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**PBM-Administered Prescription Drug  
Discount Cards:**

**Savings for Uninsured Seniors**

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## **PBM-Administered Prescription Drug Discount Cards: Savings for Uninsured Seniors**

*Mary Smith<sup>1</sup> is a 70-year old female whose medications include furosemide, Lipitor, and Fosamax. She also takes hydrocodone on an as-needed basis for joint pain, about three times per week. Ms. Smith has no health insurance other than Medicare.*

*Ms. Smith was spending \$2,542 per year on medications at her local pharmacy. With a prescription drug discount card administered by a major national pharmacy benefits management firm, including the monthly cost of that card, Ms. Smith spent \$2,017 last year on her prescriptions, saving \$525, or 21 percent.*

### **Overview**

National spending for prescription drugs continues to rise. It is estimated that Americans will spend more than \$180 billion on prescription drugs this year and \$250 billion by 2006. This escalation is having a disproportionate impact on America's seniors, one-third of whom lack insurance for prescription drugs. At present, seniors with no prescription drug coverage are at a disadvantage in several ways when purchasing medications. First, they do not have limited or specified out-of-pocket costs that prescription drug insurance often provides. Additionally, as cash customers, they pay more because they do not have access to lower prices generally negotiated by insurers or the pharmacy benefits managers (PBMs) that manage the drug benefit on members' behalf.

Because of high prescription drug prices, seniors and others with limited prescription drug coverage are looking for savings. Discount card programs that offer prescriptions at a discounted price to enrolled individuals are one approach that has become commonly available in recent years. These programs are sponsored by a multitude of organizations, including senior associations, states, pharmacies, pharmaceutical manufacturers, and employers. For example, several prescription drug manufacturers have combined to offer a discount program, with age and income enrollment restrictions; pharmacies have their own cards; and 25 states now offer their own version of discount programs for seniors and/or low-income individuals (AARP, 2002). Pharmacy benefit managers typically administer these programs, and some offer their own discount cards.

Prescription drug discount programs vary in terms of eligibility, discounting method, range of drugs, range of member pharmacies, availability of home delivery, and card fees. The Centers for Medicare and Medicaid Services was attempting to implement a program to endorse prescription drug discount cards for Medicare beneficiaries until recent court decisions found CMS without authority to do so. The Bush administration remains determined to pursue a drug discount card program for Medicare and may look to Congress for help (AP, January 30, 2003).

The federal government is also considering numerous proposals for providing prescription drug benefits to the Medicare population, including some that include considerable

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<sup>1</sup> This is a fictitious name and case based on common medical conditions in the elderly, for illustration purposes only.

cost sharing by beneficiaries. This cost-sharing feature underscores the importance of lowering prescription drug prices both as an interim step for the one-third of seniors currently without prescription drug insurance and potentially as part of an overall drug benefit to lessen the burden of out-of-pocket expenses. Drug discount card programs can thus help seniors responsible for their own drug costs and ensure consumers receive consistent discounted drug pricing across participating pharmacies.

A major question for policymakers in considering discount card programs is the extent to which discount cards lower the price of prescriptions for the population that uses them. The current study addresses this question and differs from several other studies that surveyed pharmacies and Internet sites to document price discounts for common prescriptions. The current research used actual transaction data for individuals age 65 and older who used any of a variety of discount cards administered by three major national PBMs, to determine savings across different locations and different pharmacy types (chain versus independent). As well, we created several clinical profiles common among seniors and examined what prescription drug savings could be provided to seniors with these conditions.

Key findings of this research are:

- Actual discounts derived from prescription drug card programs administered by national PBMs for uninsured seniors are considerable, and vary depending upon generic or brand status, and type of pharmacy.
- The average discount for generic medications was 26 percent (\$7 per prescription), and the average discount for brand drugs was 14 percent (\$11 per prescription). The overall average discounted price for a prescription drug compared to full retail price was 15 percent (\$10 per prescription). These savings are over and above any discounts otherwise provided to uninsured individuals at retail pharmacies.
- For patients taking multiple prescription drugs concurrently, as many seniors do, savings for a month of medications were substantial, ranging between 12 and 21 percent overall. This could translate into hundreds of dollars per year. Savings depended on the mix of medications, location, and choice of pharmacy.
- Card savings were similar for pharmacies located in rural states and those in urban states.

## Background

Given the high — and still rising — prices paid for prescription drugs by the more than 9 million uninsured seniors, as well as increased demand, discount cards have become popular in recent years. While many are concerned that a federally approved prescription drug discount program will reduce the pressure for passage of a Medicare prescription drug benefit, it is important to understand how prescription cards contribute to savings in the interim.

