

# Comparison of Mail-Order With Community Pharmacy in Plan Sponsor Cost and Member Cost in Two Large Pharmacy Benefit Plans

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## ABSTRACT

**BACKGROUND:** Pharmacy benefit managers (PBMs) play a major role in administering prescription drug benefit programs for health plans and employers. PBMs have often encouraged the use of self-owned mail-order pharmacy services with the promise to plan sponsors of lower prescription drug costs compared with those of the community pharmacy network. Some plan sponsors have requested a higher degree of disclosure of contract relationships and transparency in pricing. Unfortunately, little research exists based on empirical data to determine the net plan cost and member cost for mail-order drugs, as opposed to having these drugs dispensed by community pharmacies.

**OBJECTIVES:** To determine the difference between mail-order and community pharmacy in the (1) payment (cost) per day of drug therapy for the plan sponsor and for the member for the highest expenditure therapeutic classes, (2) generic dispensing ratios for all drugs and for a comparative market basket of drugs, and (3) cost per unit for the top 20 generic drugs dispensed through the mail-order channel.

**METHODS:** Pharmacy claim records were obtained from 2 publicly financed pharmacy benefit plans in Texas for fiscal year 2004 (September 1, 2003, through August 31, 2004). There were approximately 460,000 members in Plan A and 177,000 members in Plan B. Pharmacy cost per day (product costs plus dispensing fees, divided by days supply) was calculated for each drug in the 30 highest expenditure therapeutic categories and aggregated for mail-order and community pharmacy channels for each plan. Differences in the mail-order and community pharmacy cost per day were calculated for each drug (adjusted for dosage) in the therapeutic category and weighted by the product's share of mail-order therapy days within the therapeutic category. A weighted cost per day for each therapeutic category was calculated with a comparison of what the cost would have been for plan cost and member cost if all mail claims had been paid based on the community pharmacy cost per day. Comparison of the cost per day helped control for differences in quantity dispensed per day per product and for product mix within each therapeutic category. Descriptive analyses were conducted to compare generic dispensing ratios between (1) all mail-order and community pharmacy claims, and (2) a market basket of therapeutic categories most commonly found within the mail-order channel. Finally, the difference in price per unit was calculated between mail-order and community pharmacy channels for the top 20 generic drug products.

**RESULTS:** Mail-order drugs accounted for 34.4% of overall pharmacy benefit spending, including plan cost and member cost, in Plan A and 43.4% for the market basket of drugs compared with 56.0% of overall spending and 63.1% for the market basket in Plan B. When comparing the cost per day for the top therapeutic categories, the authors found the plan sponsor cost was higher for mail-order than for the community pharmacy channel for approximately half of the top therapeutic categories. This result contributed to a 0.5% higher plan cost per day for mail-order (\$1.24) than for community pharmacy (\$1.23) for Plan A but a 0.4% lower plan cost per day for Plan B (\$1.43 for mail-order vs. \$1.44 for community pharmacy). The member cost was lower for mail-order than for community pharmacy for almost every therapeutic category, and overall was 29% lower in Plan A (\$0.73 per day for mail-order vs. \$1.03 for community pharmacy) and 37% lower in Plan B (\$0.52 for mail-order vs. \$0.82 for community pharmacy). For all claims, the generic dispensing ratios were lower in the mail-order channel than in the community pharmacy channel (37.7% vs. 49.0% for Plan A and 34.7% vs. 45.0% for

Plan B). The cost per unit (tablet, capsule, etc.) for the top 20 generic drug products dispensed by mail order was 16.5% lower than community pharmacy for the plan sponsor in Plan A but 18.0% higher in Plan B; member cost was 29.9% lower in Plan A for mail order and 34.0% lower in Plan B. Comparing plan and member costs combined, 9 of 20 (45%) of the generic prices were higher through mail order in Plan A, and 10 of 20 (50%) were higher through mail order in Plan B.

**CONCLUSIONS:** Overall, savings from lower unit pricing through the mail-order channel benefited the member and did not translate into significant cost reductions for the plan sponsor. In both pharmacy benefit plans, the plan sponsor either realized small savings or incurred slightly higher costs when paying for drugs in the top therapeutic categories through the mail-order channel. Some generic drug prices are higher through mail-order pharmacy than through community pharmacy, and 1 of the 2 plans in this study paid higher net costs after member cost share for generic drugs through mail order.

**KEYWORDS:** Mail-order pharmacy, Community pharmacy, PBM, Pharmacy benefits, Net costs

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Increased coverage and rising expenditures for prescription drugs have led to the increased use of pharmacy benefit managers (PBMs), which contract with employers and health plans to administer their prescription benefit programs. The PBM industry has evolved over the last 3 decades from providers of community pharmacy network coordination and claims administration services to large publicly owned companies marketing an array of services. PBMs now routinely offer clients expanded services such as drug formulary development, manufacturer rebate negotiation and collection, specialty pharmaceutical distribution, and mail-order prescription delivery options.

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As the PBM industry has grown, the largest of these firms have built considerable market leverage with drug manufacturers and community pharmacies by accumulating prescription drug transaction volume. Because of their unique position within the pharmacy marketplace, PBMs have identified and capitalized on revenue streams arising from this transaction volume, resulting in a complex business model. For instance, over the last decade, large PBMs have generated the majority of their gross margin dollars not from administrative fees collected from clients, but from retained rebates collected from manufacturers and margin derived from mail-order pharmacy operations.<sup>1,2</sup>

The profitability of PBMs has contributed to greater scrutiny of the business model and calls from plan sponsors for more transparency in the relationships between PBMs and their contractors, including community pharmacies and pharmaceutical manufacturers.<sup>3</sup> This transparency can include disclosure of all direct and indirect revenue streams that a PBM realizes from representing the plan sponsor in fulfilling the contracted services. A lack of disclosure of additional revenue streams by the PBM may disadvantage the plan sponsor in its negotiation with the PBM to obtain favorable prices. The absence of disclosure and transparency may contribute to suspicion and accentuate the divergence of financial incentives for PBMs versus for pharmacy plan sponsors. It may also create difficulties for the plan sponsor in comparing the value of services between competing PBMs as part of the contracting process.

