



# findings brief

## Design of a Pharmacy Benefit for Low-Income Seniors: Lessons from State Pharmacy Assistance Programs

### Overview

Prior to implementation of the Medicare Modernization Act of 2003 that provided prescription drug coverage for the elderly and disabled, more than half of the states operated programs to assist low-income seniors in acquiring prescription drugs.<sup>1</sup> State programs to provide such assistance ranged from mandated discounts applied to retail prices to extensive coverage for low-income seniors. Programs varied widely with respect to eligibility (qualifying income thresholds), management, scope of coverage, benefit design, cost sharing components, and financing arrangements (general revenues, specific taxes, tobacco settlement, or lottery).<sup>2, 3, 4</sup>

With the implementation of the Medicare Drug Benefit, these programs have generally been redesigned: most provide wrap-around coverage to supplement Medicare Part D; some have continued to provide coverage alongside Part D; and some have been terminated.<sup>5</sup> Lessons learned from these programs, however, can inform policymakers and providers regarding the impact of key design features in providing prescription drug benefits.

There is limited research in understanding how poor and near-poor elderly and the disabled respond to different drug

cost-sharing approaches in the current environment. In order to bridge this gap, researchers at Brandeis University used data from two state programs (Medicaid Pharmacy Plus Medicaid 1115 waiver programs administered by Illinois and Wisconsin) providing pharmacy benefits to low-income seniors prior to Medicare Part D. The research team, led by Cindy Thomas, Ph.D., addressed four key policy questions:

1. How are enrollment patterns in a voluntary program for seniors affected by program enrollment approach and benefit design?
2. How do plan design differences between the two programs affect enrollee prescription drug utilization and spending?
3. For seniors with certain diseases, how do different approaches to prescription drug management affect drug use and spending?
4. How do low-income seniors change drug consumption when approaching a “soft cap” on benefits (threshold beyond which higher cost-sharing is required)?



## Background

Beginning in 2001, states could seek federal cost sharing through Medicaid 1115 waiver programs for pharmacy assistance programs designed to serve low-income elderly. These programs were designed to provide prescription drug benefits through Medicaid to low-income seniors who did not qualify for the full range of Medicaid benefits, in the hope that improving access to necessary drugs would divert near-poor individuals from needing institutional care or other more costly services. Even though Illinois and Wisconsin had the same eligibility requirements upon implementation, these state programs differed substantially in terms of benefit design, coverage, and management features that can strongly affect drug use and spending.

## Data and Methods

The research team integrated and analyzed data from a Centers for Medicare & Medicaid Services (CMS)-sponsored evaluation of the first year of each state's SeniorCare program in order to predict factors associated with enrollment and drug spending. Data from four sources was utilized: (1) pharmacy program enrollment and drug claims data; (2) Medicare Part A and Part B; (3) Medicaid; and (4) Social Security Administration (SSA) payments.

Researchers compared member characteristics to the non-enrollee population in order to examine whether differences in the design and implementation of the different state programs resulted in differences in the population that enrolled into the programs. Unlike the Wisconsin SeniorCare Program, the Illinois program had two separate cohorts: members of an earlier pharmacy assistance program who rolled over into the new program, and new enrollees. This provided an interesting opportunity to examine characteristics of new enrollees versus later enrollees, as relevant to Medicare Part D. In order to investigate differences in drug use and spending, researchers matched SeniorCare members across states on the basis of numerous demographic characteristics. Additionally, researchers used multivariate techniques to predict how prescription drug use and spending would differ for the same individual exposed to the different cost sharing approaches in the dif-

ferent state programs. In order to examine the importance of price and use relative to the cross-state differences in spending for drug classes, researchers analyzed differences in drug spending for the specific disease categories. Finally, the research team used multivariate methods to determine factors associated with hitting the \$1,750 "soft cap" in Illinois<sup>a</sup> and drug consumption behavior after the cap.