There are hundreds of different card programs with different costs and benefits. Prescription drug discount cards vary in several ways, including eligible population, discounting method, the availability of a home delivery option, and enrollment and monthly fees. There are also differences between public- and private-sector offerings (KFF, 2002). Public-sector (state-sponsored) and private-sector discount card programs target overlapping populations, but the goal in both types is to lower prices for individuals who have minimal or no insurance for prescription drugs and now pay full retail prices.

It is important to understand the extent to which discount cards lower the price of prescriptions for the population that uses them. Two widely reported studies in particular have addressed this issue. First, in December 2001, the General Accounting Office (GAO) issued a report that measured savings from use of discount cards compared to retail prices in several urban and rural market areas. The GAO compared the price offered by several major discount cards to pharmacies in numerous major metropolitan areas, one rural market, and some Internet pharmacies. The survey showed a savings that averaged approximately 11 percent in retail pharmacies for a list of 17 common and costly medications used by seniors. In another study, the Kaiser Family Foundation found a wide variation in prices offered or discounts realized through discount cards (KFF, 2002). Both studies show much greater discounts in terms of percentages for generic than for brand drugs.

The current study differs from both investigations. Rather than conducting a primary survey of prices for various medications, in this study we used actual aggregated claims data for eight discount card programs. These data were provided by three major PBMs and included discounted program prices<sup>1</sup> and the usual-and-customary prices submitted by retail pharmacies, which is the price a person would have paid without a discount card, including any sale prices or senior discounts.<sup>2</sup> In addition, in order to examine the impact of the programs, we have quantified savings using clinical situations that are common for seniors. We show savings from use of a discount card by pharmacy type (chain versus independent pharmacies), and urban and rural states. By varying the drug, pharmacy type, and location, we found a range of retail pharmacy prices, and associated savings, from having a discount card. An advantage of this statistical approach is that we can compute what might happen on average in a national program at the level of the individual consumer. However, recognizing the wide variation in prices across settings, it is certain that individuals will encounter different results based on location, pharmacy

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<sup>1</sup> Drug card discount pricing is publicly available information.

<sup>2</sup> No patient identifier information was provided with the data. All data were stripped of patient identifiable information and provided to the researchers with the understanding that all data supplied by individual participants would be kept confidential and not released to the other participants or the general public prior to aggregation of all the data.

type, and particular mix of drugs used. While each of the PBMs has a mail-order component of their discount card that offers considerably lower prices than the pharmacy discount price, this study is limited to comparing retail pharmacy prices to discount card prices for prescriptions filled at retail pharmacies.

## Study methods

The data used in this study came from AdvancePCS, Express Scripts Inc., and Medco Health Solutions and represent claims from eight national discount card programs. For each prescription transaction associated with a discount card program, a record was created that included the program's discount price on behalf of the program sponsor's member and the pharmacy's usual-and-customary retail price for that prescription, provided by the pharmacy for the period January through March 2002. Discount card data and usual-and-customary retail prices analyzed in this research represent all prescription drug purchases through the discount card programs administered by the PBMs during the period for a list of commonly used medications. The data, provided in summary form by PBMs, were based on more than 3.5 million pharmacy claims nationally and include transactions that occurred at retail pharmacies. Claims from mail order, which has been estimated at 17 percent of prescriptions nationally and the fastest growing prescription drug distribution channel ([www.pcmnet.org](http://www.pcmnet.org)), is excluded from this analysis.

We assembled a list of common prescriptions using overall prescription drug claims for the year 2001 for the PBM population age 65 and older. To assemble this list, we first ranked the top 100 prescription drugs in terms of expenditures and the top 100 prescription drugs in terms of utilization for the elderly population. A combined list was then created using a weighted ranking that counted expenditure rank twice as important as utilization rank. The final list of medications used in the analysis included 124 prescription drugs (See Appendix). Because this list contained the most common dosages for highest-selling drugs, some drugs were repeated due to differences in strengths (*e.g.*, Lipitor 10 mg., Lipitor 20 mg., and Lipitor 40 mg.). These medications accounted for approximately 44 percent of PBM outpatient prescriptions for members age 65 and older and 58 percent of PBM prescription drug expenditures for the senior population.<sup>1</sup>

Variables for analysis for each prescription claim included: the number of claims per drug preparation, strength and quantity of pills for each formulation; generic and brand identifiers, aggregated usual-and-customary charges provided by the pharmacies in the discount card programs' network for that preparation (*i.e.*, the amount a pharmacy charges a retail consumer with no insurance and no prescription drug discount cards), and discounted price paid by customers with a drug discount card. Pharmacy type distinguished independent pharmacies from chain stores. Chain pharmacies were those defined by the PBMs as having more than one retail outlet, and that determination was made by the PBMs prior to providing data to researchers for this study. Retail chain pharmacies include several types of outlets, including chain drug stores, discount department stores that have pharmacies, and supermarket chains that have pharmacies.