### ■ The Mail-Order Option

A popular mechanism touted by PBMs to control prescription drug costs is mail-order prescription delivery as an alternative to traditional community pharmacies. The mail-order pharmacy option has become a core component of the business model for PBMs that own their own mail-order pharmacies, since they profit directly from mail-order dispensing. Ownership of mail-order pharmacies has contributed significantly to the profitability of the 3 largest publicly owned PBMs. In presentations to Wall Street analysts, PBMs have highlighted their ability to drive generic drug products through these facilities as a growing contributor to the firms' overall profit margin.<sup>4</sup> Furthermore, because of generic pricing structures negotiated between the PBM and the plan sponsor, PBMs typically realize significantly higher margins on generic drug products dispensed through their mail-order channels than through reimbursement of community pharmacies within the PBM's provider network for similar generic products.<sup>5</sup> A recent study by the Federal Trade Commission acknowledged this additional revenue stream to PBMs as the result of favorable contracting with plan sponsors.<sup>6</sup> The favorable contract terms typically involve maximum allowable cost (MAC) pricing for community pharmacies but not for the mail-order pharmacy owned by the PBM.<sup>6</sup>

Plan sponsors have in some cases implemented the mandatory use of mail-order pharmacy despite the absence of evidence

### FIGURE 1 Data Fields Included in the Prescription Claims File

Data fields included in the prescription claims file:

- Date prescription dispensed (date of service)
- National drug code (ndc) number of product dispensed
- Metric quantity of drug dispensed
- Days supply of drug dispensed
- Mail order or community pharmacy indicator (where product was dispensed)
- Type of product (brand, multi-source, or generic)
- Ingredient cost of product paid by plan (prior to any rebates)
- Dispensing fee paid by plan
- Member deductible paid (if any)
- Member copayment paid

that the mail-order option costs less than the community pharmacy. Carroll, in a recent commentary, highlighted the need for actual claims-based studies that measure the economic impact of mail-order pharmacy services.<sup>7</sup> One of the few published studies found instances where costs borne by the plan were higher for the same market basket of drugs dispensed through mail-order than for the community pharmacy. While the study noted that the analysis was conducted within a small plan (approximately 100,000 enrollees) with fewer than 45,000 mail claims analyzed, the authors suggested that this example might indicate payment patterns found in other plans.<sup>8</sup>

### ■ Purpose and Objectives

We conducted this study because of the lack of published research that investigates use trends and payment patterns for prescription drugs between mail-order and community pharmacy channels of distribution within a pharmacy benefit program. The objectives were to determine differences between mail-order and community pharmacy in (1) the cost per day of drug therapy for the plan sponsor and for the member for the highest expenditure therapeutic classes, (2) generic dispensing ratios for all drugs and for a comparative market basket of drugs, and (3) cost per unit for the top 20 generic drugs dispensed through the mail-order channel.

### ■ Methods

#### Data Source and Plan Characteristics

Paid pharmacy claims from 2 state-financed pharmacy benefit programs in Texas (identified as Plan A and Plan B) from state fiscal year 2004 were analyzed to investigate differences in drug use and expenditure patterns between mail-order and community pharmacy channels of drug distribution. These 2 pharmacy benefit plans included high proportions of enrollees who used chronic drug therapies. These chronic (maintenance) therapies are often the types of medications that patients may request through the

**TABLE 1** Description of Pharmacy Benefits for Plan A and Plan B

Copayment Description	Plan A 460,000 Members*	Plan B 177,000 Members*
	Copayment (\$)	Copayment (\$)
Tier 1 community (acute)	10	10
Tier 2 community (acute)	25	25
Tier 3 community (acute)	40	40
Tier 1 community (maintenance)	15	N/A†
Tier 2 community (maintenance)	35	N/A
Tier 3 community (maintenance)	55	N/A
Tier 1 mail order	30	20
Tier 2 mail order	75	50
Tier 3 mail order	120	80

\* Average membership and copayments in effect during the period for pharmacy claims with dates of service from September 1, 2003, through August 31, 2004. Community pharmacy prescriptions were limited to a maximum 30-day supply and mail-order prescriptions limited to a maximum 90-day supply.

† Plan B had no differentiation in acute versus maintenance drugs obtained from community pharmacies.

N/A = not applicable.

PBM's mail-order channel due to the long-term nature of their use. The high use of mail-order services within these 2 pharmacy benefit plans permitted adequate comparisons over a large number of drug classes.

Paid pharmacy claim records representing 12 months of use history for each plan were supplied to the researchers through a public information request; these files consisted of 5.1 million claims for Plan A and 3.6 million claims for Plan B (September 1, 2003, through August 31, 2004, for both). No personally identifiable medical information was collected as part of these analyses (Figure 1), and Institutional Review Board exemption for this research was obtained.

Plan A had approximately 460,000 members during fiscal year 2004. Plan A had a 3-tier copayment design with different copayment amounts for acute versus maintenance medications in community pharmacy (Table 1). The pharmacy benefit in Plan B had approximately 177,000 members consisting of retirees and their dependents, and also had a 3-tier copayment design but without differentiation of acute versus maintenance medications in community pharmacy. These copayment designs resulted in a 2-to-1 ratio of copayments for mail-order (90-day supply) versus for community pharmacy (30-day supply) for all drugs in Plan B. For Plan A, the copayment ratios for maintenance drugs were 2-to-1 for tier 1 (generic) drugs, 2.14-to-1 for tier 2 (formulary) drugs, and 2.18-to-1 for tier 3 (nonformulary) drugs (Table 1).

**Average Payment Per Day Within Therapeutic Categories**

The 2 delivery channels were compared with respect to the average payment (cost) per day of drug therapy (product cost plus dispensing fee, divided by days supply) by both plans for the 30 highest expenditure therapeutic categories dispensed within the mail-order channel. We assigned drugs to therapeutic categories based on a classification system used by the Texas Medicaid Vendor Drug Program. This list consisted of 81 therapeutic categories that grouped drugs based on their interchangeability and common uses as determined by clinicians. The payment per day for the top therapeutic categories of prescriptions dispensed within mail-order pharmacy was calculated and compared with the calculated payment per day for community pharmacy prescriptions within the same therapeutic class. To make fair comparisons, 3 levels of controls were used.

One, only the top 30 therapeutic categories (by expenditure) for prescriptions dispensed within the mail-order channel were selected for comparison, for practical purposes. These 30 categories accounted for more than 80% of all mail-order pharmacy payments during the fiscal year in both plans. Two, an adjustment was made to control for differences in daily doses dispensed across each product within each therapeutic category and between mail-order and community pharmacy. This allowed for an “apples-to-apples” comparison between mail-order and community pharmacy channels within the same therapeutic category. For example, with this adjustment, higher daily dosages of a product in one channel (potentially resulting in higher costs) compared with the other channel would not bias the comparison.

Three, the difference in the calculated payment per day between mail-order and community pharmacy channels was weighted by the total mail-order days supply for each product within the therapeutic category. We performed this weighting to allow for a calculation of the differences in payments (by both the plan sponsor and its members) based on the mail-order market share within therapeutic categories. In essence, we calculated the actual payments made by the plan sponsor and members through the mail-order channel, and compared those payments with what the cost per day would have been had those same prescriptions been filled within the network of community pharmacy. Details regarding this procedure can be found in Figure 2. These payment calculations do not include the effects of price concessions that might be negotiated between the PBM and drug manufacturers and paid to the PBM in the form of either mail-order purchase price discounts or in rebates for mail-order or community pharmacy dispensing. However, these data are not publicly available, and it is not known to what degree rebates that translate into mail-order discounts are shared by the PBM with the plan sponsor. It is possible that some of these discounts are reflected in the actual pharmacy claims used in the current analysis. Rebates that

might be shared are not expected to affect the comparison of mail-order with community pharmacy as measured by price per unit or price per day.

**Generic Dispensing Ratios**

Dispensed drug products were categorized by the plan as (1) single-source (patented) brand, (2) multisource (off-patent) brand, or (3) generic. These categories were used to calculate generic dispensing ratios. When comparing generic dispensing ratios between mail-order and community pharmacy networks, we needed to also control for differences in product mix between the 2 delivery channels. This control allowed for a more appropriate comparison, since many acute care drugs dispensed at community pharmacies are not dispensed through the mail-order pharmacy.

