Prescription Use Behavior Among Medicare Beneficiaries with Capped Prescription Benefits

EMILY R. COX, PhD, and ROCHELLE R. HENDERSON, MPA

ABSTRACT

OBJECTIVE: To evaluate the strategies Medicare beneficiaries adopt to manage their out-of-pocket prescription costs in a prescription drug plan with maximum ("capped") benefits and to evaluate differences in the likelihood of participating in any one strategy before and after exhaustion of capped prescription benefits.

METHODS: Self-administered surveys were mailed to 786 Medicare+Choice members with capped annual prescription drug benefits of \$500 or \$1,000.

RESULTS: Two hundred twenty-one surveys were returned, for a 28% response rate. More than 70% of respondents participated in at least one strategy to manage prescription costs. The most frequently reported strategies included obtaining samples from their physician (45%), reducing spending on food and/or clothing (37%), shopping around at other pharmacies to obtain medications at a lower cost (29%), taking less than the prescribed amount (24%), receiving financial assistance from family or friends (17%), and stopping one or more regular-use medications (15%). More than two thirds of those who participated in at least one strategy participated in 2 or more strategies. While the combinations of strategies suggested prudence on the part of respondents (e.g., obtaining samples, shopping around), a subset of respondents participated in strategies that would be considered less desirable (e.g., stopping medications and taking less than prescribed). Finally, more than 35% indicated that they did not know their cap amount, and 24% did not know whether they had exhausted their benefit in 2000.

CONCLUSION: These findings highlight the difficulties many Medicare beneficiaries face in managing prescription costs, even those with some coverage for prescription costs. In the design of prescription coverage for the elderly, policy makers should recognize the impact that capped benefits have on member behavior. The apparent high rate of reliance upon prescription drug samples to reduce prescription drug expenditures for many Medicare+Choice members raises the question of whether prescription drug samples may discourage the prescribing of lower-cost therapeutic alternatives.

KEYWORDS: Medicare, Prescription insurance, Patient cost-sharing

J Managed Care Pharm. 2002(8)5:360-64

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Medicare beneficiaries continue to face erosion in coverage for prescription medications due to health plan exits from the Medicare+Choice market, reductions in benefits (e.g., increased cost-sharing, lower annual benefit maximums [caps]), fewer employers providing retiree health benefits, and rising premiums for private Medigap policies that provide prescription coverage.¹ In light of eroding coverage, fixed and limited incomes, and dependence upon prescription medication, many Medicare beneficiaries are faced with difficult decisions as they attempt to budget their out-of-pocket prescription expenses. If prescription expenditures go beyond their means, beneficiaries must either decrease prescription expenditures, decrease expenditures for other household items, or both. Reducing prescription expenditures could involve a number of strategies, including taking less than the prescribed amount, discontinuing a medication, or any number of strategies to obtain the medication at a lower cost (i.e., physician samples, obtaining medication through pharmaceutical assistance programs, etc.).

Research has shown that among Medicare beneficiaries at risk for exhausting their capped prescription benefits, the most frequently reported strategies for decreasing out-of-pocket prescription expenses were to obtain samples from physicians (38%), take less than prescribed amounts (24%), use an over-the-counter (OTC) product in place of a prescribed medication (20%), or discontinue prescribed medications (16%).² These findings came from a Medicare+Choice plan where a majority of members had capped benefits of \$1,000 or \$3,000, considered generous by today's standards.

Since the time those behaviors were evaluated, prescription coverage within the Medicare+Choice market has seen annual cap decreases and rising copays. The purpose of this study is to update and expand upon previous research on prescription use behavior among Medicare beneficiaries with capped prescription coverage. We expand upon prior research by evaluating behavior patterns in greater detail and by examining behavior both before and after exhaustion of capped benefits.