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<sup>1</sup> Calculated from overall utilization and expenditures for the year 2001 for one PBM's funded clients.

The state where the transaction took place also was provided. This information was then used to create an identifier for rural versus nonrural states in accordance with 1990 U.S. Census designations. Rural states were defined as those with more than 45 percent of the population living in rural areas (Ricketts et al., 1998) and include Arkansas, Kentucky, Maine, Mississippi, Montana, New Hampshire, North Carolina, South Carolina, North Dakota, South Dakota, Vermont, and West Virginia. While this census-based marker does not fully measure price differences across markets within states, it provides a method to estimate differences between more urban and more rural states.

#### Method of determining costs and discounts:

Usual-and-customary prices, and discounted prices, as well as total number of claims for the period January through March 2002 were provided for the discount card programs for each of 124 drugs in our list by state of purchase and type of pharmacy (chain or independent). The PBMs provided researchers with these data for the discount card program(s), defined as follows:

- Usual-and-customary price: This is defined as the actual retail price that would have been charged the customer for that prescription without a card. This includes any pharmacy senior discounts or other available discounts that may be provided but does not include sales tax.
- Discounted price: This is the price actually paid by the customer with a discount card for the prescription as dispensed at the pharmacy. This includes all dispensing fees but does not include sales tax.

For each state and pharmacy type within that state, each PBM summarized average usual-and-customary price and discounted price for each transaction processed for each of the 124 drugs to be analyzed. These data were provided to the researchers with the number of claims. The analysis included prescriptions with a varied number of pills. All prices reported reflect a fixed number of pills per prescription, regardless of pharmacy, location, or medication. Across all prescriptions in this sample, the average number of pills or tablets for a prescription was 34 for brand drugs and 49 for generic drugs, calculated as the total number of prescriptions divided by the total number of pills.

Differences between the usual-and-customary (retail) price and the discounted price were calculated both in terms of dollars and rate of discount for each drug. In cases where the discount card price was higher than the average usual-and-customary retail price, the lower price is always charged, so savings for that prescription were calculated as zero. (Discount cardholders do not pay more than the usual-and-customary retail price of a medication.) To calculate the overall price savings and percentage of discount across all 124 drugs and average for brand and generic drugs, savings were weighted by relative number of claims within this list, so that higher-use prescriptions would have more weight than those less-often used. In determining an overall average discount rate and savings for discount cardholders, each PBM was weighted according to the number of claims provided for the research. Further, in any comparisons across

type of pharmacy or state location, all prescriptions were adjusted to a standardized number of pills, the average for either generic or brand, unless otherwise noted.

For the stratified analyses (i.e., rural vs. nonrural state and pharmacy type), the average prices, discounts, and claims were determined based on the same mix of medications and number of pills that was used to calculate overall averages. Therefore, differences in price reflect only price, not a difference in the mix of drugs.

The historical retail and discounted prices were then applied to several common medical scenarios that occur in the senior population. These scenarios were developed by the research team and then reviewed by clinical experts prior to the analysis to ensure they were relatively common combinations of illnesses and that they represented appropriate medication use. We calculated the overall retail price and dollar savings for several individuals with a set of complex conditions to mimic real-world conditions, based on the retail and discount price per pill for a particular medication, multiplied by the most common daily dose and a month's (30 days) use.

In costing these clinical scenarios, we calculated savings after adding in pro-rated annual enrollment and/or monthly fees averaged across discount cards. Because several of the discount programs among those analyzed do not charge an annual or monthly fee for use of the card, the average cost per card was estimated to be \$1 per month overall. This fee is reflected in the clinical scenarios, but not in the prices listed in Tables 1-4.<sup>1</sup> Also, at the time of the study, one or more of the discount card programs had a feature that provided a small cash rebate to consumers for purchase of particular drugs; these were not included in the price calculations, and thus for a small portion of brand medications, discount card savings may be understated.

