

**Will a Mandatory Mail Order Pharmacy Benefit Save Payers Money?
Investigating the Evidence**

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Executive Summary

Mail order pharmacy is the fastest growing segment of the retail pharmacy marketplace. This growth is driven by assumptions on the part of pharmacy benefit sponsors that mail order saves money relative to other distribution channels, such as community pharmacies. However, a review of the literature did not identify a single well-controlled, peer-reviewed article that measured net costs to plans of mail order compared to community pharmacies. Plan sponsors would benefit from analyses that take into consideration the many factors that directly impact the total net cost of distributing prescriptions through mail order pharmacy, compared to traditional community pharmacy networks.

I. Introduction

Mail order pharmacies are the fastest growing segment of the retail pharmacy industry, which also includes traditional independent and chain drug stores as well as supermarkets and mass merchants that operate pharmacies. Much of the growth of mail order pharmacies is attributable to benefit plans adopted by employers, unions and other plan sponsors that believe use of mail order pharmacies decreases drug benefit costs. These health plans typically rely on economic incentives to encourage mail order use, although plans are increasingly adopting mandatory mail order provisions. Consumers are far less likely to use mail order without these incentives or requirements.

While the notion that mail order pharmacies save money relative to community pharmacies appears to be widely accepted, published evaluations with definitive results are scarce. A review of the literature turns up numerous documents, but we find a lack of rigorously-designed studies that definitively support the conclusion that use of mail order results in significantly lower overall drug benefit costs for plan sponsors. Studies from peer-reviewed literature generally do not provide evidence to support claims of savings. Most reports that assert that mail order saves money rely on qualitative studies and anecdotal information. Many were either conducted by or rely heavily on input from organizations with an interest in the results of the study. Even government reports have suffered from a lack of access to adequate data. Comprehensive, independent studies that control for differing plan design mechanisms and allow for appropriate comparisons between mail and community pharmacy are needed to determine if mail order pharmacies truly deliver promised savings.

II. Background

A. History and Growth of Mail Service Pharmacy

Mail delivery has long been part of the distribution system for pharmaceuticals. For over a century, community pharmacies have used mail to deliver medications to certain customers, such as those with limited mobility or in rural or remote areas. Mail order-only pharmacies date back to the 1940's, when the Veterans' Administration opened a mail delivery system for veterans. The mail order prescription market remained relatively small until the 1980s when it gained interest among employers, unions and other insurers faced with rising drug costs and increasing numbers of retirees with maintenance drug needs.¹ Mail order accounted for about 6 percent of retail prescription sales (mail and community pharmacies) in 1989.²

Mail order grew throughout the 1990s as plan sponsors continued to embrace its use based on claims of cost savings, and it has been the fastest growing distribution channel almost every year since 2000. Mail order accounted for \$20.3 billion in sales in 2001, just under 12 percent of U.S. prescription sales.³ By 2004, sales at mail order pharmacies had grown to \$33.9 billion (14.4 percent of U.S. prescription sales), a 67 percent increase in three years.⁴ Recent growth has been driven in part by a growing trend of pharmacy benefit managers (PBMs) and employers mandating the use of mail order for refills of maintenance prescriptions.⁵

Throughout its history, the mail order pharmacy industry has been dominated by a few large companies. Today, most of the largest mail order pharmacies are operated by PBMs: roughly two-thirds (66%) of mail order prescriptions in the third quarter of 2003 were filled by four PBMs.⁶ PBMs have made substantial investments in their mail order pharmacies and heavily promote their use. Mail order sales also have become key components in maintaining and growing gross margins for PBMs. In recent filings with the Securities and Exchange

Commission (SEC), Caremark, Express Scripts and Medco indicated that revenues from mail service represented 31 percent, 36 percent and 38 percent of revenues, respectively, in 2004. These filings also indicate that mail service revenues grew by 79 percent (Caremark), 35 percent (Express Scripts) and 19 percent (Medco) from 2003 to 2004.⁷ Mail order is likely to continue to gain importance to PBMs in light of growing pressures by plan sponsors to pass along a larger proportion of manufacturer rebates (another major PBM revenue source).

B. Characteristics of Mail Order Users

Patients who use mail order pharmacies tend to be older. The average age of mail order/online pharmacy users is nearly 64 years, compared to 60 years for users of traditional community pharmacies.⁸ Persons over 65 years of age represent a large share of mail order sales because they tend to use multiple medications and often require maintenance drugs for longer-term, chronic conditions.⁹

Mail order is only practical for drugs taken on a regular, long-term basis where prescriptions are refilled at regular intervals. Because mail order programs primarily dispense maintenance medications, the quantity of medication per claim and average days' supply are higher for mail order prescriptions than for prescriptions typically dispensed through other retail channels.

