Medicare Beneficiaries And Drug Coverage

A high rate of drug coverage masks low medication use and high out-of-pocket spending among the noncovered and poor elderly.

by John A. Poisal and George S. Chulis

ABSTRACT: Whether or not to add a prescription drug benefit to the basic Medicare package is at the forefront of congressional debate. Using data from the 1996 Medicare Current Beneficiary Survey (MCBS), we examine changes in drug insurance coverage levels from 1995 to 1996 and compare drug use and spending data for Medicare beneficiaries with and without drug coverage. The data show that enrollees without drug insurance consistently use fewer prescriptions, spend more out of pocket, and have less in total drug expenditures than their insured peers.

Medicare does not directly provide an outpatient prescription drug benefit for its forty million beneficiaries, although Congress is considering adding one. Questions about whom to cover, which drugs to cover, and how to finance the benefit have been the subject of much debate.

An earlier paper in this journal described drug coverage levels, use, and spending for the entire noninstitutionalized Medicare population.[1] A paper that we published elsewhere focused primarily on variations in use and spending for Medicare beneficiaries with drug insurance coverage.[2] This paper profiles noninstitutionalized Medicare beneficiaries without such coverage. Here we update coverage, use, and spending data to 1996 using the Medicare Current Beneficiary Survey (MCBS) Cost and Use file.

Data Sources And Methods

Measuring drug insurance coverage. Most studies of drug insurance concentrate on coverage arising from a person's primary Medicare supplemental policy. These studies use direct questions about whether a person's private supplementary insurance covers drugs and make reasonable assumptions about drug coverage for persons in health maintenance organizations (HMOs) and Medicaid. Such studies have produced estimates of drug coverage in the Medicare population in the 50–55 percent range.[3] However, some

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changes were made to supplementary insurance arrangements in the mid-1990s that called into question the reasonableness of previous assumptions, particularly for new classes of Medicaid coverage. In addition, Medicare beneficiaries are often poorly informed about what Medicare and their supplementary insurance actually cover, which raises questions about the accuracy of self-reports of private prescription drug coverage.[4]

To improve measures of drug coverage, we used additional information on payment sources from individual prescription drug survey records. We also looked at drug coverage from any possible source, not just a person's primary supplemental policy. We found that in 1996, 69 percent of Medicare beneficiaries had some form of drug coverage. This higher-than-expected level is primarily the result of increased enrollment in HMOs and expansion of the Medicaid rolls in the early-to-mid-1990s. However, using the payment source data we also identified a number of people who received drug benefits from a secondary source of supplementary coverage and were previously missed by earlier methods.

There is a continuing debate about the extent to which household surveys underreport the number of prescriptions used and their costs. In developing the field procedures for the MCBS, we tried as much as possible to avoid the problems identified in earlier household surveys, such as the National Medical Expenditure Survey (NMES).

■ **Establishing payment amounts.** Whenever possible, we used the actual transaction price for each prescribed drug, not the listed or posted price to which discounts are sometimes applied. A variety of methods were developed for establishing a reasonable transaction price when the respondent knew the amount they paid out of pocket but did not know the total transaction price (for example, where HMOs, Medicaid, or a state-based plan made payment on the respondent's behalf). Information on the typical discount was obtained from average prices that bulk buyers such as HMOs were able to obtain from drug manufacturers. Similarly, information on the level of discounts obtained from state Medicaid rebate programs is used. In retail pharmacies, price markups vary by the size of the average wholesale price. For example, for prescriptions with average prices below $5, the final price, on average, was more than double that amount. On the other hand, for prescriptions with prices above $20, the average pharmacy markup was much smaller. The result was to establish an average transaction price for a particular drug, taking into account the particular payer. In allocating total payments among the various sources, 2 percent of payments had to be classified as coming from an unknown source.

