Deeply discounted medications: Implications of generic prescription drug wars

Jessica L. Czechowski, Jennifer Tjia, and Darren M. Triller

**Abstract**

**Objective:** To describe the history of generic prescription pricing programs at major pharmacy chains and their potential implications on prescribing, quality of care, and patient safety.

**Data sources:** Publicly available generic prescription discount program drug lists as of May 1, 2009.

**Summary:** Fierce competition among major pharmacy chains such as Walgreens, CVS, and Walmart has led to a generic prescription pricing war with unclear public health implications. Introduced in 2006, currently 7 of the 10 largest pharmacy chains advertise a version of a deeply discounted medication (DDM) program, accounting for more than 25,000 locations nationally. By early 2008, almost 70 million Americans had used these programs. Although DDM programs lower drug costs for many patients, DDM formularies include potentially ineffective or harmful medications, have the potential to influence physician prescribing behavior, and may impair pharmacists’ ability to review complete drug-dispensing records.

**Conclusion:** DDMs are widespread but have the potential for unintended consequences on patients, providers, and the health care system. A systematic review of DDMs needs to evaluate the clinical, economic, and system-level implications of such programs.

**Keywords:** Chain pharmacy, generic drugs, medication use, adherence (medication), quality of care.

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Fierce competition among major pharmacy chains such as Walgreens, CVS, and Walmart has led to a generic prescription pricing war with unclear public health implications. Each of these chains offers a 1- or 3-month supply of specific medications for less than $10. Although lower prices for pharmaceuticals may be beneficial to patients, certain characteristics of these aggressive marketing programs may influence prescribing practices, the ability to monitor patient drug regimens, and patient health outcomes.

An initial determination of whether the deeply discounted medication (DDM) programs are collectively beneficial or harmful can only be made following a systematic evaluation of the programs, including the medications included and excluded and the effect on existing and emerging health system practices. Because of the high visibility of the programs and the volume of participating pharmacies, understanding DDM program effects is important to guiding policy development, promoting the expansion or replication of beneficial program characteristics, curtailing potentially detrimental characteristics, and integrating such programs into existing and emerging health care delivery systems.

**At a Glance**

**Synopsis:** Although important questions remain and a formal evaluation of the effects of deeply discounted medication (DDM) programs is necessary, the authors of the current work believe that the benefits of increased access to medications may outweigh the potential downsides of DDM programs. DDMs are widespread (available in >25,000 pharmacies nationwide) and highly used (through early 2008, almost 70 million Americans had obtained at least one prescription from a DDM program) but have the potential for unintended consequences on patients, providers, and the health care system.

**Analysis:** Issues surrounding DDM programs include alleged “predatory pricing,” affecting revenue from claims for pharmacy benefits managers, and affecting Medicare Part D patients’ prescription benefits in the coverage gap (i.e., “doughnut hole”). Although discounting programs may affect consumer price expectations, little evidence exists that the short-term effects on category choice, category incidence, and purchase quantity persist over the long term. Efforts such as a 5-year demonstration project by the Centers for Medicare & Medicaid Services to provide financial incentives for implementing electronic health systems and New York State’s grants for information technology improvements could identify unintended consequences of current DDM billing practices and opportunities for system modifications that allow discount pricing strategies to continue while ensuring adequate information sharing that supports the development of an interoperable and transparent health care system.

**Objectives**

The current work sought to describe key characteristics of DDM programs and to outline issues for further research to systematically evaluate the clinical, economic, and system-level implications of such programs.

**History and evolution**

The pricing war among major pharmacy chains appears to have begun in 2006. In May 2006, Kmart initiated a program that offered 90 days of select generic drugs for $15, affecting all 1,100 pharmacies nationwide. A $4 pilot program was then initiated in select Walmart pharmacies in Florida in fall 2006, and by the end of 2006, Walmart had extended the program nationwide. These programs have since been adopted by regional and national competitors, and 7 of the 10 largest pharmacy chains currently advertise a version of a DDM program on their consumer webpages. This rapid and widespread dissemination accounts for more than 25,000 locations nationally. Through the early part of 2008, almost 70 million Americans had obtained at least one prescription from a DDM program.

**Program characteristics**

DDM programs vary from company to company but are characterized by one or more of the following DDM pricing strategies:

- Single low (or absent) out-of-pocket price ascribed to a select group of generic medications
- Direct-to-patient advertising
- Cost incentives for extended (e.g., 90-day) supplies
- National or regional availability through chain pharmacies and “big box” retailers
- Independence from the patient’s private insurer and prescription benefit plans
- Registration as a member, sometimes requiring an enrollment fee
- Inclusion of over-the-counter (OTC) products

Features of selected generic prescription discount programs are summarized in Table 1.