To control for product mix differences in the comparisons, we created a “market basket” of products by assigning drugs to one of the therapeutic categories based on the Texas Medicaid Vendor Drug Program classification system described above. Instead of limiting our comparison to the top 30 categories, we included as many therapeutic categories as possible for this analysis. Our essential criterion for inclusion of a therapeutic category was an adequate representation of claims within both mail-order and community pharmacy channels for that category. To limit the effect of products dispensed infrequently, a minimum of 100 mail-order claims within a therapeutic class was required for the class to be included in the comparison. Using this criterion, a total of 58 therapeutic categories in Plan A and 55 categories in Plan B were selected for the generic dispensing ratio analysis. Comparisons were made based on the percentage of generic claims, as well as the percentage of total days supply accounted for by generics to control for differences between the 2 channels in the quantity dispensed per prescription.

**Average Payment Per Unit for Generic Drugs**

On the basis of a report in the press regarding wide variances in unit (tablet, capsule, etc.) pricing for the same generic product dispensed by mail-order versus community pharmacy channels,<sup>5</sup> we were interested to determine if similar patterns would be found in a sample of the top generic products dispensed in both of the plans we studied. Therefore, we conducted a comparison of generic product payments by first aggregating by the generic code number (First DataBank) total payments (product costs plus dispensing fees) to mail-order or community pharmacy for generic products with the same active ingredient(s) and strength. For comparison, community pharmacy claims dispensed as a 30-day supply and mail-order claims dispensed as a 90-day supply for each active ingredient and strength (e.g., fluoxetine 20 mg) were included. Total payments in each channel (mail-order or community) were divided by the total units (tablets or capsules) dispensed by each channel to calculate an average unit payment amount (plan sponsor payment plus

**FIGURE 2** Calculation of Payment per Therapy Day

$$Y = B_0 + B_1x_1 + B_2x_2$$

Where,  $Y$  = Prescription Claim Payment / Days Supply  
 $B_0$  = Constant  
 $B_1$  = Coefficient of Mail-Order Claim  
 $x_1$  = Mail-Order Claim (0 = no, 1 = yes)  
 $B_2$  = Coefficient of Drug Product Dose  
 $x_2$  = Drug Product Dose

Regressions were run for each drug in each therapeutic class to derive a mail-order coefficient for each drug. The coefficient represents the dose-adjusted difference in daily payments between mail and community claims for each drug.

To arrive at the weighted payment difference per day the following calculation was conducted within each therapeutic class (with 3 drugs in the class, for example):

$$\text{Daily difference in drug payment per day for the therapeutic class} = \{[(B_1x_a) (\% \text{ of days in therapeutic class accounted for by Drug "a"})] + [(B_1x_b) (\% \text{ of days in therapeutic class accounted for by Drug "b"})] + [(B_1x_c) (\% \text{ of days in therapeutic class accounted for by Drug "c"})]\}$$

Where,  $B_1x_a$  = Mail-Order Daily Payment Difference of Drug “a” in class  
 $B_1x_b$  = Mail-Order Daily Payment Difference of Drug “b” in class  
 $B_1x_c$  = Mail-Order Daily Payment Difference of Drug “c” in class

*Description*

To achieve this adjustment, a linear regression model was constructed for each product across all therapeutic categories using the calculated payment per day as the dependent variable and daily dose and mail/community indicator as predictor variables. The coefficient calculated for the mail/community indicator provided the difference in daily payment between mail-order and community pharmacy, adjusted for differences in daily doses. A total of 221 regression models were created to produce the coefficients for each product within each of the 30 therapeutic categories found in Plan A. Finally, these coefficients were weighted for each product within each therapeutic category based on the proportion of therapy days accounted for by the product within the mail-order channel.

member payment) per specific generic product. Additionally, calculations compared the portion of the claim paid by the plan sponsor with the portion paid by the member. Our sample comprised the top 20 mail-order generic drugs separately, based on total mail-order payments during fiscal year 2004 for each plan. The generic product claims included in the samples represented 23.7% of all generic product payments (both channels) for Plan A, and 22.9% of all generic product payments for Plan B.

**Statistical Analyses**

Chi-square analyses were used to compare the proportions of prescriptions dispensed between mail-order and community pharmacy channels. An alpha level of  $P < 0.001$  was used for statistical significance. Descriptive statistics were reported for other analyses. All analyses were conducted with SPSS software, version 12.0.

**Results**

Table 2 provides a summary of prescription claims analyzed for this study. Comparisons are shown for total pharmacy claims (prescriptions dispensed), total therapy days (days supply), and total payments (product costs plus dispensing fees) for



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**TABLE 2** Pharmacy Claims Summary: Plan A and Plan B, State Fiscal Year 2004\*

		All Claims		Market-Basket Claims†	
		Mail Order	Community	Mail Order	Community
Plan A	Total Claims	811,884	4,301,173	586,646	1,976,643
		15.9%	84.1%	22.3%	77.7%
	Total therapy days	68,136,030	102,861,824	50,112,257	57,766,493
		39.8%	60.2%	46.5%	53.5%
	Average days supply per claim	83.9 days	23.9 days	85.4 days	29.2 days
	Total \$‡	121,524,182	231,636,694	97,970,184	127,608,425
		34.4%	65.6%	43.4%	56.6%
	Average member cost share	36.4%	41.5%	37.2%	44.7%
Plan B	Total claims	1,155,884	2,478,165	839,962	1,270,536
		31.8%	68.2%	39.8%	60.2%
	Total therapy days	99,157,418	62,043,576	73,693,042	37,630,139
		61.5%	38.5%	66.2%	33.8%
	Average days supply per claim	85.8 days	25.0 days	87.7 days	29.6 days
	Total \$‡	171,782,096	134,730,648	141,778,540	82,997,889
		56.0%	44.0%	63.1%	36.9%
	Average member cost share	26.3%	35.9%	26.2%	36.8%

\* September 1, 2003, through August 31, 2004.

† Comprising claims for the top 30 highest expenditure therapeutic categories by total payments in the mail-order channel, as defined by the Texas Medicaid Vendor Drug Program Preferred Drug List Categorization system. Products were assigned and aggregated to each therapeutic category based on a link between the category and the product's generic code number. These claims formed the sample of claims used in the therapeutic category analysis presented in Tables 3 and 4. After aggregating all mail-order claims to a category, a total of 58 categories were identified for Plan A and 55 categories for Plan B. Generic dispensing ratios were calculated based on this larger sample of therapeutic categories in Tables 5 and 6.

‡ Total dollars includes plan cost and member cost.

those prescriptions. Mail order accounted for approximately \$121.5 million of total pharmacy benefit spending of \$353 million (34.4%) in Plan A and \$171.8 million of \$306.5 million (56.0%) in Plan B in the 12-month period ending August 31, 2004. The average days supply per pharmacy claim was 23.9 days at community pharmacy for Plan A and 25.0 days for Plan B. The average days supply per pharmacy claim was 83.9 days at mail order for Plan A and 85.8 days for Plan B.