Trends In Drug Insurance Coverage: 1995–1996

In 1995, 65 percent of community-based Medicare enrollees had drug coverage at some point during the year, leaving 12.8 million beneficiaries, or 35 percent, with none.[5] In 1996 the percentage of enrollees without drug coverage fell to 31 percent, or 11.6 million people (Exhibit 1). This finding may seem counterintuitive, given recent news reports about decreasing employer support for retiree health benefits and the withdrawal of many HMOs from Medicare. However, between 1995 and 1996 employers were encouraging their retirees to switch from fee-for-service (FFS) arrangements to HMOs, and enrollment in Medicare HMOs was still growing rapidly.[6] Enrollment rose nearly 30 percent in Medicare risk HMOs, which have the highest drug coverage rate of all insurance categories.

The MCBS is a panel survey, and approximately one-third of its sample changes every year. To be sure that the 1995–1996 increase in drug coverage was a real trend and not an artifact of the panel design, we analyzed the data of those persons who were in the sample in both 1995 and 1996. This "constant-sample" analysis showed that within the "employer-sponsored" insurance category, the share of persons with drug coverage increased by two percentage points. We assume that this change is attributable primarily to

EXHIBIT 1
Medicare Beneficiaries, By Type Of Supplemental Insurance And Drug Coverage Status, 1996

Type of coverage	Number of persons (thousands)			Percent distribution	
	Total	Without drug coverage	With drug coverage	Without drug coverage	With drug coverage
All persons	37,243.6	11,622.9	25,620.7	31.2%	68.8%
No supplemental coverage	2,890.9	2,890.9	0.0	100.0	0.0
Supplental coverage					
Medicare risk HMO	3,236.3	176.4	3,059.9	5.5	94.5
Medicaid[a]	4,405.2	486.3	3,918.9	11.0	89.0
Employer-sponsored [b]	12,892.2	1,470.0	11,422.2	11.4	88.6
Individually purchased only	9,780.2	5,881.2	3,899.0	60.1	39.9
All other[c]	737.1	142.1	595.0	19.3	80.7
Switched coverage during the year[d]	3,301.8	576.1	2,725.7	17.4	82.6

SOURCE: Health Care Financing Administration (HCFA) Office of Strategic Planning; data are from the Medicare Current Beneficiary Survey Cost and Use file.
NOTES: HMO is health maintenance organization. Data are based on the noninstitutionalized population and include those who were enrolled in Medicare at some point during the year. Each person has been assigned to one supplementary insurance category, but they may or may not obtain their drug insurance from that source.
[a] Includes beneficiaries receiving full Medicaid benefits, as well as qualified Medicare beneficiaries (QMBs) and specified low-income Medicare beneficiaries (SLMBs).
[b] Includes those who only had employer-sponsored supplemental insurance and those who had both employer-sponsored and individually purchased supplemental insurance.
[c] Includes other public programs such as Veterans Affairs, Department of Defense, and state pharmaceutical assistance programs for low-income elderly, as well as non-risk HMOs (cost and health care prepayment plans, or HCPPs).
[d] Includes beneficiaries who did not spend 100 percent of their Medicare-eligible months in one insurance category.

employers switching their retirees from FFS plans without drug coverage to HMOs with coverage.[7] The number of beneficiaries with individual coverage also rose. The increase in the percentage share with drug coverage was chiefly movement between plans—that is, persons going from one plan without a drug benefit to a plan with a drug benefit. Among insurance groups, the "individually purchased" category has the lowest level of coverage and the highest percentage of drug coverage obtained from a secondary source, such as a state-based prescription drug plan.[8] This is also the group of beneficiaries with the most incentive to "cobble together" the best insurance package they can from available sources.

Although the share of Medicare beneficiaries with drug coverage rose from 1995 to 1996, recent month-by-month analysis of coverage suggests that it may have reached a high-water mark in mid-1996.[9] Future analyses of later files will be needed to determine if this is a previously undetected seasonal trend, or if employers' decreasing support for retirees and HMO withdrawals from Medicare caused the leveling off.