**Potential clinical impact**

A key advantage of the DDM programs is lower medication costs for patients. For many Americans, the availability of low-cost generic medications reduces cost barriers to medication acquisition substantially and may improve medication adherence. Medication acquisition costs are a barrier for an estimated 45 million nonelderly uninsured in the United States and for elderly insured individuals whose increasing out-of-pocket expenses contribute to cost-related nonadherence. Estimates indicate that poor adherence contributes to at least 10% of hospitalizations. Therefore, improving access through DDM programs that reduce the price of medications may lead to increased adherence to beneficial agents such as angiotensin-converting enzyme inhibitors and statins and may in turn reduce the incidence of serious cardiovascular events by improving care.
Unfortunately, these benefits may be offset by the potential of DDM programs to affect the drug selection process by influencing drug choice toward DDM formulary medications. To derive the cost benefits of these programs, patients must be prescribed a medication on a DDM formulary list. Anecdotal reports suggested that patients present DDM formulary lists to physicians in an effort to guide physician prescribing and that some hospitals use DDM formulary lists to guide discharge medication prescribing for patients without prescription drug benefits. This notion is supported, in part, by marketing research suggesting that repeated discounting activity in a category affects short-term category choice (e.g., which drug), category incidence (e.g., drug purchasing overall), and purchase quantity. Evidence also suggests that price promotions lead to decreased differentiation between brands. In the context of medications, this market research supports the notion that patients may not differentiate between different drugs in a category if they can obtain the drugs at the discounted price. Previous clinical research also has shown that physicians are responsive to prescribing requests from patients, in part because physicians consider the cost implications of the drugs they prescribe as important and because it is their responsibility to prescribe a preferred (formulary) medication. Taken together, the composition of the DDM drug list could affect patient care quality in that the formulary status of a medication could influence prescribing rather than clinical appropriateness. This is also the case for formulary lists for insurers and, in both cases, presents a concern when some DDM or insurer formulary medications guide prescribing toward potentially ineffective or harmful drugs.

Review of selected DDM lists show that they include medications on the Beers list of inappropriate medications in the elderly and that have Food and Drug Administration (FDA) black box warnings. For example, a drug common to six of the DDM lists (Walgreens, CVS, Walmart, Rite Aid, Kroger, and Target) is thioridazine. Thioridazine is a drug known to be included on the Beers list and carries two FDA black box warnings for prolonged QTc interval and increased mortality risk in the elderly. Because thioridazine is not the only such drug on DDM lists, further research is needed to systematically evaluate DDM formularies for safety and efficacy based on available standards and medical consensus.

Another potential consequence of each corporation’s DDM list and program is exacerbation of the ongoing problem of patients using multiple pharmacies in order to obtain the lowest price for single medications on DDM lists. These “a la carte” patients may be inadvertently putting themselves at risk because individual pharmacies would be unable to evaluate their comprehensive medication profile, limiting the ability to adequately counsel or assess for drug–drug interactions based on incomplete drug-dispensing records.

The quantity of medications obtainable through DDM programs also warrants consideration. Some programs offer further discounts or incentives for extended days’ supplies of medications (e.g., $10 for 90 days vs. $4 for 30 days). Such savings may be suitable for patients obtaining refills for long-standing medications, but such large quantities may contribute to waste if patients discover that they cannot tolerate a new medication or if the medication is discontinued for other reasons. An estimate of the magnitude of this problem can be drawn from a Department of Veteran Affairs study evaluating the relative benefits of 30- versus 90-day drug dispensings. This study showed that about 5% (17 of 346) of unique prescriptions were discontinued within 90 days of initiation (6 within 30 days, 5 within 31–60 days, and 6 within 61–90 days). Because medication disposal is already a nationwide concern, the excessive quantities of medications dispensed by these programs have the possibility of affecting the environment if patients discard unused medications into the public water supply.

### Potential economic impact

DDMs were originally loss-leader programs meant to attract future business by providing a product or service at a considerable discount and loss of profit. For example, the stated purpose of the original Walmart program was to “bring customers into the store.” This strategy enhances threats to the viability of independent pharmacies who struggle to compete against the effects of chains’ purchasing power, operational efficiency, and other factors that generally allow for lower prices on prescription drugs. This threat was apparent 30 years ago when George Provost wrote the following in Pharmacy Management: “The age-old chain vs independent conflict in pharmacy never has been more apparent than it is today. ... How can consumers view pharmacy as a service-oriented profession when they are
offered loss-leader prescription prices and such enticements as discount coupons for prescription purchases? 32

However, the broader economic impact of these programs remains uncertain. From the perspective of the individual corporation, increases in total revenue may result if a sufficient number of new patients are attracted but increased revenues are not guaranteed, as Walmart showed when initially claiming that it would be selling prescriptions under the program at a loss. 33 For example, while DDM programs typically charge patients $4 to $5 per 30-day supply of medication, the average national cost of dispensing per prescription is $10.50 (2007 USD) based on a study of more than 23,000 pharmacies in the United States by the Coalition for Community Pharmacy Action that measured the cost of dispensing as a function of five cost elements (prescription department salaries and benefits, other prescription department costs, facilities costs, other store/location costs, and allocated corporate overhead). 33