Methods

A self-administered survey was mailed in mid-February 2001 to 786 Medicare+Choice members who were selected at random from among members meeting the following criteria: taking 3 or more chronic therapies over the most recent 3-month time period, 55 years of age or older, and continuously eligible from January 1, 2000, through the time of the survey mailing. This research was part of a larger study evaluating a patient

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education program designed to provide patients with information about their medications. Due to sensitivity to patient confidentiality, members taking antipsychotics and antiretroviral therapy in the previous 6 months were excluded.

In order to obtain a sufficient sample of members who had exhausted cap, a stratified random sampling technique was used based upon whether the member exhausted the prescription cap in 2000. The stratification process was developed to result in a sample population with a 50:50 distribution between those reaching cap and those not reaching cap. Responses were considered for analysis if they were received within 4 weeks from the date of the survey mailing.

For the benefit year 2001, members had capped prescription benefits of \$500 as part of the basic plan, or they could opt into a higher cap amount of \$1,000 for a \$25 monthly premium. The cap was administered on an annual basis with the cap beginning on January 1 and ending December 31. A 3-tier copay structure was in place during 2001, with network copays of \$10 for generics, \$20 for preferred brand, and \$30 for nonpreferred brand for up to 30-day supply. Copays for up to 90-day supply filled through mail-service were \$20 for generics, \$40 for preferred brands, and \$60 for nonpreferred branded products.

The self-administered survey contained demographic and health status questions in addition to questions regarding the specific behaviors adopted to manage out-of-pocket prescription expenses. Questions regarding prescription-use behavior were modified from previous research² with additional questions added. Eleven behaviors were evaluated: 9 involved behaviors that would decrease out-of-pocket prescription expenditures, one that would decrease other household expenditures in order to pay for medications, and one that would increase income through financial assistance from others. Behaviors were measured on a 4-point Likert-type scale from "Never" to "Very Often."

All respondents were asked to think back to January 2001 in reporting their prescription use behavior. In addition, members who exhausted their prescription cap on or before October 1, 2000, were asked to think about the time after they exhausted their cap in 2000.

Analysis

Descriptive statistics presented include frequencies, cross tabulations, *t* tests, and chi-square distributions. The Likert-type scale responses were recoded into "Sometimes"/"Very Often" and "Never"/"Rarely." For those members who reached cap prior to October 1, 2000, Likert-type scale responses to behaviors both before and after reaching cap were compared to determine differences in their likelihood of participation.

Results

A total of 221 surveys were returned, for a response rate of 28%; 9 respondents were excluded due to incomplete ques-

TABLE 1 Demographic and Health Status Profile of Respondents (N=212)*

Variable	N (%)
Female	143 (68.1)
Marital status:	
Never married	5 (2.4)
Married	110 (52.4)
Widowed	74 (35.2)
Divorced	21 (10.0)
Highest level of education completed:	
Less than high school	64 (31.2)
High school graduate	76 (37.1)
Some college or a college degree	51 (24.9)
Postgraduate training	14 (6.8)
Annual household income:	
Under \$10,000	59 (31.1)
\$10,000 - \$19,000	68 (35.8)
\$20,000 - \$29,000	32 (16.8)
\$30,000 - \$39,000	16 (8.4)
\$40,000 - \$49,999	5 (2.6)
\$50,000 or more	10 (5.3)
Mean age (SD)	73.4 (6.4)

*Percentages are not exact due to missing data.

tionnaires, leaving 212 responses for analysis. As presented in Table 1, a majority of respondents were female (68%), married (52%), with a level of education at or below a high school degree (68%). The average age was 73, and more than two thirds of respondents indicated a household income of less than \$20,000.

Among the surveys mailed, 59% went to members with a \$500 cap, and 41% were sent to those with a \$1,000 cap. Among those responding, 40% indicated they had a \$1,000 cap, 15% a \$500 cap, 35% did not know their cap amount, and 11% responded with amounts other than \$500 or \$1,000. The lower response rate among those with a \$500 cap and the high rate of those indicating they did not know their cap amount is not unexpected given that the \$500 cap amount is part of the basic benefit package. In contrast, those with a \$1,000 benefit cap would likely be more aware of their cap since they had to select that benefit and pay an additional monthly premium. Among those responding, 31.4% had reached their cap on or before October 1, 2000; 25.5% had reached their cap after October 1, 2000; 17.6% indicated that they had not reached their cap; and 25.5% did not know if they had reached their cap in 2000.