Mail order pharmacies typically do not market to individuals and gain most of their customer base through agreements with plan sponsors. Consequently, most mail order users select this service as a part of their insurance program. One recent survey found that 93 percent of consumers who use mail/internet pharmacy more than other pharmacy types have pharmacy benefit coverage, compared to 67 to 80 percent of consumers using traditional community pharmacies.¹⁰

III. Study Methods

This paper is a synopsis of a review of the literature on mail order pharmacies. Graduate students from the Center for Pharmacoeconomic Studies at The University of Texas at Austin assisted with the review.¹¹ We were particularly interested in literature describing the perceptions of mail order pharmacy services among drug benefit sponsors and beneficiaries. We also reviewed literature for evaluations of the impact on overall pharmacy benefit costs related to use of mail order pharmacies within benefit plans. In determining the studies to include in this synopsis, preference was given to findings from peer-reviewed journals, government sources and other independently-sponsored research. A few commonly cited reports that do not necessarily meet these general criteria also are included, for comparison.

IV. Reviewing the Literature

A. Perceptions of Mail Order Pharmacies

1. Plan Sponsors

Employers and other pharmacy benefit sponsors appear to widely accept that mail order saves money relative to other pharmaceutical distribution channels such as community pharmacies. This belief is most likely the result of anecdotal evidence provided by PBMs, benefit consultants and trade press that state that there are savings from mail order. The literature attributes several potential competitive advantages to mail order pharmacies, which can be broadly categorized as follows:

- Economies of scale: Mail order is believed to have lower prescription drug product procurement costs due to larger rebates received from manufacturers and other purchasing advantages due to their size and perceived ability to move market share through use of formularies.

- Lower overhead: Mail order pharmacies are thought to have lower operating costs, largely due to lower employee and facility costs. Because physical locations that are convenient to consumers are not necessary, mail order pharmacies do not have to maintain the overhead costs of high traffic, high visibility locations. Mail order pharmacies typically are located in areas with favorable capital costs. Studies also indicate that mail order pharmacies have lower inventory carrying costs because of greater turnover of drug products.¹³
- Greater efficiency: Mail order pharmacies are thought to process prescriptions more efficiently due to automation and “assembly-line” dispensing practices, with fewer interruptions for pharmacists relative to community settings. Discounted or no dispensing fees offered by mail order pharmacies may sustain this notion.
- More aggressive techniques to encourage substitution: Early studies indicated that mail order had potential for greater generic use.¹⁴

Many plan sponsors believe that mail order offers advantages for their enrollees. Enrollees typically face lower out-of-pocket costs when they use mail order, such as reduced co-payments (compared to what would be spent to obtain the same quantity at community pharmacies) or smaller/no deductibles. Mail order may also be more convenient for some plan enrollees, offering home delivery and larger supplies that reduce the number of times that refills must be obtained. Use of mail order is generally optional for plan enrollees, but a growing number of plans are mandating its use based on assurances from PBMs regarding cost savings.

2. Consumers

Studies indicate that consumers tend to choose mail order based on cost and convenience, but neither factor is considered by consumers to be an advantage specifically attributable to mail order. That is, consumers also indicate that they use community pharmacies due to cost and convenience, which suggests that mail order is not always less expensive for consumers and also illustrates that “convenience” is a subjective measure.¹⁵ For example, consumers have expressed concern about time delays in filling prescriptions by mail and the possibility of running out of medication before a refill was received.^{16,17}

In part due to small sample sizes and differences in benefit plans, it is typically difficult to generalize results from consumer satisfaction surveys. Even a single survey can generate different results for different populations. For example, mail order users in one study generally expressed higher levels of satisfaction with their pharmacy services, with cost and convenience being strong determinants of their decision to use mail. However, the same study also found other enrollees to be more satisfied with financial aspects of community pharmacies, although mail order offered lowered out of pocket costs.¹⁸

Access to and relationships with pharmacists are also important factors in consumers’ decisions concerning the type of pharmacy that they use. For example, consumers in surveys have raised concerns regarding the remoteness of the mail order pharmacist, and inability to ask questions of the pharmacist.^{19,20} Another study found that older respondents were generally more satisfied with community pharmacies than mail due to “technical competence” and explanation, implying that face-to-face contact with pharmacists made a difference for these individuals.²¹

Although studies have found somewhat higher levels of consumer satisfaction in mail order relative to community pharmacy, these results must be interpreted with caution.