The cost per day analyses include a comparative market basket of drugs representing the 30 highest expenditure therapeutic categories (based on total mail-order payments). The market basket of drugs accounted for 81% of total mail-order payments in Plan A and 83% of total payments in Plan B.

### Plan Cost and Member Cost Share

Average member cost share differed between the 2 pharmacy benefit plans. Overall, members paid an average of 36.4% of total mail-order pharmacy costs and 41.5% of total community pharmacy costs in Plan A, and 26.3% of mail-order costs and 35.9% of community pharmacy costs in Plan B (Table 2). By type of drug and channel of distribution, average member cost

share was greater for community pharmacy compared with mail-order pharmacy for brand drugs (39% vs. 35%), for off-patent brand drugs (59% vs. 55%), and for generic drugs (51% vs. 45%) in Plan A (Figure 3). By drug and channel of distribution for Plan B, average member cost share was also greater for community pharmacy compared with mail-order pharmacy for brand drugs (33% vs. 25%), for off-patent brand drugs (57% vs. 30%), and for generic drugs (48% vs. 37%) (Figure 4).

The average total payment (allowed charge) per pharmacy claim was 11.5% lower for community pharmacy generic drugs in Plan B (\$18.60, Figure 4) than in Plan A (\$21.01, Figure 3). The average total payment per pharmacy claim was 14.6% lower for mail-order generic drugs in Plan B (\$46.52, Figure 4) than in Plan A (\$54.45, Figure 3). The price differences per pharmacy claim between the two pharmacy benefit plans for brand drugs by channel of distribution were 3% or less, except for off-patent brand drugs.

### Average Cost Per Day Within Therapeutic Categories

Tables 3 and 4 show the weighted differences in payment per

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day of therapy within the top 30 therapeutic drug categories for the plan sponsor and the member (through copayments) for Plan A and Plan B, respectively. Both plan sponsors had a higher payment per day for prescriptions dispensed through mail order for a majority of the therapeutic categories.

For example, Plan A paid an additional \$0.05 per day per lipotropic (statin) drug when dispensed through the mail-order option (\$1.94 per day) compared with the community pharmacy option (\$1.89 per day) (Table 3). Since more than 5.3 million therapy days of statins were dispensed through the mail-order option, higher payments of more than \$265,000 (\$0.05/day x 5.3 million days) were paid by the Plan A sponsor for this particular category compared with the community pharmacy channel. As noted earlier, copayment structures lowered the daily costs for enrollees using the mail option, as shown in the lower calculated member payment per day for all therapeutic categories in both plans.

The difference in total cost per day for all categories is provided at the bottom of Tables 3 and 4. These costs were weighted by the total therapy days for each therapeutic category. In both tables, the majority of the calculated lower payments per day between mail-order and community pharmacy claims were realized by the members through lower copayments. In fact, the Plan A sponsor realized a slightly higher payment per day for all claims dispensed through the mail-order channel (\$1.24) for these categories compared with community pharmacy claims (\$1.23). The Plan B sponsor realized slightly lower payments through the mail-order channel (\$1.43) than through the community pharmacy channel (\$1.44) (Table 4). While payments per day for the combined components (plan sponsor plus member) were lower for mail-order than for community pharmacy in both plans, nearly all the savings due to pricing differences between the two channels were realized by the member and not the plan sponsor.

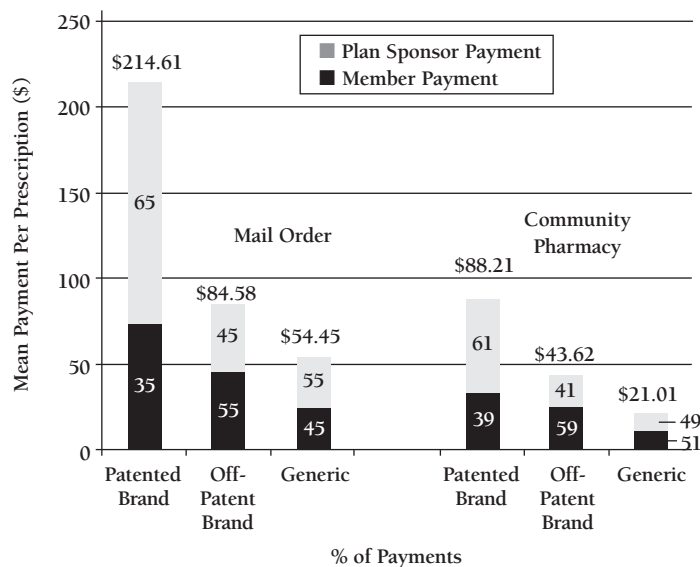
### Generic Dispensing Ratios

Tables 5 and 6 show differences in generic dispensing ratios based on prescription claims between mail-order and community pharmacy channels for all products (unadjusted for product mix) and a market basket of similar drug categories (controlling for product mix). In both plans, the generic dispensing ratio for drugs in the market basket was significantly higher (chi-square,  $P < 0.001$ ) within the community channel than in the mail-order channel (38.1% vs. 28.0% for Plan A, and 32.7% vs. 24.1% for Plan B). The same relationship was found for all prescription claims. The overall generic dispensing ratio for mail-order and community pharmacy combined was higher in Plan A (47.2%) than in Plan B (41.7%).

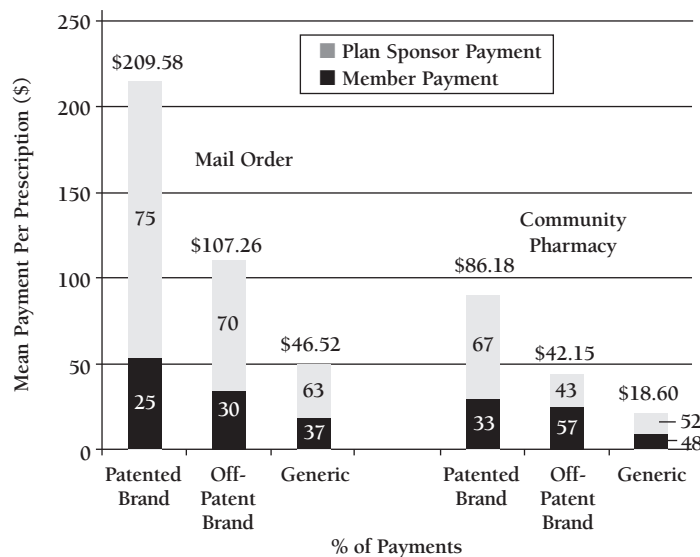
### Average Payment Per Unit for Generic Drugs

Table 7 presents differences in the payments made per unit for the 20 highest expenditure generic products dispensed through

**FIGURE 3** Mean Member and Plan Sponsor Cost for Patented Brand, Off-Patent Brand, and Generic Products, by Mail-Order or Community Pharmacy for "Plan A" (FY 2004)



**FIGURE 4** Mean Member and Plan Sponsor Cost for Patented Brand, Off-Patent Brand, and Generic Products, by Mail-Order or Community Pharmacy for "Plan B" (FY 2004)



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**TABLE 3** Difference in Cost per Day by Therapeutic Category for “Plan A” Mail-Order Versus Community Pharmacy