## Results

**Table 1** displays the historical average usual-and-customary retail prices for generic and brand prescriptions, by rural versus urban state and type of pharmacy within each location. Rural states accounted for approximately 15 percent of all claims. Independent pharmacies accounted for approximately 18 percent of claims in urban states and 19 percent of claims in rural states. All prices are based on a standard number of pills per claim for generic and for brand, as noted in the table.

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<sup>1</sup> Because the card fee, if any, covers all prescriptions filled in a year, the actual cost of the card on a per-prescription basis would be the annual fee divided by the total number of prescriptions filled by that individual.

**Table 1: Comparison of usual-and-customary retail price per claim by location and type of pharmacy (n=3.5 million claims)**

	Urban states (84.7% of all claims)		Rural States (15.3% of all claims)	
	Chain	Independent	Chain	Independent
<b>Average retail usual-and-customary price per generic prescription</b>	\$26.22	\$33.18	\$26.49	\$32.73
<b>Average retail usual-and-customary price per brand prescription</b>	\$79.62	\$82.69	\$79.72	\$81.05

Note: Prices shown are adjusted to the average number of pills per generic prescription (34.3), brand prescription (49.2).

Table 1 shows how the usual-and-customary (retail) price differed across location and type of pharmacy. Retail prices were higher in independent pharmacies in both urban and rural states. The greatest difference in retail prices was between independent and chain pharmacies for generic medications. Generic medications in urban state independent pharmacies were on average 26 percent higher than in chain pharmacies (\$33.18 versus \$26.22); similar differences existed in rural states. The highest retail prices were found for brand drugs sold by independent pharmacies in urban states. Because the data are case-mix adjusted (each average price was based on the distribution of all drugs sold across the discount programs), the results reflect price differences rather than differences in the mix of medications sold most often in different locations or types of pharmacies. Differences in usual-and-customary retail prices across pharmacy type and location may be a function of labor, rent, insurance, or other operating costs, or differences in the overall average number of pills sold per prescription. Our study did not seek to address the reasons for the reported differences. Further, by measuring urban and rural areas by using state-level population measures, variation that exists within states between urban and rural markets is underestimated.

Table 2 shows overall discount rates and dollar savings from the card programs included in our analysis, exclusive of any card fees to the consumer (estimated to average \$1 per month across all cards). These prices are again based on one standard mix of medications, derived from the number of overall claims. They are weighted across PBMs according to the relative number of claims provided by each.

**Table 2: Overall average dollar savings and discount rate with card program, by generic and brand status: All pharmacy types and locations (n=3.5 million claims)**

	Average retail price	Average discount price	Average dollar savings	Average percentage savings
<b>Generic prescription</b>	\$27.56	\$20.54	\$7.02	25.5%
<b>Brand prescription</b>	\$80.11	\$68.90	\$11.21	14.0%
<b>Total all prescriptions</b>	\$65.63	\$55.58	\$10.05	15.3%

In terms of prescription card discount rates, generic medications were discounted at a much greater rate than were brand, 25.5 percent versus 14 percent, respectively. While the percent saved was higher for generic than brand medications, the actual savings are only a few dollars different because of the much higher retail cost of brand drugs. For the top 124 drugs used in the analysis, the average dollar savings per prescription was \$7.02 for generic drugs and \$11.21 for brand drugs. This underscores the importance of going beyond discount rates as a measure of savings to look at dollar savings associated with discount cards.

Table 3 examines discounts by brand/generic and pharmacy type. The table indicates important differences in discount rates, especially by type of pharmacy, implying that discount cards affect chain and independent pharmacies differently. Average prices were all based on the same mix of medications, strength per pill, and number of pills per claim.

**Table 3: Average dollar savings and discount rate with card program when purchased at pharmacy, by generic and brand status and type of pharmacy**

Type of pharmacy	Average retail price	Average discount price	Average dollar savings	Average percentage savings
<b>Chain pharmacies</b>				
Generic prescription	\$26.30	\$20.38	\$5.92	22.5%
Brand prescription	\$79.72	\$69.02	\$10.70	13.4%
Generic and brand total	\$64.50	\$55.27	\$9.23	14.3%
<b>Independent pharmacies</b>				
Generic prescription	\$33.11	\$20.82	\$12.29	37.1%
Brand prescription	\$82.64	\$68.87	\$13.77	16.7%
Generic and brand	\$69.05	\$55.74	\$13.31	19.3%

Note: Prices shown are the average per claim for the category, adjusted to a standard mix of medications and a standard number of pills per claim for generic drugs and for brand drugs.