Differences in ratings between mail order and community pharmacies are often small, and may not be of practical significance. Nearly all studies involve surveys with small sample sizes, especially of mail order users. Moreover, these studies generally involve patients whose participation in mail order is voluntary. There is a significant likelihood of self-selection in these studies because individuals choose a delivery system based on their own preferences and experiences. Surveys find that consumer satisfaction with both mail order and community pharmacies is generally high, suggesting that people will patronize the type of pharmacy with which they are most satisfied.

In sum, consumers appear to place a high value on ability to choose where they obtain their medications. Requiring mail order greatly increases its use: a recent survey found that, on average, voluntary plans achieve 14 percent mail order use rates while mandatory plans increase use rates to 27 percent.²²

3. Pharmacy Professionals

Community pharmacists have long raised concerns about the quality of mail order pharmacy services. Clearly there are competitive concerns, but patient counseling related to the proper use of medication has also been central to opposition of mail order. For example, community pharmacists have questioned whether patients adequately understand the proper use of the drugs ordered by mail or whether mail facilities collect sufficient information to know if the patient is taking other drugs that might interact.

Studies demonstrating any difference in clinical outcomes as a result of mail order use have not been performed. Many community pharmacists feel that face-to-face counseling of patients is better than providing written prescription information or consultation by telephone. However, some consumers may find that written information provided with shipments and the

availability of toll free numbers for inquiries to provide sufficient support.²³ Computer systems used by both community and mail order pharmacies generally have similar functionality to observe patient utilization, since a single PBM generally administrates both mail and retail claims. Nevertheless, it is possible that if patients use the same community pharmacy regularly, they may be less likely to use drugs inappropriately because they build a more familiar relationship with their pharmacist.

B. Does Mail Service Pharmacy Save Money?

In asking the question whether a mandatory mail order benefit saves money compared to a voluntary mail program in addition to a traditional retail pharmacy alternative, it is important to consider whose perspective one chooses in answering this question. For our purposes, we assume the perspective is that of the plan sponsor (i.e., employer) that ultimately bears most of the costs in a typical drug benefit program. Therefore, to appropriately consider comparisons of costs between mail order and community pharmacy networks, we attempted to identify research that measured the net costs back to the plan after patient cost-sharing and additional rebates were taken into account.

A thorough review of the literature did not identify a single well-controlled, peer-reviewed article that measured plan net prescription costs related to a mandatory mail order plan compared to a traditional network of community pharmacies. Much of the literature identified during the initial steps of our review process:

- Was mostly from non-peer-reviewed sources;
- Included highly anecdotal evidence and conclusions;
- Lacked any attempt to control for plan design or product mix differences between the two outlets; or

- Was somewhat dated and may not representative of current marketplace conditions.^{1,10,24,25,26,27,28}

For example, a study for the Health Care Financing Administration (now called the Centers for Medicare and Medicaid Services, or CMS) in the late 1980's indicated that average prices per days supply at mail order were not significantly different from those at community pharmacies.^{1,10} However, mail order pharmacies “were unwilling to share sufficient financial information to ascertain potential cost savings from the use of such pharmacies.”¹ Instead, comparisons were based on average cost and days supply data estimated using the limited data shared by mail order pharmacies and similar data for community pharmacies drawn from a different data source. Researchers could not control for the mix of drugs and other differences between the mail order and community pharmacy markets in the analysis that might affect the comparison, so these results are inconclusive. The prescription drug market also has undergone sweeping change over the past decade, limiting the relevance of such early studies to today's marketplace.

An often-cited report published by the U.S. General Accounting Office as part of a review of the Federal Employees Health Benefit Program (FEHBP) estimated that mail order pharmacies saved FEHBP plans and consumers (combined) between 27 and 53 percent on prescription drug costs compared to a typical “cash price” paid by a person without third-party insurance coverage at community pharmacies.²⁹ By comparison, the study estimated that when beneficiaries bought prescriptions at community pharmacies participating in the FEHBP network, the plans and consumers (combined) saved 18 to 47 percent over cash customers. These results imply that mail order saved money for FEHBP plans and consumers combined, even compared to negotiated rates for community pharmacies.