Prescription Drug Use And Spending

■ **Insurance status.** Beneficiaries who lacked drug coverage in 1996 received fewer medications and had lower total drug expenditures then did their insured counterparts (Exhibit 2). This held true across age, sex, and race categories and whether or not the person lived in a metropolitan area. On average, beneficiaries without drug insurance used five fewer prescriptions in 1996, or one-fourth fewer than insured enrollees used. Similarly, total expenditures (out of pocket plus any third-party payments) for the noninsured were 40 percent lower ($463) than for insured beneficiaries ($769).[10]

■ **Age.** For beneficiaries age sixty-five and older, the number of prescriptions used per person generally increased with age. This trend was stronger for persons with drug coverage than for those without it. However, in all age categories, persons with coverage used more prescriptions on average than did those without it. Differences were greatest for disabled beneficiaries under age sixty-five, a group with high levels of drug use. Uninsured disabled beneficiaries age sixty-four and under used half as many prescriptions as their insured counterparts did, and they spent only 39 percent as much in aggregate. The youngest age group, birth to age forty-four, shows the widest gap in median spending. Half of covered beneficiaries in this age group spent $439 or more on prescription drugs in 1996. The median spending for the noncovered Medicare beneficiaries was only $43, less than 10 percent of the median spending for beneficiaries with drug coverage.

EXHIBIT 2
Use Of And Spending For Prescription Drugs, By Demographic Variables And Insurance Status, Medicare Population, 1996

	Population (thousands)		Mean number of prescriptions		Mean annual spending on prescription drugs	
	Without drug coverage	With drug coverage	Without drug coverage	With drug coverage	Without drug coverage	With drug coverage
Total	11,622.9	25,620.7	16.01	21.14	$463	$ 769
Age						
0–44	432.1	1,037.8	9.51	26.79	268	1,077
45–64	781.0	2,093.2	20.22	34.40	588	1,300
65–69	2,644.4	6,841.1	13.78	17.68	395	662
70–74	2,658.3	6,025.2	16.16	18.84	483	692
75–79	2,229.3	4,599.1	16.31	20.82	461	762
80–84	1,640.4	2,963.8	18.14	22.02	519	743
85 and older	1,237.5	2,060.5	16.71	22.49	487	708
Sex						
Male	4,917.2	11,561.4	13.98	18.94	424	707
Female	6,705.7	14,059.3	17.50	22.95	492	820
Race						
White	10,176.1	21,803.8	16.33	20.89	478	781
Black	1,015.7	2,397.2	14.48	23.09	369	699
Other	431.1	1,419.8	12.18	21.73	330	699
Metro status						
Metro	7,414.1	19,932.4	15.14	20.57	446	762
Nonmetro	4,202.5	5,660.4	17.57	23.18	494	793

SOURCE: Health Care Financing Administration (HCFA) Office of Strategic Planning; data are from the 1996 Medicare Current Beneficiary Survey Cost and Use file.
NOTES: Data are based on the noninstitutionalized population and include those who were enrolled in Medicare at some point during the year. Some variable categories may not add to 100 percent because small unknown or other cells were eliminated. Readers should be cautioned that small differences may not be statistically significant; results should be interpreted carefully. Median spending (data not shown) was uniformly lower than mean spending across all categories for those with and without drug coverage. For all but two categories, median spending ranged between 41 percent and 67 percent of mean spending. The exceptions, both under "without drug insurance," were the 0–44 age group (16 percent) and "other" race (28 percent).

■ **Sex.** Women used more prescription drugs than men did, and their total drug spending was higher. However, not having drug insurance seems to have affected both sexes almost identically. Males without coverage used 26 percent fewer prescriptions than did males with it; females without coverage used 24 percent fewer. Both males and females without drug coverage had only about 60 percent as much total drug spending as their covered counterparts.