Rank	Therapeutic Category	Mail-Order Payment per Day of Therapy (\$)			Community Pharmacy Payment per Day of Therapy (\$)			% Difference for Mail-Order Compared With Community Pharmacy*		
		Plan Sponsor	Member	Total	Plan Sponsor	Member	Total	Plan Sponsor	Member	Total
1	Lipotropics, statins	1.94	0.92	2.86	1.89	1.30	3.19	3	-29	-10
2	Proton pump inhibitors	2.46	0.81	3.27	2.89	1.19	4.08	-15	-32	-20
3	Antidepressants, SSRIs	1.22	0.82	2.04	1.09	1.16	2.25	12	-29	-9
4	NSAIDs	1.85	0.77	2.62	1.67	1.21	2.88	11	-36	-9
5	ARBs	0.67	0.93	1.60	0.56	1.27	1.83	20	-27	-13
6	Nonsedating antihistamines	1.01	0.88	1.89	0.81	1.35	2.16	25	-35	-13
7	Anticonvulsants	2.76	0.74	3.50	2.85	1.05	3.90	-3	-30	-10
8	Bone resorption suppression	1.18	0.91	2.09	1.10	1.28	2.38	7	-29	-12
9	Hypoglycemics, thiazolidines	3.34	0.86	4.20	3.38	1.24	4.62	-1	-31	-9
10	Calcium channel blockers	0.56	0.62	1.18	0.66	0.87	1.53	-15	-29	-23
11	Antidepressants, other	1.53	0.62	2.15	1.60	0.90	2.50	-4	-31	-14
12	Lipotropics, other	1.26	0.78	2.04	1.13	1.10	2.23	12	-29	-9
13	ACE inhibitors	0.28	0.50	0.78	0.23	0.69	0.92	22	-28	-15
14	Platelet aggregation inhibitors	2.47	0.83	3.30	2.45	1.19	3.64	1	-30	-9
15	Intranasal rhinitis agents	0.94	0.89	1.83	0.83	1.26	2.09	13	-29	-12
16	Hypoglycemics, metformins	0.84	0.49	1.33	0.87	0.71	1.58	-3	-31	-16
17	Glucocorticoids, inhaled	2.60	0.89	3.49	2.92	1.09	4.01	-11	-18	-13
18	Atypical antipsychotics	6.21	0.90	7.11	6.85	1.00	7.85	-9	-10	-9
19	Hypoglycemics, insulins	2.01	0.96	2.97	2.24	1.10	3.34	-10	-13	-11
20	Stimulants and related agents	3.00	0.85	3.85	3.42	0.96	4.38	-12	-11	-12
21	Beta-blockers	0.21	0.54	0.75	0.17	0.63	0.80	24	-14	-6
22	Estrogen agents	0.07	0.69	0.76	0.04	0.90	0.94	75	-23	-19
23	Interferons	37.32	0.92	38.24	37.54	0.94	38.48	-1	-2	-1
24	ACE inhibitor/CCB combinations	1.27	0.91	2.18	1.19	1.29	2.48	7	-29	-12
25	Antimigraine agents, triptans	7.15	1.32	8.47	7.97	1.78	9.75	-10	-26	-13
26	BPH treatments	0.69	0.60	1.29	0.54	0.84	1.38	28	-29	-7
27	Bronchodilators, beta-agonist	1.14	0.69	1.83	1.06	0.85	1.91	8	-19	-4
28	Bladder relaxant preparations	1.71	0.83	2.54	1.93	0.88	2.81	-11	-6	-10
29	Thyroid hormones	0.00	0.30	0.30	0.00	0.45	0.45	0	-33	-33
30	Ophthalmics, glaucoma agents	1.23	0.82	2.05	0.99	1.36	2.35	24	-40	-13
	Total payment per day	1.24	0.73	1.97	1.23	1.03	2.25	0.5	-28.6	-12.5

\* A negative percentage reflects a lower payment for the mail-order channel versus the community pharmacy channel.

All costs rounded to the nearest cent.

ACE=angiotensin-converting enzyme; ARBs=angiotensin receptor blockers; BPH=benign prostatic hyperplasia; CCB=calcium channel blocker; NSAIDs=nonsteroidal anti-inflammatory drugs; SSRIs=selective serotonin reuptake inhibitors.

the mail-order channel for Plan A compared with the payments for the same products dispensed at community pharmacies within Plan A's provider network. For example, preferential unit pricing for the top generic product dispensed via mail order (omeprazole 20 mg) resulted in a lower total unit payment (on average) per prescription if filled by mail-order (\$1.66) compared with community pharmacy (\$3.02). This preferential pricing resulted in a savings of 45% in the payment per unit for the omeprazole prescriptions dispensed via mail order.

However, for the second-highest generic product ranked by total payments (fluoxetine 20 mg), the unit payment was higher in the mail-order channel (\$1.07) than in community pharmacies (\$0.53), resulting in a higher payment per unit of more than 100%. For 9 (45%) of the top 20 generic products dispensed through the mail, total payments per unit were higher via mail-order than in the community pharmacy channel.

Furthermore, the total plan sponsor cost per unit (total payment minus member payment) was lower for mail-order than

**Comparison of Mail-Order With Community Pharmacy in Plan Sponsor Cost and Member Cost in Two Large Pharmacy Benefit Plans**