Checks for nonresponse bias were conducted by comparing the sampling frame and respondents on age, gender, and exhaustion of 2000 prescription cap. The total percentage of those indicating that they had reached cap in 2000 (57%) was not significantly different ($\chi^2=3.44$, $df=1$) from the distribution of those who reached cap within the sampling frame (50%). Additionally, the gender distribution and average age between the sampling frame and the respondents was not significantly different at the

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TABLE 2 Percent Indicating They "Sometimes" or "Very Often" Do the Following to Reduce Their Out-of-Pocket Prescription Expenses:

Methods of Reducing Out-of-Pocket Prescription Expenses	N (%)
Participated in at Least One Strategy (N=212)	151 (71.2)
Obtained medication samples from your doctor (n=195)	87 (44.6)
Reduced spending on food and/or clothing in order to pay for your medications (n=201)	75 (37.3)
Shopped around at other pharmacies to try to obtain your medication at a lower cost (n=197)	58 (29.4)
Took less than the prescribed amount of one or more of your medications (n=194)	47 (24.2)
Received financial assistance from family members or friends to pay for your medications (n=196)	34 (17.3)
Stopped taking one or more of the medications that you take on a regular basis (n=194)	29 (14.9)
Purchased an over-the-counter product to replace a prescribed medication (n=187)	24 (12.8)
Applied to a pharmaceutical company's Prescription Drug Patient Assistance Program (n=193)	6 (3.1)
Used a medication prescribed for another person (n=188)	4 (2.1)
Obtained any of your medications through charitable or not-for-profit organizations (n=194)	3 (1.5)
Obtained one or more of your medications through the Veteran's Administration (n=191)	1 (0.5)

$\alpha=0.05$ level ($\chi^2=0.033$, $df=1$; and $t=1.79$, $df=1010$, respectively). Accordingly, we found no evidence of nonresponse bias based upon the variables we were able to compare.

Prescription Use Behavior

More than 70% of respondents participated in at least one strategy to manage their out-of-pocket prescription expenses since January of 2001. (Table 2) Of the 11 behaviors evaluated, the most frequently reported were obtaining samples from physicians (45%), reducing spending on food and/or clothing (37%), shopping around at other pharmacies to obtain medications at a lower cost (29%), taking less than the prescribed amount (24%), and receiving financial assistance from family or friends (17%). Less than 5% of respondents indicated applying to pharmaceutical assistance programs, using someone else's prescription, or obtaining medication through charitable, not-for-profit organizations, or the Veteran's Administration.

Among those who participated in at least one strategy, 33% pursued only one strategy, 30% pursued 2, and 37% pursued

3 or more strategies. Among those participating in only one strategy (n=50), approximately half were obtaining samples only, 1 in 4 reduced spending on other household items only, and 16% took less than prescribed as their only means of managing prescription expenses.

The percent of respondents participating in other strategies based upon their participation in any one strategy since January 2001 is presented in Table 3. This table presents the behaviors in which 10% or more participated. Reading across the table, among those who obtained samples from their physician, 43% were also reducing spending on other household items, and 43% were shopping around to obtain medication at a lower cost. Among those who shopped around to obtain their medication at a lower cost, 63% were also obtaining samples, and roughly 58% had reduced spending on other household expenses. In contrast, among those who took what would be considered more drastic action (i.e., stopping their medication), less than half were obtaining samples, and fewer still were shopping around to obtain the medication at a lower cost. Additionally, among those who stopped taking a medication, approximately 74% also took less than prescribed, and 75% reduced their spending on food and/or clothing. Among those taking less than prescribed, roughly 60% were also reducing their spending on other household expenditures.