■ **Race.** Minorities without drug coverage used fewer prescriptions on average than whites without coverage did, but this pattern reverses for persons with coverage. Nevertheless, there was consistently higher prescription drug use and spending among persons with coverage than among those without it in every race category. Noncovered whites obtained 78 percent as many prescriptions and spent in aggregate 61 percent as much as their covered counterparts did. The difference is even greater for minorities.

■ **Health status.** Not surprisingly, in 1996 use of and spending for prescribed medications increased as health status declined (Ex-

hibit 3). The health status distribution across the covered and noncovered Medicare populations was similar, with 26 percent of noncovered beneficiaries reporting themselves to be in fair or poor health, compared with 27 percent of covered beneficiaries. As health status declines, the use and spending gaps between insured and noninsured beneficiaries widen.

■ **Functional status.** Persons without functional limitations used considerably fewer prescriptions in 1996 and had much lower drug spending than did persons with functional limitations (Exhibit 3). Just under one-fourth of enrollees in both the covered and noncovered categories have difficulty with either an instrumental activity of daily living (IADL) or at least one activity of daily living (ADL). As beneficiaries' health deteriorates, the gap in use and

EXHIBIT 3
Use Of And Spending For Prescription Drugs, By Health Status, Income, And Insurance Status, Medicare Population, 1996

	Population (thousands)		Mean number of prescriptions		Mean annual spending on prescriptions	
	Without drug coverage	With drug coverage	Without drug coverage	With drug coverage	Without drug coverage	With drug coverage
Total	11,622.9	25,620.7	16.01	21.14	$463	$ 769
Health status						
Excellent	1,966.8	4,185.9	7.64	10.95	207	414
Very good	3,192.6	6,741.7	12.22	14.78	382	554
Good	3,467.6	7,693.4	17.19	20.51	497	759
Fair	1,969.7	4,495.6	22.72	31.96	640	1,120
Poor	999.9	2,451.1	26.89	38.13	749	1,340
Functional status						
No limitations	8,949.3	19,591.8	14.14	17.73	415	662
IADL only[a]	457.9	1,130.1	24.22	35.14	666	1,160
1 or 2 ADLs[b]	1,383.8	2,979.0	21.55	29.69	582	1,051
3 or more ADLs[b]	831.7	1,919.9	22.44	34.48	674	1,190
Poverty level[c]						
Below poverty	2,619.2	5,497.5	13.84	25.39	368	800
100–135% of poverty	1,795.0	2,829.1	18.09	25.18	476	767
136–150% of poverty	675.6	1,019.9	19.74	19.85	555	673
151–175% of poverty	926.1	1,708.2	16.59	21.45	453	790
176–200% of poverty	995.4	1,812.3	18.05	21.26	512	791
201–300% of poverty	2,225.8	5,178.2	15.96	19.60	487	778
301–400% of poverty	1,031.0	3,093.9	14.81	19.18	453	782
More than 400% of poverty	1,354.9	4,481.6	14.71	16.64	525	717

SOURCE: Health Care Financing Administration (HCFA) Office of Strategic Planning; data are from the 1996 Medicare Current Beneficiary Survey Cost and Use file.

NOTES: Data are based on the noninstitutionalized population and include those who were enrolled in Medicare at some point during the year. Some variable categories may not add to 100 percent because small unknown or other cells were eliminated. Readers should be cautioned that small differences may not be statistically significant; results should be interpreted carefully.

[a] Instrumental activities of daily living (IADLs) included making meals, using the phone, going shoppping, managing money, and doing light and heavy housework.

[b] Activities of daily living (ADLs) included eating, dressing, bathing, walking, transferring in and out of a chair, and using the toilet.

[c] The 1996 poverty thresholds were as follows: aged/alone, $7,525; aged/family, $9,491; disabled/alone, $8,163; and disabled/family, $10,564. Median spending (data not shown) was uniformly lower across all categories for those with and without drug coverage (range: 44 percent to 77 percent of mean spending).

spending between the covered and noncovered groups widens.