**TABLE 4** Difference in Cost per Day by Therapeutic Category for “Plan B” Mail-Order Versus Community Pharmacy

Rank	Therapeutic Category	Mail-Order Payment per Day of Therapy (\$)			Community Pharmacy Payment per Day of Therapy (\$)			% Difference for Mail-Order Compared With Community Pharmacy*		
		Plan Sponsor	Member	Total	Plan Sponsor	Member	Total	Plan Sponsor	Member	Total
1	Lipotropics, statins	2.23	0.61	2.84	2.22	1.01	3.23	1	-40	-12
2	Proton pump inhibitors	2.67	0.55	3.22	3.11	0.90	4.01	-14	-39	-20
3	NSAIDs	2.15	0.58	2.73	2.15	0.97	3.12	0	-40	-13
4	Bone resorption suppression	1.46	0.63	2.09	1.39	1.01	2.40	5	-38	-13
5	ARBs	0.99	0.62	1.61	0.88	0.98	1.86	13	-37	-13
6	Calcium channel blockers	0.77	0.43	1.20	0.86	0.72	1.58	-10	-40	-24
7	Antidepressants, SSRIs	1.40	0.57	1.97	1.38	0.89	2.27	1	-36	-13
8	Nonsedating antihistamines	1.30	0.60	1.90	1.23	0.96	2.19	6	-38	-13
9	ACE inhibitors	0.47	0.34	0.81	0.39	0.54	0.93	21	-37	-13
10	Platelet aggregation inhibitors	2.65	0.56	3.21	2.55	1.05	3.60	4	-47	-11
11	Hypoglycemics, thiazolidines	3.37	0.59	3.96	3.44	1.01	4.45	-2	-42	-11
12	Anticonvulsants	2.35	0.53	2.88	2.40	0.85	3.25	-2	-38	-11
13	Lipotropics, other	1.49	0.54	2.03	1.40	0.85	2.25	6	-36	-10
14	Beta-blockers	0.37	0.38	0.75	0.23	0.51	0.74	61	-25	1
15	DMARDs, immunomodulators	38.81	1.12	39.93	43.28	1.26	44.54	-10	-11	-10
16	Estrogen agents	0.24	0.50	0.74	0.16	0.75	0.91	50	-33	-19
17	Antidepressants, other	1.72	0.46	2.18	1.82	0.69	2.51	-5	-33	-13
18	Intranasal rhinitis agents	1.18	0.67	1.85	1.25	0.89	2.14	-6	-25	-14
19	Bladder relaxant preparations	1.96	0.59	2.55	1.92	0.97	2.89	2	-39	-12
20	BPH treatments	0.90	0.42	1.32	0.78	0.65	1.43	15	-35	-8
21	Hypoglycemics, metformins	0.93	0.34	1.27	0.99	0.55	1.54	-6	-38	-18
22	Ophthalmics, glaucoma agents	1.40	0.71	2.11	1.39	1.07	2.46	1	-34	-14
23	Glucocorticoids, inhaled	2.79	0.66	3.45	3.07	1.03	4.10	-9	-36	-16
24	ACE inhibitor/CCB combinations	1.56	0.62	2.18	1.45	1.05	2.50	8	-41	-13
25	Thyroid hormones	0.00	0.32	0.32	0.01	0.44	0.45	-100	-27	-29
26	Hypoglycemics, insulins	1.88	0.78	2.66	1.90	1.11	3.01	-1	-30	-12
27	Alzheimer's agents	3.38	0.75	4.13	3.23	1.48	4.71	5	-49	-12
28	Interferons	39.06	0.67	39.73	38.57	1.32	39.89	1	-49	<-1
29	Leukotriene receptor antagonists	1.86	0.59	2.45	1.88	0.93	2.81	-1	-37	-13
30	Atypical antipsychotics	5.14	0.67	5.81	5.19	1.32	6.51	-1	-49	-11
	Total payment per day	1.43	0.52	1.95	1.44	0.82	2.26	-0.4	-37.0	-13.7

\* A negative percentage reflects a lower payment for the mail-order channel versus the community pharmacy channel.

All costs rounded to the nearest cent.

ACE=angiotensin-converting enzyme; ARBs=angiotensin receptor blockers; BPH=benign prostatic hyperplasia; CCB=calcium channel blocker; NSAIDs=nonsteroidal anti-inflammatory drugs; SSRIs=selective serotonin reuptake inhibitors.

for community pharmacy in only 6 (30%) of the 20 top generic products dispensed. However, when aggregating total payments for the top 20 generic products, we found plan sponsor total costs for all sample drugs dispensed through the mail-order channel were 16.5% lower than community pharmacy unit pricing. Combining member payments per unit, the total pharmacy benefit payments (plan sponsor plus member) were 21.3% lower.

Table 8 shows a similar comparison for the top generic mail-

order products within Plan B during fiscal year 2004. Of the top 20 generic drugs dispensed through the mail-order channel, unit cost payments were higher via mail order for half (10) of the generic products, compared with community pharmacy. As an example, the top generic product ranked by total payments within the Plan B mail-order channel (fluoxetine 20 mg) had a higher unit cost (\$1.07) than did the same prescription filled at a community pharmacy (\$0.53 per unit).

Similar to Plan A, the Plan B sponsor's payment per unit for



**TABLE 5** Plan "A" Generic Dispensing Ratios for Mail-Order Versus Community Pharmacy

	All Claims (%)		Market Basket (%)*	
	Mail Order	Community	Mail Order	Community
<b>Total Claims</b>				
Patented brand	58.8	47.8	69.6	59.5
Off-patent brand	3.5	3.2	2.4	2.4
Generic	37.7	49.0†	28.0	38.1†
<b>Total Therapy Days</b>				
Patented brand	58.8	51.8	69.7	64.2
Off-patent brand	3.4	3.5	2.4	2.7
Generic	37.8	44.7	27.9	33.2

Period of analysis: September 1, 2003, through August 31, 2004.

\* Comprising 58 therapeutic categories defined by the Texas Medicaid Preferred Drug List.

† Generic percentage significantly higher for community than mail-order claims (chi-square,  $P < 0.001$ ).

**TABLE 6** Plan "B" Generic Dispensing Ratios for Mail-Order Versus Community Pharmacy

	All Claims (%)		Market Basket (%)*	
	Mail Order	Community	Mail Order	Community
<b>Total Claims</b>				
Patented brand	61.0	51.8	71.7	64.4
Off-patent brand	4.3	3.2	4.2	2.9
Generic	34.7	45.0†	24.1	32.7†
<b>Total Therapy Days</b>				
Patented brand	61.2	55.2	71.9	68.0
Off-patent brand	4.2	3.3	4.3	3.1
Generic	34.6	41.5	23.8	28.9

Period of analysis: September 1, 2003, through August 31, 2004.

\* Comprising 55 therapeutic categories defined by the Texas Medicaid Preferred Drug List.

† Generic percentage significantly higher for community than mail-order claims (chi-square,  $P < 0.001$ ).

the top 20 generic products was lower through mail-order than through community pharmacy for only 6 out of 20 instances. However, the aggregated results were somewhat different from those found in Plan A. In Plan B, generic product unit pricing resulted in an overall 18.0% higher average plan sponsor cost per unit through mail-order than through community pharmacy. The combined payments (plan sponsor plus member) per unit were 3.3% lower for the 20 highest expenditure generic drugs

dispensed through the mail-order channel. In Plan B, the member received some benefit from the mail-order pricing, but the plan sponsor incurred higher average cost per unit for generic drugs than in the community pharmacy channel.

### Discussion

The purpose of this study was to examine trends in the use of and payments for drug products between mail-order and community pharmacy channels in 2 publicly funded pharmacy benefit programs in Texas. It was important to conduct such analyses because of the lack of published studies investigating the impact of PBM-owned mail-order plans on drug use and ultimately, on drug expenditures. Furthermore, in light of the aggressive marketing of a mail-order pharmacy option to plan sponsors by PBMs, analyses of this sort are helpful in determining the extent to which mail-order pharmacy delivers on its promise to realize cost-effective provision of prescription drugs to both the plan and its enrollees. A summary of the study findings and their implications follow below.

### Average Daily Payment Within Therapeutic Categories

Similar to recently published research, both plan sponsors were found to make higher payments per day of drug therapy for prescriptions dispensed via mail order for many therapeutic categories.<sup>8</sup> This could have been the result of copayment structures that created incentives for using mail order, while shifting a higher proportion of the drug costs to the plan. In cases in which the payment per therapy day is higher for mail order, increased use of this channel will result in higher costs of therapy for the plan sponsor as fewer prescriptions are filled at community pharmacies. This cost difference also results from differences in product mix in therapeutic categories for drugs dispensed via mail-order rather than through community pharmacies. Because a larger proportion of generic drugs may be dispensed within a therapeutic category in the community setting, overall therapy costs for both the plan sponsor and the member will be lower due to lower costs per day for generic rather than branded drugs.

