a quarter of all seniors reported spending at least $100 per month on their medications, and 8 percent reported spending $300 or more each month. Not all sources of drug coverage are equal with respect to providing financial protection against high out-of-pocket spending. Our findings indicate that Medicare Part D is less protective than employer plans or the VA in terms of out-of-pocket spending and cost-related nonadherence, even after controlling for health needs, number of medications, and income. These differences might be attributable to the coverage gap that exposes Part D enrollees to 100 percent cost sharing after their total spending exceeds a certain threshold. Most Part D enrollees are in plans with the so-called doughnut hole; coverage gaps are rare in employer-sponsored plans and are not a feature of VA benefits.[18]

Further research is needed to learn more about factors that contribute to relatively high spending among Part D enrollees, including plan attributes (formulary, benefit design/doughnut hole, and cost sharing) and beneficiaries' use of specific drugs. Additional research could help identify whether seniors with certain conditions or who take specific drugs may be disproportionately experiencing high out-of-pocket spending, and to parse out whether high spending is attributable to high cost-sharing requirements (as for specialty drugs), the coverage gap, direct spending by enrollees for drugs not covered by their plans, or other factors.

■ **Low-income subsidy.** Low-income assistance under Part D is generally viewed as a major benefit to beneficiaries with limited income and assets. Yet an estimated 3.4–4.7 million beneficiaries are eligible for this assistance but not getting it.[19] Our study confirms the value of LIS in terms of lowering out-of-pocket drug spending, which underscores the importance of sustained efforts to increase participation in the LIS program. Lack of awareness about LIS benefits appears to be a factor in lower-than-anticipated participation rates, particularly among low-income seniors of color who are not already receiving some LIS

assistance.

■ **Dual eligibles.** Our findings affirm that the transition for dual eligibles into Part D plans differed measurably from that of others. Dual eligibles were more likely than others to say that they switched Part D plans and were required to get special permission to fill a prescription. These findings may be attributable in part to the random auto-assignment process that does not take into account individuals' drug needs, which suggests that a more careful approach to Part D plan assignment may allow for a smoother transition in the future. The extent to which the experiences observed in 2006 were the one-time result of moving seven million beneficiaries from Medicaid to Medicare drug plans, or whether the challenges for dual eligibles reflected in our survey are more systemic and ongoing, warrant attention.

■ **Limitations.** Some limitations must be considered in interpreting the study results. First, institutionalized Medicare beneficiaries and those younger than age sixty-five with permanent disabilities were not included in the sample. Well-established differences in drug coverage sources and use among these groups relative to noninstitutionalized seniors suggest that our findings are unlikely to generalize to those groups; it also affirms the need for research that focuses on this segment of the Medicare population.[20]

Second, the study achieved only a modest response rate (56 percent). As is customary with survey research, nonrespondents were older and disproportionately of minority race and lower socioeconomic status. If nonrespondents from these subgroups were more disenfranchised than their counterparts who responded, the study could overestimate coverage rates and underestimate nonadherence. Indeed, nonresponse analyses afforded by comparing our longitudinal respondents (2003 and 2006) with the overall 2006 sample suggest that the results may slightly overstate overall prescription coverage rates and, in particular, rates of Part D enrollment (by two to four percentage points). However, both nonresponse analyses and the multivariate analyses reported here suggest that nonresponse does not meaningfully affect the subgroup comparisons we present, including comparisons by coverage source, sociodemographic characteristics, and health status.

Third, beneficiaries were assigned one coverage source—a practice commonly used in Medicare research. A potential limitation to the use of hierarchies, though, is that it could result in giving primary sources of coverage (such as Part D) the appearance of comprehensiveness that is attributable to secondary sources of coverage (such as VA or employer plans). Approximately 20 percent of the total sample (12.5 percent of Part D enrollees) reported having multiple sources of coverage.

Finally, the findings may overidentify respondents characterized as potentially eligible for but not receiving LIS because the analyses were not able to account for assets, which the CMS uses to determine eligibility.[21] In addition, the analysis relied on self-reported income, which may understate true income.[22]

OUR FINDINGS CONFIRM the success of Part D in securing drug coverage for most seniors who were without it prior to 2006. Seniors with prescription drug coverage, including those in Part D plans, fared better than those without it, in terms of both their out-of-pocket drug spending and their rates of cost-related nonadherence. Our findings also underscore the value of the government-subsidized benefit for Part D enrollees who are receiving LIS. At the same time, however, our survey found that many seniors with low incomes do not receive that extra help and, without it, continue to have sizable out-of-pocket expenses despite having access to Medicare drug coverage.