The above table again shows retail prices for independent pharmacies to be higher than chain pharmacies, but this time compares them to discount prices. Because the discount card price is generally a standard negotiated rate regardless of the type of pharmacy, the discount realized at independent pharmacies was on average considerably greater than at chain pharmacies. This is particularly true in the case of generic drugs, where savings were 37.1 percent at independent pharmacies (\$33.11 discounted to \$20.82 average discount price), compared to chain pharmacies, where the discount was 22.5 percent (\$26.30 discounted to \$20.38). The average savings for brand drugs was also greater at independent pharmacies than at chain pharmacies, 16.7 percent versus 13.4 percent. Thus, independent pharmacies likely experience a greater fall in revenue than do chain stores when selling discounted prescriptions through these national discount card programs. However, this is because of generally higher base retail prices at independent pharmacies that are replaced by standard negotiated discount card prices.

Table 4 shows actual average prices and savings across all claims for the highest selling generic and brand prescriptions within our sample. The prices were averaged across all prescriptions dispensed for a particular medication preparation, and the prices and savings reflect the average number of pills per day per prescription for the particular medication listed.<sup>1</sup> Again, this is a comparison of historical average prices only for that medication and does not include the cost to the consumer of purchasing the discount card nor does it represent a standardized one-month supply.

**Table 4: Discount card savings for an average prescription for top selling drugs, for all states and type of pharmacy (Discount price reflects retail prices only, mail order excluded<sup>2</sup>)**

	<b>Average retail price</b>	<b>Average discount card price</b>	<b>Average dollar savings</b>	<b>Average percentage discount</b>
<b>Brand drugs:</b>				
<b>Lipitor 10 mg.</b>	\$81.79	\$73.23	\$8.56	10.5%
<b>Fosamax 70 mg.</b>	\$82.29	\$70.69	\$11.60	14.1%
<b>Norvasc 5 mg.</b>	\$57.96	\$50.31	\$7.64	13.2%
<b>Premarin 0.625 mg.</b>	\$39.58	\$35.12	\$4.46	11.3%
<b>Plavix 75 mg.</b>	\$123.08	\$108.34	\$14.73	12.0%
<b>Generic drugs:</b>				
<b>Furosemide 40 mg.</b>	\$9.96	\$6.03	\$3.93	39.5%
<b>Propoxyphene /APAP 100/6 mg.</b>	\$25.42	\$15.36	\$10.06	39.6%
<b>Metoprolol 50 mg.</b>	\$18.97	\$7.82	\$11.15	58.8%
<b>Hydrocodone/APAP 5/5 mg.</b>	\$18.38	\$9.84	\$8.53	46.4%
<b>Triamterene/HCTZ 37</b>	\$17.61	\$15.01	\$2.60	14.8%

Table 4 indicates that with use of discount card programs, average prescription drug savings differed both across and within brand and generic group. For example, dollar savings across brand drugs ranged from an average of \$4.46 for Premarin to \$14.73 for Plavix, and the percentage discounted was found to range between 10.5 and 14.1 percent. On the other hand, while the average dollar savings for generic drugs was in many cases similar to that in brands, the percentage of savings shown was noticeably higher, ranging from 14.8 percent for triamterene/HCTZ to as high as 58.8 percent for metoprolol. This wide range of dollar and percent savings depends upon many factors. It is important to remember, however, that usual-and-customary retail prices are set by pharmacies, and discount card prices generally apply on a national basis.

<sup>1</sup> With the exception of Fosamax 70 mg., the number of pills in an average prescription is greater than 30.

<sup>2</sup> Discount card mail order prices for these drugs average 16.6 percent lower than discount card prices at retail pharmacies.

## Impact of discount cards on seniors: Clinical scenarios

More than half of the elderly population report having three or more chronic conditions, many of which include considerable use of medication therapy (Stuart *et al*, 2000). Hence, concurrent treatment of several conditions is rather common in the elderly. We used the above data to calculate an expected savings from use of a prescription drug discount card for individuals with several different conditions. For seniors without prescription drug insurance, or with limited insurance, and who have several concurrent medical conditions, savings can be considerable in terms of out-of-pocket dollars.