■ **Poverty level.** Covered beneficiaries with incomes below the poverty line had drug expenditures averaging $800 in 1996, the highest average spending in any income category. At the same time, noncovered beneficiaries in the lowest income group had average drug spending of just $368, less than any other noncovered group. In 1996 a disproportionate share (35 percent) of enrollees with incomes at or below 135 percent of poverty lacked drug insurance. These enrollees used 39 percent fewer medications and spent 48 percent less on prescription drugs than did covered beneficiaries in this income class. This gap generally narrows as income level increases to above 135 percent of poverty.

Out-Of-Pocket Spending

■ **Health status.** Not only do noncovered beneficiaries receive fewer prescribed medicines, they also spend more out of pocket to purchase those medicines.[11] Without the benefit of a drug insurance plan, which can secure better prices from manufacturers and often requires only a nominal copayment or coinsurance for prescriptions, enrollees without coverage paid 83 percent more ($463 versus $253) out of pocket for prescription drugs in 1996 than did covered enrollees (Exhibit 4). On a per drug basis, noncovered enrollees paid about $29 per purchase, whereas their covered peers paid $12. Similarly, the median out-of-pocket spending on drugs among noncovered enrollees was $270, more than double the median out-of-pocket expense for those with drug insurance.

While noncovered beneficiaries paid 83 percent more out of pocket than covered beneficiaries did, that percentage declined slightly as self-reported health status declined—the opposite pattern to that shown for total spending. Noncovered beneficiaries in excellent, very good, and good health paid 88 percent more than did covered enrollees in those groups; noncovered beneficiaries reporting themselves to be in fair or poor health paid 80 percent more. Similar trends occurred across the levels of functional status.

■ **Income level.** There are sharp differences between covered and noncovered Medicare beneficiaries for out-of-pocket spending by poverty level. The most severe difference is found in the group with incomes 136–150 percent of poverty, where the noncovered paid more than double out of pocket than the covered group did. In average dollars, noncovered beneficiaries with incomes below the poverty line paid $368 out of pocket. No group among the covered beneficiaries paid more than $300 out of pocket. Likewise, the median out-of-pocket drug spending for the noncovered enrollees below the poverty line was $162, while the highest median out-of-

EXHIBIT 4
Out-Of-Pocket Drug Spending And Drug Spending In Relation To Income, By Health Status, Income, And Insurance Status, Medicare Population, 1996

	Average out-of-pocket spending		Median out-of-pocket spending	
	Without drug coverage	With drug coverage	Without drug coverage	With drug coverage
Total	$463	$253	$270	$115
Health status				
Excellent	207	141	101	59
Very good	382	190	209	90
Good	497	256	303	127
Fair	640	350	440	181
Poor	749	423	449	194
Functional status				
No limitations	415	218	228	98
IADL only[a]	666	394	439	234
1 or 2 ADLs[b]	582	348	396	165
3 or more ADLs[b]	674	378	364	159
Poverty level[c]				
Below poverty	368	200	162	55
100–135% of poverty	476	269	296	130
136–150% of poverty	555	272	272	120
151–175% of poverty	453	279	300	152
176–200% of poverty	512	255	299	137
201–300% of poverty	487	284	312	143
301–400% of poverty	453	264	286	143
More than 400% of poverty	525	248	337	132

SOURCE: Health Care Financing Administration (HCFA) Office of Strategic Planning; data are from the 1996 Medicare Current Beneficiary Survey Cost and Use file.
NOTES: Data are based on the noninstitutionalized population and include those who were enrolled in Medicare at some point during the year. Some variable categories may not add to 100 percent because small unknown or other cells were eliminated. Readers should be cautioned that small differences may not be statistically significant; results should be interpreted carefully.
[a] Instrumental activities of daily living (IADLs) surveyed include making meals, using the phone, going shoppping, managing money, and doing light and heavy housework.
[b] Activities of daily living (ADLs) surveyed include eating, dressing, bathing, walking, transferring in and out of a chair, and using the toilet.
[c] The 1996 poverty thresholds were as follows: aged/alone, $7,525; aged/family, $9,491; disabled/alone, $8,163; and disabled/family, $10,564.

pocket spending among all of the covered groups was $152.