## Results

### Impact of program design on selection

In each state, enrollees, as compared to non-enrollees, were older, more often female and white, had higher income, lived in non-urban areas, had more diseases, and had higher frailty scores and higher prior Medicare Part A (hospital) expenses. There was also a significant difference in health status and prior Medicare spending between the members of Illinois SeniorCare who enrolled after the new program was initiated, and those members who were automatically enrolled because they were in the earlier state pharmacy assistance program. Members who had prior drug coverage through the earlier program (Illinois "rollovers") were older, had more diseases, higher Medicare Part A and B spending prior to enrollment, and a higher frailty score.

Using separate state analyses, the researchers compared how various member characteristics differentially affected enrollment. They found that for new members entering each state's program (after the first month), adjusting for age, gender, race, and urban/rural residence, members were in general sicker than non-enrollees.

In the Illinois selection model, the marginal effects of having income greater than 160 percent of the federal poverty level (FPL) was significantly positive, indicating that relatively wealthier seniors are 15 percent more likely to enroll. The opposite was true in Wisconsin, as higher income was associated with 4 percent lower likelihood of enrollment. This is consistent with the hypothesis that, holding other factors equal, relatively wealthier Wisconsin seniors would be less likely to enroll because of the deterrent effect of the \$500 deductible.

a) In Illinois, an enrollee's price per prescription increases after he or she has purchased \$1,750 worth of prescription drugs for the year.

Additional analyses indicate that once in the program, even after adjusting for measurable health status indicators, new enrollees in the Illinois program spent significantly less on drugs than counterparts in Wisconsin, and enrollees joining earlier spent significantly more. This suggests that even among individuals of equal health status, those in Wisconsin may have had a “pent up demand” for prescriptions that those in Illinois did not have because its earlier program may have enrolled those already most likely to use prescriptions.

#### **Impact of plan design on drug use and spending**

Out-of-pocket spending also differed significantly across states. Illinois SeniorCare members contributed 10 percent of overall drug spending out-of-pocket (including those who exceeded the \$1750 cap), while Wisconsin SeniorCare members paid about 30 percent of drug spending out-of-pocket.

When the researchers looked at how prescription drug use and spending would differ for the same individual exposed to the different cost sharing approaches in the different state programs, the results indicated that (to the extent that health status is controlled for in this analysis) the Wisconsin program led to 10 percentage points greater generic use, lower overall drug spending, and fewer prescriptions at every income level than did Illinois.

#### **Differences in drug use and spending by disease category**

When the research team examined how similar individuals subject to the two different state plans used particular classes of prescription drugs, they found that differences in spending and in generic use rates are greatest at the lowest income levels. One might expect that the differences would be at the highest income levels, where the effect of high co-pays in Wisconsin might be mitigated. However, this is not the case; the presence of a deductible for Wisconsin members likely reversed an income effect. Similar effects were found in other drug classes, with the exception of depression, which incurred lower utilization and spending in Illinois than in Wisconsin.

For the five major disease states combined (diabetes, heart disease, depression, stroke, and arthritis), the researchers found that for all members, about half of the difference in drug spending was due to price per prescription, with the remainder due to generic versus brand mix and the number of prescriptions per enrollee. However, this differed by income level. As income increased, the number of prescriptions generally became a less important factor in the difference in spending for disease groups.

#### **Impact of a cap on spending**

In addition, Illinois SeniorCare presents a valuable opportunity to study the response of consumers to drug benefit caps. This is particularly relevant for numerous near-poor Medicare beneficiaries who are not eligible for subsidies and are exposed to a wide range of drug cost sharing arrangements under Medicare Part D plans. Illinois’s “soft cap” raised costs for enrollees who experienced higher expenditures. The cap was reached by nearly half (47 percent) of all members enrolled for the entire first 12 months of the program. The probability of hitting the cap is higher, other things constant, for those with more diagnoses reflecting chronic disease and long-term care needs, higher for women, lower for married enrollees, and falls as age increases. Econometric analyses showed that Illinois SeniorCare enrollees responded to an increase in out-of-pocket price by reducing their monthly expenditures by 49 percent, and by reducing their monthly prescriptions by 43 percent, with an increase in generic fill rates of 13 percent.