As with Mary Smith at the beginning of this report, the following stories are fictitious, but illustrate actual savings that could be realized for different individuals using discount cards. Scenarios were developed by the researchers prior to obtaining any historical pricing information from PBMs. They include a \$1-per-month average cost to the consumer for the discount card:

*Example 1: A 65-year-old man with asthma and high cholesterol. His current medications include: Advair (a combination of long acting beta agonist and corticosteroid), a short-acting inhaled beta-agonist, albuterol, and Zocor. Depending upon where this man lives, and where he has his prescriptions filled, his annual savings could be:*

### *Prescription Expense per Year:*

	Urban states		Rural states	
	Chain	Independent	Chain	Independent
<b>Retail price</b>	\$3684.12	\$3796.56	\$3646.56	\$3732.36
<b>Discounted price (including cost of card)</b>	\$3164.64	\$3101.04	\$3135.72	\$3105.96
<b>Dollar savings</b>	\$519.48	\$695.52	\$510.84	\$626.40
<b>Percentage savings</b>	14.1%	18.3%	14.0%	16.8%

The above fictitious experience illustrates several important issues related to use of discount cards. First, depending upon where an individual resides and the pharmacy chosen, retail prices can vary for the same mix of drugs: from \$3,647 to \$3,797 per year. Savings are highest in this case for pharmacies with higher retail prices. Urban state independent pharmacies have the highest retail prices and show the largest savings at 18.3 percent. Rural state independent pharmacies have the second-highest retail prices and show the second-largest savings at 16.8 percent. Chain pharmacies, both urban and rural states, show savings of about 14 percent. Additional clinical scenarios illustrate similar experiences, across a range of locations and pharmacies:

*Example 2: A 71-year-old woman with Alzheimer's disease and an uncomplicated urinary tract infection. Her current medications include Aricept, Zithromax, and Detrol LA. Annual savings are:*

**Prescription Expense per Year:**

	Urban states		Rural states	
	Chain	Independent	Chain	Independent
<b>Retail price</b>	\$3521.16	\$3667.68	\$3508.32	\$3571.32
<b>Discounted price (including cost of card)</b>	\$2982.96	\$2993.28	\$2984.04	\$2982.48
<b>Dollar savings</b>	\$538.20	\$674.40	\$524.28	\$588.84
<b>Percentage savings</b>	15.3%	18.4%	14.9%	16.5%

*Example 3: A 74-year-old man with chronic depression, an acute flare-up of chronic bronchitis, a gastric ulcer, and arthritis. His medications include albuterol, Zithromax, Celexa, Celebrex, and Prilosec. Annual savings are:*

**Prescription Expense per Year:**

	Urban states		Rural states	
	Chain	Independent	Chain	Independent
<b>Retail price</b>	\$4431.96	\$4703.76	\$4426.08	\$4678.80
<b>Discounted price (including cost of card)</b>	\$3857.40	\$3886.56	\$3870.84	\$3883.20
<b>Dollar savings</b>	\$574.56	\$817.12	\$555.24	\$795.60
<b>Percentage savings</b>	13.0%	17.4%	12.5%	17.0%

These clinical scenarios, as well as the one at the beginning of the paper, show that for an older individual with no prescription drug insurance or only insurance for catastrophic costs who is taking numerous prescriptions concurrently, the discount card can result in considerable savings. Savings will differ based on the mix of conditions that an individual has, as well as his or her place of residence and the pharmacy used. Nevertheless, overall savings for individuals with common sets of conditions as described above could range from 12 percent to more than 18 percent. The clinical vignette at the front of the paper represents an urban independent pharmacy, with savings of 21 percent.

**Implications for public policy**

This research shows that the amount saved through use of national prescription drug discount cards is highly dependent upon the type of pharmacy, the type of prescription drug being considered, and to a lesser extent, the state of purchase. Historic retail and discount card prices have been analyzed based on actual prices reported directly from pharmacies to the PBMs and are based on all card sales in a national network for a three-month period. Average prices also have been standardized for use across region and type of pharmacy, resulting in an accurate representation of price comparisons on a national level, across prescriptions dispensed, including various numbers of pills dispensed.

With this method, we show discount card savings to be considerable, and somewhat greater than that indicated in a 2001 GAO survey of pharmacy prices in several market areas, based on 17 medications. Further, our study shows that discount card prices at independent pharmacies reflected a greater discount from retail prices than at chain pharmacies. Retail prices for medications may differ across type of pharmacy and state due to retail pricing strategies and policies and the differences in the cost of doing business. Also, generic discount rates were much greater than that of brand. However, because of the much higher-base cost of brand drugs, the dollar savings are often similar between brand and generic drugs.