Policy Implications

Our findings suggest that Medicare beneficiaries without drug coverage are, in general, underserved in receiving drug therapies. We understand that the issue of "underservice" is a complex one. We further understand that when it comes to medications and the elderly, more is not always better.[12] As persons age, they are pharmacologically less able than younger persons are to process specific drugs and combinations of drugs. So we should not assume that the current level of prescription drug use among the elderly with drug insurance represents the optimal level for best therapeutic effect.

On the other hand, it is difficult to believe that the average insured Medicare beneficiary is 25 percent "overserved." Our findings suggest that the poor and near-poor have disparities in prescription

drug use rates between the insured and noninsured that are much higher than average. This group, as well as disabled persons and those in poor health, would clearly benefit from better access to prescription drugs. The question for policymakers is how to pay for such a benefit, whether applied to all beneficiaries or just to those with low incomes. Policymakers must consider not only the initial costs, but the long-term costs as well, since once a benefit is conferred, prescription drug costs will very likely continue to rise.

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NOTES

1. M. Davis et al., "Prescription Drug Coverage, Utilization, and Spending among Medicare Beneficiaries," *Health Affairs* (Jan/Feb 1999): 231–243.
2. J. Poisal et al., "Prescription Drug Coverage and Spending for Medicare Beneficiaries," *Health Care Financing Review* (Spring 1999): 15–27.
3. See, for example, G. Chulis, F.J. Eppig, and J. Poisal, "Ownership and Average Premiums for Medicare Supplementary Insurance Policies," *Health Care Financing Review* (Fall 1995): 255–274, 259, Table 1; AARP Public Policy Institute, *Prescription Drug Coverage and the Elderly: Issues and Options* (Washington: AARP, 1994), 5, Table 2; and AARP Public Policy Institute, *Prescription Drug Coverage among Medicare Beneficiaries* (Washington: AARP, August 1997).
4. N. McCall, T. Rice, and J. Sangl, "Consumer Knowledge of Medicare and Supplemental Health Insurance Benefits," *Health Services Research* (February 1986): 633–657.
5. Davis et al., "Prescription Drug Coverage."
6. R. McCarthy, "As the World Churns: Medicare and HMOs," *Drug Benefit Trends* (20 April 1998).
7. See T. Bodenheimer and K. Sullivan, "How Large Employers Are Shaping the Health Care Marketplace," *New England Journal of Medicine* (14 April 1998): 1003–1007.
8. Davis et al., "Prescription Drug Coverage."
9. B. Stuart, D. Shea, and B. Briesacher, *Prescription Drug Costs for Medicare Beneficiaries: Coverage and Health Status Matter* (New York: Commonwealth Fund, January 2000). Stuart and colleagues also point out that Medicare drug insurance coverage is not all or nothing throughout the year for many beneficiaries. They divide their analysis into persons with continuous coverage over twelve months, those with partial coverage for part of the year, and those with no coverage all year. Persons with continuous coverage over twelve months show higher rates of prescription drug use than those with intermittent coverage.
10. These lower levels of drug use and spending are not explained by less use of other health services such as hospital and physician care. Persons without drug insurance had average spending levels for hospital care and physician care that were 95 percent and 99 percent, respectively, of the spending levels for insured persons.
11. The out-of-pocket dollar figures exclude any premiums persons with insurance are paying to private insurers or HMOs for their drug insurance.
12. See, for example, J. Avorn, "The Elderly and Drug Policy: Coming of Age," and R.J. Lavizzo-Mourey and J.M. Eisenberg, "Prescription Drugs, Practicing Physicians, and the Elderly," *Health Affairs* (Fall 1990).