Overall, total payments per day were lower across therapeutic classes in the mail-order channel; however, pharmacy plan members enjoyed nearly all the benefit of this discount in pricing, with little or no benefit for the plan sponsors. The overall result from the plans' perspective for the therapeutic categories that we studied was either slightly higher (0.5%) payments for Plan A or smaller savings (0.4%) for Plan B.

The lack of relative savings for these 2 plan sponsors is similar to the findings reported by Carroll et al. in a study that evaluated payments for drugs dispensed by mail-order versus community pharmacy. In that study, plan sponsor costs for a sample of products was 6.5% higher in mail-order than in community pharmacy. As in our study, Carroll et al. also found that members paid lower costs for mail-order compared with

**Comparison of Mail-Order With Community Pharmacy in Plan Sponsor Cost and Member Cost in Two Large Pharmacy Benefit Plans**

**TABLE 7** Generic Product Cost Comparison: Plan "A" Mail-Order Versus Community Pharmacy

Rank	Generic Product	Total Mail Units	Mail-Order Payment per Unit (\$)			Community Pharmacy Payment per Unit (\$)			% Difference for Mail-Order Compared With Community Pharmacy*		
			Plan Sponsor	Member	Total	Plan Sponsor	Member	Total	Plan Sponsor	Member	Total
1	Omeprazole 20-mg capsule	1,189,260	1.32	0.34	1.66	2.51	0.51	3.02	-47	-33	-45
2	Fluoxetine 20-mg capsule	664,759	0.79	0.28	1.07	0.16	0.37	0.53	394	-24	102
3	Metformin HCl 500-mg tablet	1,378,481	0.15	0.13	0.28	0.15	0.20	0.35	0	-35	-20
4	Metformin HCl 1,000-mg tablet	602,221	0.40	0.18	0.58	0.18	0.26	0.44	122	-31	32
5	Gemfibrozil 600-mg tablet	613,980	0.31	0.19	0.50	0.11	0.27	0.38	182	-30	32
6	Lovastatin 40-mg tablet	173,835	1.38	0.32	1.70	1.51	0.50	2.01	-9	-36	-15
7	Lisinopril 20-mg tablet	679,905	0.14	0.29	0.43	0.16	0.43	0.59	-13	-33	-27
8	Paroxetine HCl 20-mg tablet	256,861	0.72	0.35	1.07	1.70	0.50	2.20	-58	-30	-51
9	Fluoxetine 40-mg capsule	124,965	1.80	0.34	2.14	1.60	0.53	2.13	13	-36	<1
10	Verapamil 240-mg tablet	369,675	0.36	0.30	0.66	0.07	0.40	0.47	414	-25	40
11	Ranitidine 150-mg tablet	303,024	0.41	0.21	0.62	0.02	0.26	0.28	1,950	-19	121
12	Tramadol HCl 50-mg tablet	390,020	0.24	0.09	0.33	0.24	0.10	0.34	0	-10	-3
13	Metformin HCl ER 500-mg tablet	625,486	0.17	0.12	0.29	0.42	0.21	0.63	-60	-43	-54
14	Lisinopril 10-mg tablet	464,265	0.09	0.32	0.41	0.04	0.44	0.48	125	-27	-15
15	Tamoxifen 20-mg tablet	122,490	1.12	0.39	1.51	1.06	0.39	1.46	6	0	3
16	Lisinopril 40-mg tablet	281,835	0.31	0.32	0.63	0.22	0.46	0.68	41	-30	-7
17	Amiodarone 200-mg tablet	121,254	1.04	0.32	1.36	0.83	0.39	1.22	25	-18	11
18	Lisinopril-HCTZ 20/12.5-mg tablet	296,055	0.19	0.29	0.48	0.19	0.42	0.61	0	-31	-21
19	Buspirone HCl 15-mg tablet	165,594	0.64	0.17	0.81	0.34	0.19	0.53	88	-11	53
20	Diltiazem 240-mg capsule	162,900	0.48	0.34	0.82	1.11	0.50	1.61	-57	-32	-49
	Total payments		4,565,678	2,163,585	6,729,161	5,466,474	3,084,815	8,551,240	-16.5	-29.9	-21.3

\* A negative percentage reflects a lower payment for the mail-order channel versus the community pharmacy channel.

All costs rounded to the nearest cent.

ER=extended release; HCl=hydrochloride; HCTZ=hydrochlorothiazide.

**Comparison of Mail-Order With Community Pharmacy in Plan Sponsor Cost and Member Cost in Two Large Pharmacy Benefit Plans**

**TABLE 8** Generic Product Cost Comparison: Plan "B" Mail-Order Versus Community Pharmacy

Rank	Generic Product	Total Mail Units	Mail-Order Payment per Unit (\$)			Community Pharmacy Payment per Unit (\$)			% Difference for Mail-Order Compared With Community Pharmacy*		
			Plan Sponsor	Member	Total	Plan Sponsor	Member	Total	Plan Sponsor	Member	Total
1	Fluoxetine HCl 20-mg capsule	475,709	0.89	0.18	1.07	0.25	0.28	0.53	256	-36	102
2	Metformin HCl 500-mg tablet	1,440,806	0.20	0.09	0.29	0.20	0.15	0.35	0	-40	-17
3	Atenolol 50-mg tablet	1,006,288	0.15	0.19	0.34	0.00	0.17	0.17	n/a	12	100
4	Lisinopril 20-mg tablet	756,528	0.24	0.19	0.43	0.27	0.31	0.58	-11	-39	-26
5	Gemfibrozil 600-mg tablet	646,741	0.38	0.12	0.50	0.18	0.20	0.38	111	-40	32
6	Metformin HCl 1,000-mg tablet	545,175	0.47	0.11	0.58	0.25	0.19	0.44	88	-42	32
7	Amiodarone 200-mg tablet	224,698	1.14	0.21	1.35	0.90	0.33	1.23	27	-36	10
8	Verapamil 240-mg tablet	464,760	0.46	0.19	0.65	0.17	0.30	0.47	171	-37	38
9	Lovastatin 40-mg tablet	168,030	1.49	0.22	1.71	1.50	0.50	2.00	-1	-56	-15
10	Paroxetine HCl 20-mg tablet	262,328	0.86	0.21	1.07	1.79	0.41	2.20	-52	-49	-51
11	Ranitidine 150-mg tablet	398,070	0.49	0.14	0.63	0.08	0.19	0.27	513	-26	133
12	Lisinopril 10-mg tablet	662,071	0.20	0.20	0.40	0.16	0.32	0.48	25	-38	-17
13	Tamoxifen 20-mg tablet	163,980	1.27	0.24	1.51	1.01	0.44	1.45	26	-45	4
14	Tramadol HCl 50-mg tablet	515,770	0.27	0.07	0.34	0.24	0.10	0.34	13	-30	0
15	Atenolol 25-mg tablet	648,175	0.14	0.19	0.33	0.00	0.16	0.16	N/A	19	106
16	Diltiazem HCl 240-mg capsule	249,930	0.60	0.22	0.82	1.17	0.45	1.62	-49	-51	-49
17	Metformin HCl ER 500-mg tablet	671,019	0.21	0.09	0.30	0.46	0.17	0.63	-54	-47	-52
18	Lisinopril 40-mg tablet	318,420	0.43	0.20	0.63	0.33	0.34	0.67	30	-41	-6
19	Enalapril maleate 20-mg tablet	309,916	0.47	0.15	0.62	0.23	0.23	0.46	104	-35	35
20	Omeprazole 20-mg capsule	111,825	1.45	0.21	1.66	2.67	0.35	3.02	-46	-40	-45
	Total payments		3,975,121	1,548,807	5,524,117	3,368,717	2,346,395	5,715,205	18.0	-34.0	-3.3

\* A negative percentage reflects a lower payment for the mail-order channel versus the community pharmacy channel.