Another finding of this research is that discounts in states with a higher proportion of population in rural areas are similar to those in more urban states. This is particularly important in view of the fact that one of the issues in the debate over adding a prescription drug benefit to Medicare is the extent to which rural Americans would benefit as much as those in urban areas. Our study data demonstrate that average savings achieved through use of PBM-administered cards in rural states were as great as that experienced in states classified as urban.

Further, when real-world scenarios are applied to discount card savings in the programs studied, the amount saved with discount cards can be considerable. The cards studied provided substantial savings to the uninsured compared to prices charged to cash-paying customers. This is an important approach to understanding the full impact of prescription drug discounts for seniors and others who purchase medications using these programs.

The card programs studied in this research do not necessarily represent prices or savings for all discount cards. Several prescription drug discount cards have been scrutinized for providing lower discounts than advertised. In fact, a recent audit of a prescription drug discount program in Wayne County, Michigan found that the program did not save seniors money at all (KFF, "Wayne County," 2002; NYS Attorney General, August 13, 2002). Unlike some prescription drug discount card programs, the cards in this study are available in all regions. Because card programs vary across sponsor and sector, the discounts found through the cards in this paper and their availability may not be the same as other programs. This underscores the importance of understanding the true discount value of card programs that might be endorsed through a Medicare program.

The average discounts found in this study of 14 percent for brand drugs and 25.5 percent for generic drugs are considerably less than discounts for the insured population as most recently reported in a report by the GAO on PBM-administered insurance plans (18 percent below retail for selected brand drugs and 47 percent below retail for selected generic drugs) (GAO, 2003). Because discount card programs are not part of an insurance benefit, drug manufacturers typically provide a lower level of rebates. The comparison suggests that negotiated discounts as part of a Medicare drug benefit could be even greater. At any rate, while savings on prescription drug purchases through a PBM-administered discount card may be smaller than negotiated insurance program prices, the discount provides greater equity among the insured and uninsured in terms of overall market prices set by pharmacies.

In terms of access, studies show that individuals respond to price differences in drugs by buying more medications when they are less expensive. Uninsured seniors purchase

approximately 30 percent fewer medications than those with insurance, even adjusting for health status and income (Poisal and Murray, 2001). And even small increases in copayments for insured individuals often can change the patterns of consumption of medications (Motheral et al, 2001; Thomas et al, 2002; Joyce et al, 2002). Savings on the scale shown in this study may thus encourage uninsured or underinsured individuals to purchase more of their needed medications.

At the same time, in spite of the average of sizeable discounts found in this study through use of the PBM-sponsored discount cards, it is important to remember that uninsured individuals with high medication use, like our examples above, may still face monthly out-of-pocket costs above \$250. As more drug innovations enter the market, the need for a Medicare prescription drug benefit only can increase.

As Congress and the administration grapple with how to fund and deliver a prescription drug benefit for Medicare beneficiaries, it is clear that even those plans with the greatest Federal expenditures will leave substantial member out-of-pocket costs. Discounts cards can be an important feature to reduce the cost of medications within corridors of no coverage (e.g. below required deductibles or at expenditure levels with no coverage). In the interim, discount card savings illustrated by the national programs studied here can help offer savings to those individuals who have minimal or no insurance coverage.

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Appendix. List of medications used in the analysis, arranged alphabetically.