While the results of this study have served to propagate contentions that mail order is cost-effective relative to community pharmacies, they are not compelling evidence of cost savings. GAO was unable to gain access to a broad range of data that would have allowed more comprehensive analysis. Instead, calculations were based on surveys of prices for 30-day supplies of 18 products. Prices for mail order pharmacies and community pharmacies in the plan's network were self-reported by the plans and were not independently verified by GAO. GAO obtained the typical "cash price" paid by a person without third-party insurance coverage by surveying a total of 36 community pharmacies in California, North Dakota and the Washington, DC metropolitan area. The small number of products in the sample did not allow for an adequate comparison of the actual mix of products most often provided by the two outlets. Furthermore, GAO noted that financial incentives such as lower co-payments were used to steer consumers to mail, which could have reduced costs to consumers but increased costs for the plans. A more appropriate study for our purposes would have compared unit prices paid by the plan through mail order and the plan's network pharmacies.

A cost-impact analysis prepared by PriceWaterhouseCoopers and funded by a PBM trade group estimated that limiting incentives for plan members to use mail order pharmacies would result in a 2.6% increase in overall drug costs within a plan during 2005. This estimate is based on an estimated discount for mail drug costs of 11 percent compared to drug costs at community pharmacies. The study authors hypothesized that reducing the proportion of mail order drugs purchased would result in an overall decrease in the total discounts realized. Although this result may seem intuitive, no evidence was provided to indicate that this analysis was conducted based upon an actual plan's experience.³⁰

A recent study by researchers from Virginia Commonwealth University and a pharmacy benefit consulting firm found that mail order lowered pharmacy benefit costs to beneficiaries

but raised costs to the plan sponsor (e.g., employer).³¹ This study used claims data from approximately 100,000 members in a health plan. Beneficiaries could get 90 days supply from mail order for the equivalent of two co-payments for 30 days supply from community pharmacies. Based on over 44,800 claims for the top 201 products dispensed by mail order, the researchers estimated that total drug benefit costs for the health plan and enrollees combined decreased by about 7.8 percent compared to what might have been paid if the mail order prescriptions were filled at community pharmacies. However, the health plan itself spent over \$300,000 more (3.8 percent) than it would have if the drugs been obtained at community pharmacies because reductions in co-payments exceeded the savings from reduced ingredient and dispensing costs at mail. While this study appears to be the most rigorous design to date, the authors also note that it raises additional questions. The primary limitation of this analysis was that the results reflected the experience of one health plan and one mail service pharmacy that was not owned by the PBM managing the plan. Therefore, the results may not be applicable to the broader prescription drug market.

A recently-released report by the Federal Trade Commission aimed at studying the conflicts of interest within PBM-owned mail order operations conducted a comparison of a marketbasket of drugs to estimate unit price differences between mail order and retail pharmacies. Results from their survey showed that unit prices were typically higher in retail pharmacies versus mail order pharmacies. However, similar to previously-released studies, the authors did not attempt to compare the impact of generic and brand product mix within and across therapeutic categories to determine the net economic impact to plan sponsors and enrollees. The authors noted that differences in unit pricing were largely a function of contracting between the plan sponsor and the PBM which enticed use of the mail order option.³²

Lastly, while early literature suggests that mail order saves money by encouraging generic use,³³ more recent studies indicate that generic dispensing rates and generic substitution rates are lower in mail order plans.³⁴ When comparing generic dispensing rates between mail order and community pharmacy networks, it is important to acknowledge differences in product mix between the two systems, as described in a recent Health Affairs article.³⁵ Mail order pharmacies typically dispense maintenance medications for chronic conditions, so comparisons with community pharmacy generic dispensing rates should ignore acute care medications often dispensed at community pharmacy outlets (for example antibiotics, cough and cold, and acute pain medications). When controlling for drug mix, differences in generic dispensing rates appear to be lessened between mail order and community pharmacies, but they are not necessarily eliminated.

V. Discussion

Measuring the net results of whether a mandatory mail order plan (in addition to the traditional network of pharmacies) realizes any significant overall savings is an exercise that has not been published widely in peer-reviewed journals. The following are suggested reasons for the lack of published studies in this area.

First, the data sources that would be utilized for this type of analysis routinely fall under the control of PBMs, which may have a vested interest in propagating the use of their own mail order pharmacies. Secondly, there may be an over-reliance on assumed savings on the part of plan contracting administrators with regard to the negotiated discounts between mail order and community pharmacy. The reliance on expected savings merely due to differences in discounted AWP reimbursement calculations between mail order and community pharmacy ignores additional factors affecting total net costs. Such factors might

include: 1) lower generic dispensing rates routinely found within mail order claims, and 2) any significant difference in the rate of wasted products as a result of higher days supply through mail order. Discounts may also reflect spread pricing on community pharmacies, where the actual rates charged to the plan sponsor are higher than the reimbursement provided by the PBM to community pharmacies, as noted in recently published research³⁶.