All costs rounded to the nearest cent.

ER= extended release; HCl=hydrochloride; HCTZ=hydrochlorothiazide; N/A=not applicable.

community pharmacy. The member savings were estimated to be 48% for mail-order claims, resulting in overall savings of 7.8% for the combined plan sponsor and member payments.<sup>8</sup>

### Generic Dispensing Ratios

As expected, even when controlling for differences in drug product mix, we calculated that generic dispensing ratios for both pharmacy plans were higher for claims processed through the community pharmacy channel than through the PBM-owned mail-order channel. A recently published study noted that in a comparison of generic dispensing ratios between mail-order and community pharmacy channels, the analysis should involve a calculation of ratios across comparable therapeutic classes.<sup>9</sup> In the current study, product mix differences were controlled by comparing only therapeutic classes most common in mail-order dispensing.

Higher generic dispensing ratios help to slow the growth in prescription drug spending due to the more widespread use of lower-priced therapeutic alternatives, slowing the growth in prescription drug spending. The cause of the difference in generic dispensing ratios between community pharmacy and mail order is not entirely clear; however, previously published studies have also reported higher generic dispensing ratios in community pharmacy than in mail order.<sup>9-11</sup>

### Average Payment per Unit for Generic Drugs

Higher cost per unit for the same generic drug product dispensed in mail-order than in community pharmacies should be of concern to plan administrators. Intuitively, program administrators should expect the cost per unit for generic drugs dispensed through mail-order pharmacy to be no greater than that made to community pharmacies for the same product. However, evidence of higher payments was found for some of the most commonly dispensed mail-order generic products. For example, for at least half of the top 20 most commonly dispensed mail-order generic products within Plan B, a higher average unit payment was made in the mail-order channel versus the community pharmacy network.

It is likely that the higher payments are the result of a pricing arrangement between the PBM and a plan that does not ensure a lower or at least comparable price for generic products dispensed via mail order. The price that a plan sponsor pays a PBM when a generic product is dispensed through the mail-order channel is typically determined on the basis of a specified percentage discount of Average Wholesale Price (AWP), commonly in the range of 40% to 60%. While this may appear to provide a steep discount that is favorable to the plan, AWP is not a reliable indicator of actual acquisition cost.

PBMs and nearly all state Medicaid programs pay community pharmacies for many generic drugs based on the method of MAC, in which the MAC price for a particular drug is set somewhere between the lowest and the highest estimated acquisition

price for products available from multiple generic drug manufacturers. For example, if the AWP for a particular generic drug from manufacturer X is \$1.00 per unit and the pharmacy's actual cost is \$0.30 per unit, compared with a \$1.30 AWP and a \$0.40 actual cost per unit from manufacturer Y, the MAC price might be set at \$0.35 per unit. This method serves to decrease incentives for pharmacies to dispense the generic drug from manufacturer Y with the 30% higher AWP. However, the MAC price of \$0.35 will result in a plan sponsor payment that is significantly lower than payment based on a 50% discount arrangement that will yield a unit price of \$0.50 from manufacturer X or \$0.65 from manufacturer Y. If generic prices paid by the plan sponsor for community pharmacy claims are based on MAC pricing while those for mail-order claims are based on an AWP discount, the plan sponsor can end up paying more per unit for the same generic drug dispensed at mail-order than at community pharmacy.

### Implications for Plan Sponsors

Plan administrators need to understand the nuances in drug pricing for both branded and generic drugs between mail-order and community pharmacy, as well as be aware of the impact that providing incentives for mail-order channel use may have on the plan sponsors' resulting portion of total payments. We have provided evidence that lower total pricing provided by the mail-order channel may not result in net savings for the plan sponsor. Furthermore, plan sponsors should understand the need to align incentives, especially during negotiation of PBM service contract terms, to avoid creating unintended benefit to the PBM at the expense of higher drug costs for the plan sponsors.

The PBM business model may not be entirely understood by plan sponsors. In the face of heavy promotion of mail-order pharmacy plans by PBMs, especially mandatory mail-order plans, program administrators should be aware of the competing interests that may result when PBMs seek to maximize their profits. Transparency in pharmacy pricing and drug manufacturer rebates would help plan sponsors assess the relative value of the mail-order and community pharmacy channels. The need for transparency increases when the mail-order pharmacy is owned by the PBM.

### Limitations

First, this study did not investigate potential waste that might result from dispensing larger quantities at mail-order than at community pharmacy for drugs that might not be used as a result of adverse reactions, lack of perceived efficacy, or dose or drug change, or for other reasons. Second, while the value of mail-order pharmacy compared with community pharmacy was small or negative for both plan sponsors in this study, these results may not be generalizable to all plans. We did not measure or report the age distribution of beneficiaries in these 2 drug plans, an important factor in the use of chronic medications. Copayment design will affect the ratio of member cost to plan

cost, and the absolute amount of the mail-order copayments was at least twice the amount of community pharmacy copayments in these 2 pharmacy benefit plans.

Third, product-level drug rebates and their effects on plan sponsor cost, if any, could not be determined since rebate information was not publicly available. However, the influence of drug manufacturer rebates is not expected to change the relative price comparisons between mail-order and community pharmacy and for the measures used in this study, cost per unit and cost per day of therapy.

### Conclusions

In addition to demonstrating that the mail-order distribution channel can have higher net sponsor costs in a pharmacy benefit plan, this paper has presented and described methodologies and calculations for comparing costs per day and cost per unit between mail-order and community pharmacy networks. More published studies of this sort are needed to determine the true value of the mail-order pharmacy distribution channel within pharmacy benefit programs. Studies that appropriately control for differences in product mix, as well as those that investigate the degree to which member financial incentives result in higher costs (either direct or opportunity costs) to the plan sponsor, will greatly benefit decision makers as strategies are proposed to obtain the best value for prescription drugs and pharmacy services.

### What is already known about this subject

- Widespread perception of lower prices via mail-order versus community pharmacy has contributed to the growth of mail-order pharmacy use despite a lack of evidence of cost savings for pharmacy benefit sponsors.
- Pharmacy benefit designs that favor mail-order pharmacy result in lower average member cost share.
- Generic dispensing ratios are lower in mail-order than in community pharmacy.

### What this study adds

- Using a methodology that estimated the average price per unit and per day of drug therapy for mail-order prescriptions had they been dispensed instead by community pharmacies, one plan sponsor experienced a small financial benefit from mail-order pharmacy while another plan sponsor experienced a slightly higher cost.
- Differences in pricing of generic drugs between mail-order and community pharmacy appear to contribute to higher unit costs for generic drugs via mail order.

### DISCLOSURES

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