1. ACCUPRIL 20MG TABLET
2. ACCUPRIL 40MG TABLET
3. ACIPHEX 20MG TABLET
4. ACTONEL 5MG TABLET
5. ACTOS 30MG TABLET
6. ACTOS 45MG TABLET
7. ADVAIR 250/50 DISKUS
8. ALBUTEROL 90MCG INHALER
9. ALPHAGAN 0.2% EYE DROPS
10. ALTACE 10MG CAPSULE
11. ALTACE 5MG CAPSULE
12. AMARYL 4MG TABLET
13. AMBIEN 10MG TABLET
14. AMBIEN 5MG TABLET
15. AMIODARONE HCL 200MG
16. ARICEPT 10MG TABLET
17. ARICEPT 5MG TABLET
18. AUGMENTIN 875-125 TABLET
19. AVANDIA 4MG TABLET
20. AVANDIA 8MG TABLET
21. AVAPRO 150MG TABLET
22. CARISOPRODOL 350MG TABLET
23. CELEBREX 100MG CAPSULE
24. CELEBREX 200MG CAPSULE
25. CELEXA 20MG TABLET
26. CIPRO 500MG TABLET
27. CLARITIN 10MG TABLET
28. COMBIVENT INHALER
29. COSOPT EYE DROPS
30. COUMADIN 5MG TABLET
31. COZAAR 50MG TABLET
32. DETROL 2MG TABLET
33. DETROL LA 4MG CAPSULE
34. DILANTIN 100MG CAPSULE
35. DILTIAZEM HCL 240MG
36. DIOVAN 80MG CAPSULE
37. DIOVAN HCT 160/12.5MG
38. ENALAPRIL MALEATE 10MG
39. ENALAPRIL MALEATE 20MG
40. ENALAPRIL MALEATE 5MG
41. EVISTA 60MG TABLET
42. FLOMAX 0.4MG CAPSULE
43. FLOVENT 110MCG INHALER
44. FLUOXETINE 20MG CAPSULE
45. FOSAMAX 10MG TABLET
46. FOSAMAX 70MG TABLET
47. FUROSEMIDE 40MG TABLET
48. GEMFIBROZIL 600MG TABLET
49. GLUCOPHAGE 1000MG TABLET
50. GLUCOPHAGE 500MG TABLET
51. GLUCOPHAGE 850MG TABLET
52. GLUCOPHAGE XR 500MG
53. GLUCOTROL XL 10MG TABLET
54. GLUCOVANCE 5/500MG TABLET
55. GLYBURIDE 5MG TABLET
56. HUMULIN 70/30 VIAL
57. HUMULIN N 100U/ML VIAL
58. HYDROCODONE/APAP 5/5
59. HYZAAR 100-25 TABLET
60. HYZAAR 50-12.5 TABLET
61. ISOSORBIDE MN 30MG TABLET
62. ISOSORBIDE MN 60MG TABLET
63. K-DUR 20MEQ TABLET SR
64. K-LOR-CON M20 TABLET
65. LESCOL 40MG CAPSULE
66. LEVAQUIN 500MG TABLET
67. LIPITOR 10MG TABLET
68. LIPITOR 20MG TABLET
69. LIPITOR 40MG TABLET
70. LORAZEPAM 0.5MG TABLET
71. LORAZEPAM 1MG TABLET
72. LOTREL 5/10MG CAPSULE
73. LOTREL 5/20MG CAPSULE
74. METOPROLOL 50MG TABLET
75. MIACALCIN 200U NASAL
76. NEURONTIN 300MG CAPSULE
77. NEXIUM 40MG CAPSULE
78. NIFEDIPINE ER 30MG TABLET
79. NORVASC 10MG TABLET
80. NORVASC 5MG TABLET
81. OXYCONTIN 20MG TABLET
82. OXYCONTIN 40MG TABLET
83. PAXIL 10MG TABLET
84. PAXIL 20MG TABLET
85. PLAVIX 75MG TABLET
86. POTASSIUM CL 10MEQ C
87. PRAVACHOL 20MG TABLET
88. PRAVACHOL 40MG TABLET
89. PREMARIN 0.625MG TABLET
90. PREMARIN 1.25MG TABLET
91. PREMPRO 0.625/2.5MG
92. PREVACID 15MG CAPSULE
93. PREVACID 30MG CAPSULE
94. PRILOSEC 20MG CAPSULE
95. PROPOXYPHENE/APAP 100/6M
96. PROSCAR 5MG TABLET
97. PROTONIX 40MG TABLET
98. SEREVENT 21MCG INHALER
99. SINGULAIR 10MG TABLET
100. SYNTHROID 100MCG TABLET
101. TAMOXIFEN 10MG TABLET
102. TAMOXIFEN 20MG TABLET
103. TOPROL XL 100MG TABLET
104. TOPROL XL 50MG TABLET
105. TRIAMTERENE/HCTZ 37
106. ULTRAM 50MG TABLET
107. VERAPAMIL 240MG TABLET
108. VIAGRA 100MG TABLET
109. VIOXX 12.5MG TABLET
110. VIOXX 25MG TABLET
111. WARFARIN SODIUM 5MG
112. XALATAN 0.005% EYE DROPS
113. ZESTRIL 10MG TABLET
114. ZESTRIL 20MG TABLET
115. ZESTRIL 40MG TABLET
116. ZESTRIL 5MG TABLET
117. ZITHROMAX 250MG Z-PA
118. ZOCOR 10MG TABLET
119. ZOCOR 20MG TABLET
120. ZOCOR 40MG TABLET
121. ZOCOR 80MG TABLET
122. ZOLOFT 100MG TABLET
123. ZOLOFT 50MG TABLET
124. ZYRTEC 10MG TABLET