In addition, comparing mail order versus community pharmacy utilization and payment patterns to determine actual net cost savings requires a high level of sophistication in understanding all potential factors that ultimately affect total pharmacy costs within a plan. Administrators with little experience or background in measuring prescription drug utilization trends may be more likely to defer to PBM representatives to provide template reporting of utilization trends. In this case, the PBM may not have a significant incentive to conduct such exhaustive studies during the contract service period. Furthermore, PBMs that are bidding for new plan business may not have access to the plan's previous prescription utilization and payment data to offer to estimate potential savings.

It is not known to what degree analyses of mail order costs/savings may be conducted by private benefit consultants as part of a paid service to plans. In this case, it would not be in the interest of the plan or the consulting group to publish these results out of respect for the privacy of the client-consultant relationship. However, the degree to which outside consultants would be retained by small to mid-sized companies makes it unlikely that these comparisons are routinely measured by these smaller employer groups.

Without available published research, we are left to hypothesize that savings commonly attributed to the mail order component may be more a by-product of the pharmacy benefit design (e.g., co-payment levels or days-supply requirements) rather than mail order efficiencies, in particular. As noted, it is common for plans to include financial incentives for

consumers to use mail such as reduced cost sharing. The patient saves money, but savings may not carry over to the plan sponsor. In addition, PBMs and other mail order providers often use pricing models that offer greater percentage discounts, reductions in dispensing or administrative fees and other incentives to encourage plan sponsors to use mail order. However, differences in plan reimbursement rates for generic drugs (e.g., discounted AWP in mail order versus maximum allowable costs in community pharmacies) may not guarantee the lowest paid ingredient cost when generic drugs are dispensed and reimbursed through the mail.

Therefore, decisions made by the plan during contract negotiations are crucial for determining whether a plan design will ultimately encourage the widest access to medications, while still allowing for optimal control of prescription spending.

VI. Recommendations

The need for well-designed, controlled studies to measure the net economic impact of a mail order pharmacy option within a pharmacy benefit plan is evident based on the dearth of published studies to this point. Plan administrators would benefit from analyses that take into consideration the many factors that directly impact calculations of cost savings of mail order pharmacy over traditional community pharmacy networks.

For instance, comparisons of generic dispensing rates should be calculated within therapeutic categories that are served primarily by mail order pharmacies. By controlling for these categories between the two outlets, a proper “apples to apples” comparison can be derived.

Secondly, all cost comparisons should include both net costs to the plan, as well as net costs to the enrollee. Ideally, these costs would include all discounts and rebates included in

the contracted agreement so that a more appropriate representation of the marketplace can be achieved. It is important to consider net costs to the enrollee due to the trend of increased cost-sharing being borne by enrollees as a means of slowing expenditure growth back to the plan. Positive or negative incentives can be created within plans to utilize mail order pharmacy based upon the level of cost-sharing passed along to enrollees.

As part of the cost calculation, the appropriate comparison of costs should find a common denominator to measure between the two outlets. We would suggest either cost per enrollee month, or cost per therapy day. Due to the differences in average quantities and days supply between mail order and community pharmacy, calculations based on a “per claim” basis would not be appropriate. Further limiting cost comparisons to only those therapeutic categories dispensed through mail order pharmacies would provide even more meaningful comparisons.

Third, when possible, cost comparisons should be made between mail order prescription charges to the plan and actual payments to the community pharmacies. Plans may or may not negotiate actual pass-through charges to community pharmacies as part of the contract negotiation. In cases where pass-through charges are not required, PBMs may have the option of retaining any “spread” between the negotiated community pharmacy payment and what is actually paid to the pharmacy through a separate agreement with network pharmacies.

Finally, a measurement of rates of prescription drug waste should be conducted for both mail order and community pharmacy prescriptions. Intuitively, if rates of waste are similar across enrollees using mail order and community pharmacy networks, one might assume a negative impact on mail order costs due to their larger quantities and higher average

prescription prices as a result. Random audits or surveys with enrollees could help establish meaningful estimates of wastage rates across the two outlets.

Somewhat surprisingly, the growth of mail order pharmacy over the last decade has been unaccompanied by well-controlled, published studies to investigate the net economic impact of this prescription delivery model on total prescription and overall health care costs. Health service researchers should contribute studies in this area to sufficiently provide policy analysts and decision-makers with timely and useful information to help determine the most cost-effective means of providing prescription drugs to beneficiaries.

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