In general, Part D offered less financial protection to seniors than employer plans or the VA. Future policy efforts to improve Part D coverage would benefit from additional research to ascertain the extent to which the relatively high out-of-pocket spending for Part D enrollees is attributable to the so-called doughnut hole, formulary restrictions, cost-sharing requirements, or a combination.

Finally, future research is needed to track the experiences of those who are especially vulnerable, including dual eligibles, people taking high-cost medications, and two important groups of beneficiaries who were beyond the scope of this analysis: the under-age-sixty-five disabled and seniors living in institutions. As new data become available, future research will help assess the long-term effects of the Medicare drug benefit on beneficiaries' out-of-pocket costs, cost-related nonadherence, and health outcomes.

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NOTES

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3. U.S. Department of Health and Human Services, "Over Thirty-eight Million People with Medicare Now Receiving Prescription Drug Coverage," Press Release, 14 June 2006, http://hhs.gov/news/press/2006pres/20060614.html (accessed 7 May 2007); J. Hoadley et al., "An In-Depth Examination of Formularies and Other Features of Medicare Drug Plans," April 2006, http://www.kff.org/medicare/7489.cfm (accessed 8 May 2007); F. Heiss et al., "Who Failed to Enroll in Medicare Part D, and Why? Early Results," *Health Affairs* 25 (2006): w344–w354 (published online 1 August 2006; 10.1377/hlthaff.25.w344); Medicare Payment Advisory Commission, "Update on Medicare Private Plans," chap. 4 in *Report to the Congress, Medicare Payment Policy* (Washington: MedPAC, March 2007); and Henry J. Kaiser Family Foundation, "Chartpack: Seniors' Early Experiences With Their New Medicare Drug Plans," July 2006, http://www.kff.org/kaiserpolls/upload/7546.pdf (accessed 19 July 2007).
4. For a description of the 2003 survey, see Safran et al., "Prescription Drug Coverage and Seniors."
5. The sample includes approximately 2,200 seniors from each of the four states targeted for oversampling; the remaining sample was drawn proportionally from the other states and the District of Columbia. Geocoding assigns latitude and longitude to a known address, and coordinates are mapped into census block groups (CBGs), allowing census neighborhood variables to be attached to the beneficiary. CBGs are smaller, more homogeneous units than ZIP code, county, or census tract and thus provide a useful proxy for individual socioeconomic characteristics.
6. D.A. Dillman, *Mail and Telephone Surveys: The Total Design Method* (New York: John Wiley, 1978).
7. Several of these questions were incorporated in the fall 2004 Medicare Current Beneficiary Survey. See Centers for Medicare and Medicaid Services, "Medicare Current Beneficiary Survey (MCBS): Overview," http://www.cms.hhs.gov/MCBS (accessed 19 July 2007).
8. Respondents were asked to provide monthly income from all sources, including income of spouse, by filling in a blank or checking the box with applicable categorical range for their monthly income, similar to the approach used in the MCBS. Unlike the MCBS, the survey did not ask respondents for pretax income.
9. S.F. Buck, "A Method of Estimation of Missing Values in Multivariate Data Suitable for Use with an Electronic Computer," *Journal of the Royal Statistical Society* B22, no. 2 (1960): 302–306. Ordinal logistic regression was used to estimate the conditional distribution (predicted probabilities) of the missing data. Missing values were replaced

with values having the highest probability among the categories.

10. An alternative way of presenting drug coverage data is presented in the Technical Appendix, which shows how the characteristics of seniors vary by source of drug coverage. The appendix is available online at http://content.healthaffairs.org/cgi/content/full/hlthaff.26.5.w630/DC2.
11. DHHS, "Over Thirty-eight Million People."
12. Multivariate models are available on request from the authors; send e-mail to tneuman@kff.org.
13. Notably, 8.5 percent of people dually enrolled in Medicare and Medicaid in 2005 were without Medicaid in 2006 and reported having no drug coverage in 2006.
14. Drug coverage is defined as being creditable if the actuarial value of the coverage equals or exceeds the actuarial value of standard Medicare prescription drug coverage [42 CFR, sec. 423.56(a)].
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