Prescription Use Behavior Before and After Exhausting Cap

Among those who exhausted their prescription cap prior to October 1, 2000, paired t tests were used to evaluate the difference in mean responses prior to and after reaching cap. The only difference in their behavior pre-cap to post-cap to achieve statistical significance at the $\alpha=0.05$ level was obtaining samples from their physician. Based upon the results in Table 4, those exhausting their cap prior to October 2000 were more likely to obtain samples after they exhausted cap than before. Differences in prebehavior and postbehavior significant at the $\alpha=0.1$ level were obtaining an OTC agent to replace a prescribed agent, taking less than prescribed, and stopping a prescribed medication. In each instance, individuals were more likely to participate in the strategy after exhausting cap than before.

It is important to note that findings may be subject to recall bias as responses may not accurately reflect actual behavior, particularly for those needing to recall behaviors after reaching cap in 2000.

Discussion

With more than 70% of respondents participating in at least one strategy to manage out-of-pocket prescription costs, the findings of this study reflect the degree of beneficiary involvement in managing their prescription costs under a capped benefit design. The percent of members participating in at least one strategy is higher than previous estimates in which 49% of Medicare+Choice members with capped benefits reported par-

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TABLE 3 Likelihood of Participating in More Than One Behavior Among Those Participating in At Least One Behavior

	Samples	Reduced Spending	Shopped Around	Took Less	Received Financial Assistance	Stopped Taking a Medication	Purchased OTC
Samples	100.0%	43.0%	42.7%	26.6%	24.1%	16.0%	20.0%
Reduced spending	52.1%	100.0%	47.8%	38.2%	35.7%	30.4%	25.4%
Shopped around	62.5%	57.9%	100.0%	27.8%	23.2%	21.4%	22.2%
Took less	50.0%	59.1%	36.6%	100.0%	26.2%	46.5%	32.4%
Received financial assistance	62.5%	75.8%	40.6%	39.3%	100.0%	32.3%	24.1%
Stopped taking a medication	46.4%	75.0%	46.2%	74.1%	37.0%	100.0%	36.0%
Purchased OTC	66.7%	66.7%	52.2%	54.5%	30.4%	37.5%	100.0%

participation in at least one strategy to reduce out-of-pocket costs.² This difference may be due to any number of factors, including lower cap amounts, the lower income of respondents, increased awareness of options by seniors, or higher copayments. Regardless, the finding that members are seeking multiple strategies and, in many cases, a combination of strategies highlights the burden that prescription costs present to many older Americans, even those with prescription coverage.

While some of the behaviors reflect prudence on the part of members (i.e., obtaining samples, shopping around), other behaviors may have unintended consequences on members' health. Important questions remain unanswered, such as: Are members reducing spending on food and other necessities to the extent that they are jeopardizing their health? Are members taking less of and/or discontinuing medications that are essential to their health, or are they discontinuing only those medications considered discretionary? While this study did not attempt to examine this issue, a study of older Georgia Medicaid patients who went from a 6 to a 5 prescription per-member-per-month limit might suggest that they are doing both.³ Understanding the ultimate health implications of these behaviors is important and will add to the growing number of studies linking patient cost sharing and/or coverage issues to drug use⁴⁻⁸ and clinical outcomes^{5,7,8} in the elderly.

Among those participating in 2 or more strategies, the majority were participating in multiple strategies that would be considered prudent (e.g., shopping around, obtaining samples). However, a subset of members showed a pattern of potentially less desirable actions, including taking less than prescribed, stopping a medication, and reducing spending on other household items. Whether these individuals were unaware of other cost-saving strategies or whether those strategies were not available to them is an important research question. Across all behaviors, with the exception of obtaining samples, approximately 60% and, in some cases, more than 70% of those participating in a particular strategy to manage prescription expen-

ditures were also reducing their spending for other household items. For any household, growing expenditures in one area requires some adjustment to the household budget. However, the fact that many are reducing spending on necessities is of particular concern given that more than two thirds of respondents had household incomes of less than \$20,000. The extent to which they can reduce spending on necessities without jeopardizing care of their basic needs is questionable.