The DDM pricing structure has led to legal challenges, as Walmart and other chains have been forced to raise the prices on their DDM plans in some areas after litigation alleging "predatory pricing." 34 Section 2 of the Sherman Act, pertaining to the laws of pharmacy, describes monopolistic practices. A subsection of this law refers to predatory pricing as "when a firm prices a product or service below an appropriate measure of its production costs in an effort to drive rivals out of the market." 34 Walmart lost one case in Arkansas alleging that its "predatory pricing" was intended to put local pharmacies out of business; the decision was eventually overturned. 35

Third-party providers, such as pharmacy benefits managers (PBMs), also experience economic consequences of DDM programs. An example may be "big box" retailers that partner with employers to allow "pricing on drugs directly from the retailer" while "bypassing a third-party provider." 36 Under a potential new Walmart program, when a physician prescribes a generic drug for an employee and the employee chooses to fill the prescription at Walmart, the discounted pricing is provided to the employer, who then waives the patient’s copay. This practice may have the unintended consequence of affecting revenue from claims for PBMs, especially if other large chains adopt the practice.

DDMs also can affect patients with Medicare Part D prescription benefits in the coverage gap, or so-called "doughnut hole," that requires enrollees to pay 100% of total drug costs until they reach their catastrophic coverage level; drugs acquired from DDMs are not automatically credited toward their spending in this coverage gap. Therefore, enrollees are less likely to reach their catastrophic coverage level at which out-of-pocket costs are reduced. Whether DDM programs can decrease overall health care costs from reduced prescription drug expenditures and through avoidance of urgent care visits and hospitalizations remains to be examined.

Health system impact
A number of DDM programs involve modified transaction practices that omit the transfer of information associated with typical PBM/prescription insurance claims adjudication. Because the digital prescription record from a DDM claim may be confined to the pharmacy’s proprietary system, it is not readily accessible by remote systems or providers for evaluation of clinical practice. In this environment, pharmacists cannot effectively check for drug–drug interactions or counsel a patient with the knowledge of medications received in other pharmacies. Physicians using e-prescribing applications are likewise “blinded” to the complete medication profile and are not able to ascertain electronically whether an e-prescription has been filled or picked up by the patient because an insurance claim was not submitted for adjudication. Patients may be hampered in their efforts to upload or import information directly into personal health records, and insurers and PBMs may be unable to effectively perform drug use review or disease management activities. Studies by government agencies, accreditation organizations, or researchers may be limited due to the inability to measure DDM transactions in insurance claims–based quality metrics and research protocols. As such, efforts by the Centers for Medicare & Medicaid Services (CMS) to develop physician quality metrics based on drug insurance claims are trying to address this measurement problem, and pharmacoeconomic-logic studies are under way to quantify the effect of DDM programs on the measurement of drug exposure and adherence based on insurance data.

Efforts such as CMS’s 5-year demonstration project to provide financial incentives for implementing electronic health systems 37 and New York State’s grants for information technology improvements 38 could take note of the unintended consequences of current DDM billing practices and may identify opportunities for system modifications that allow for the continuation of the discount pricing strategies while ensuring adequate information sharing that supports the development of an interoperable and transparent health care system. Such efforts will contribute to meeting President Barack Obama’s goal that "medical information on all Americans should be digitized by 2014." 39

Long-term implications
The long-term implications of discounting programs are unclear. Studies from the marketing research literature suggest that the long-term effects of price promotions is an area of research that is "probably the most debated issue in the promotional literature." 40 Further, extrapolating market research findings to prescription medications is difficult because drugs are different from goods for which consumers have unrestricted free choice. Although evidence exists that discounting programs can affect consumer price expectations, 41 there is little evidence that the short-term effects on category choice (i.e., which drug), category incidence (i.e., drug purchasing overall), and purchase quantity persist for the long term. 22,23 The long-term effects of DDMs remain to be seen.

Conclusion
In the end, the benefits of increased access to medications may outweigh the potential downsides of DDM programs, but a more formal evaluation of the effects of DDMs is necessary.
As it stands, DDM programs are available in more than 25,000 pharmacies nationwide and are being highly used. Important questions remain, including the following: Are prescribing patterns being altered as a result of DDM programs, and if so, are the changes beneficial? What are the economic implications for governments, third-party payers, employers, and competitors? Can the programs be fully integrated into the vision for a more efficient and coordinated national health care system? And, most important, do patients who use such programs enjoy the benefits of improved health and longevity?

Considering the immense scope of the present DDM programs and the rate of evolution of new ones, the authors believe that systematic evaluation of such marketing practices is warranted. The assessment of DDM programs individually and in aggregate using objective evaluative criteria is necessary to identify their most positive and negative characteristics so that appropriate policy and regulatory activities can be enacted.

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