#### **Discussion and Implications for Medicare**

This study provided a rare opportunity to assess the impact of the design of a pharmacy assistance program on low-income seniors. The design differences do, in fact, have an impact on enrollment into the program, and patterns of drug use and spending. First dollar coverage versus a deductible and a cap at higher levels results in different costs of a prescription drug program. The income effect in these programs is strong, with members with incomes at or below 100 percent FPL

using fewer drugs, even with co-payments waived, as in Illinois. The impact of plan differences is similar across diseases; however, for some diseases, the particular history of the program, as well as formulary differences, can change patterns, as was the case for depression. In Illinois, a cap on benefits had a strong effect on how drugs were used. Unfortunately, Dr. Thomas and the research team do not yet have second year data to examine whether post-cap drug use and spending returns to pre-cap levels when the co-payments are lower, or whether lower spending and higher use of generics is maintained.

Selection into the program indicates that the deductible provides a deterrent effect for those with better health status. Also, members who roll over from other programs can be expected to have poorer health status, use significantly more drugs, and incur nearly double the drug spending than those with new drug coverage. While these prescription drug programs for seniors were voluntary, with enrollment at any time during the year and no penalty for enrollment, findings do suggest that the type of benefit and how it is managed will have considerable impact on who enrolls into a program.

In addition, the impact of earlier programs is important. That is, the legacy of state pharmacy programs that existed prior to Medicare Part D is important in determining the level of need for members entering a new drug coverage program. It should be noted that after the initial SeniorCare program year in Illinois, drug management was transferred from the pharmacy benefit manager (PBM) to Illinois Medicaid. This signals an important lesson for Medicare Part D, as drug management for dual eligible seniors moved from Medicaid to private PBMs and health plans.

The first year of Medicare Part D generated numerous different designs for seniors, within the requirement that drug plans be actuarially equivalent to the standard Part D drug benefit. In 2007, the number of plans has increased, with a commensurate increase in the range of plan design options. The results of this study show that the choice of plan will clearly have an impact on drug use and spending, and enrollment selection will differ based on the drug plan's cost sharing. "This is particularly relevant and important information for the millions of near low-income seniors who do not qualify for Medicare subsidies," says Dr. Thomas.

### Next Steps

The Brandeis research team is conducting a related study, funded by CMS, evaluating whether these programs for low-income seniors divert members from nursing homes, or keep them from needing Medicaid. For questions relating to their work, please contact Dr. Thomas at [cthomas@brandeis.edu](mailto:cthomas@brandeis.edu).

### Endnotes

- 1 Williams, C. et al. "State Pharmacy Assistance Programs at a Crossroads: How Will They Respond to the Medicare Drug Benefit?" Health Care Financing and Organization Issue Brief, July 2005.
- 2 U.S. General Accounting Office. "State Pharmacy Assistance Programs: Assistance Designed to Target Coverage and Stretch Budgets." Washington, D.C., September 2000. (GAO/HEHS-00-162).
- 3 Safran, D.G. et al. "Prescription Drug Coverage and Seniors: How Well Are States Closing the Gap?" *Health Affairs*, Web Exclusive, July 31, 2002. Also see [www.healthaffairs.org/WebExclusives/2105Safran.pdf](http://www.healthaffairs.org/WebExclusives/2105Safran.pdf).
- 4 Fox, K. et al. "State Pharmacy Assistance Programs: Approaches to Program Design," New York: The Commonwealth Fund, May 2002.
- 5 National Conference of State Legislatures. State Pharmaceutical Assistance Programs in 2006: Helping to Make Medicare Part D More Affordable. September 1, 2006. Also see [www.ncsl.org/programs/health/SPAPcoordination.htm](http://www.ncsl.org/programs/health/SPAPcoordination.htm).