This study also highlights Medicare beneficiaries' dependence upon samples, as close to half of the respondents indicated obtaining samples from their physician in order to reduce out-of-pocket prescription expenses. In addition, those who exhausted their cap prior to October 2000 were significantly more likely to use samples after their cap had been exhausted than before. In 2000, it was estimated that the pharmaceutical industry supplied approximately \$8 billion in free samples, fully 60% of all marketing expenditures to professionals.⁹ Traditionally, samples have been used by the pharmaceutical industry as a marketing tool to get physicians familiar with their product. Most products available as samples are typically newer, heavily marketed, branded products, packaged to provide patients with supplies lasting a few days to a month depending upon the specific product. Samples act as a "starter supply" so to speak, providing patients with a trial amount to ensure that they will tolerate the medication before purchasing larger quantities.

The fact that so many respondents indicated using samples, together with the fact that many of those who exhausted their cap were more likely to use samples after they reached cap than before, suggests that the role samples are playing in this population is different from that of a starter supply. If this is true, several questions regarding use of samples should be explored. First, how do patients use samples, and are samples given in sufficient quantity to allow for continuation with chronic therapy once coverage is exhausted? Second, and particularly intriguing, does dependence upon drug samples discourage prescribing of lower-cost, therapeutic equivalents that may

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TABLE 4 Difference in Likelihood of Participating in Behaviors Before or After Reaching Cap Among Those Exhausting Cap Prior to October 1, 2000

Variable	N	Mean Difference*	p†
Purchased an over-the-counter product to replace a prescribed medication	58	-0.12	0.051
Obtained medication samples from your doctor	59	-0.24	0.003
Used a medication prescribed for another person	58	-0.03	0.322
Took less than the prescribed amount of one or more of your medications	57	-0.19	0.055
Stopped taking one or more of the medications that you take on a regular basis	56	-0.14	0.059
Shopped around at other pharmacies to try to obtain your medication at a lower cost	58	-0.12	0.211
Applied to a pharmaceutical company's Prescription Drug Patient Assistance Program	57	-0.05	0.182
Received financial assistance from family members or friends to pay for your medications	58	-0.09	0.133
Reduced spending on food and/or clothing in order to pay for your medications	59	-0.10	0.335

* measured as the difference in the 4-point Likert-type scale for behavior before cap minus behavior after cap.

† 2-tailed test of significance.

reduce the risk of exhausting the member's cap?

In order to manage prescription costs, beneficiaries must know what their cap amount is and what their expected expenditures will be. The fact that almost half of respondents did not know their cap amount or indicated amounts that did not reflect cap options suggests room for improvement.

Conclusion

While this information can help inform policy decisions regarding out-patient prescription coverage under Medicare, the implications of these findings are more immediate. Physicians should be sensitive to the effect their prescribing decisions have on member's out-of-pocket costs, the impact this has on adherence, and the constraints placed on the patient's finances. Pharmacists can also use this information to direct their counseling and serve as a patient advocate when affordability issues become apparent.

In a recent issue of *JMCP*, researchers reported on the savings and improvements in therapy guideline adherence from pharmacist intervention with high-use Medicare+Choice members.¹⁰ Health plans can encourage cost-effective prescribing by mandating generic substitution and encouraging the use of lower-cost therapeutic equivalents through formularies and benefit-design policies designed for the older patient. While capped prescription benefits place the responsibility of managing costs on seniors, they should not have to shoulder this burden alone.

DISCLOSURES

No outside funding supported this study. Author Emily R. Cox served as principal author of the study. Study concept and design and drafting of the manuscript were provided by Cox. Analysis and interpretation of data, critical revision of the manuscript, and statistical expertise were contributed jointly by Cox and author Rochelle R. Henderson.

ACKNOWLEDGMENTS

We would like to acknowledge Brenda R. Motheral, PhD, for her critical review of the manuscript and Kathleen Fairman, MA, for her assistance with survey development.

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