

AARP Public Policy Institute

Rx Watchdog Report
Trends in Manufacturer Prices of Generic
Prescription Drugs Used by Medicare Beneficiaries
2003 to 2007

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Research Report

AARP[™]

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by

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AARP's Public Policy Institute informs and stimulates public debate on the issues we face as we age. Through research, analysis and dialogue with the nation's leading experts, PPI promotes development of sound, creative policies to address our common need for economic security, health care, and quality of life.

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EXECUTIVE SUMMARY

Introduction

AARP's Public Policy Institute finds that price increases for generic drugs fell between 2003 and 2007; this is consistent with the pattern that we have seen since initiating our ongoing series of studies on prescription drug prices in 2004. In 2007, the average annual rate of change in manufacturer prices charged to wholesalers and other direct purchasers for 185 generic prescription drugs widely used by Medicare beneficiaries fell by 9.6 percent. The general inflation rate, according to the Consumer Price Index for all items, was 2.9 percent during the same 12-month period.

Generic drugs have long been a means of helping consumers and third-party payers reduce prescription drug costs. Generic drugs accounted for about two-thirds of retail prescriptions in the United States in 2007 but, because they are priced substantially below their therapeutically equivalent brand name counterparts, they account for a much smaller dollar share (about 20 percent) of U.S. retail prescription drug purchases. The availability of lower-cost generic drugs is particularly important in view of rapid health care cost increases of recent years, a substantial share of which is attributed to prescription drugs.

This report presents our most recent findings on the pattern of changes in manufacturer prices for generic prescription drugs. Consistent with our recent report on the pattern of manufacturer price changes for brand name drugs, this study takes advantage of a newly constructed market basket. In the past, we have based the market basket on drugs used by older Americans in general; we now base it on the experience of beneficiaries in Medicare Part D plans.

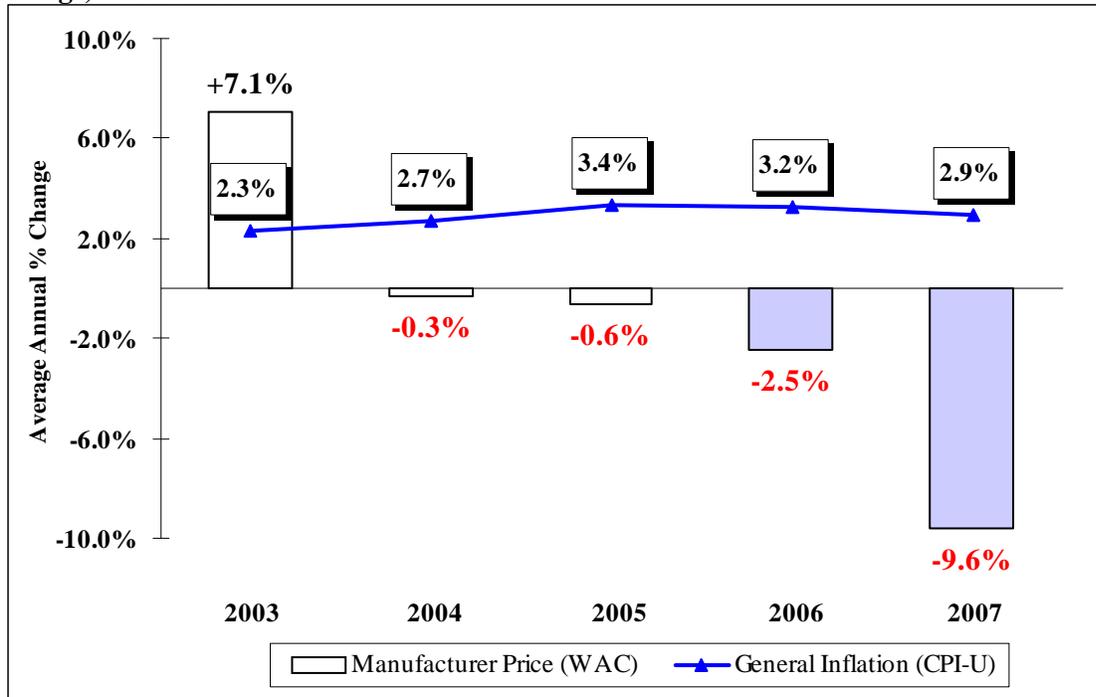
Specifically, the report compares generic prescription drug price changes over time and to the rate of general inflation. Also, this report examines differences in average price changes by manufacturer and by major therapeutic category. The report's focus is on changes in the list prices that generic drug manufacturers charge to wholesalers and other direct purchasers for sales to pharmacies in the retail class of trade. These price changes represent changes in manufacturers' *list prices* for generic drugs, which can affect the level of payment by third-party payers (which almost always link pharmacy reimbursement to these list prices) but may not reflect discounts or rebates that generic drug manufacturers provide to wholesalers and other direct purchasers. As a result, the price changes reported in this study represent an upper bound of manufacturer price changes. The extent to which these list price changes influenced changes in average retail prices of generic drugs during the study period is not known.

Findings

- **Overview.** This study finds that, in 2007, generic drug manufacturers either *lowered* list prices or kept list prices unchanged for nearly all of the 185 generic prescription drug products widely used by Medicare Part D enrollees. In addition, the average annual rates of change in manufacturer prices in 2006 and 2007 (-2.5 and -9.6 percent, respectively)—that is, since the implementation of the Medicare drug benefit—were substantially lower than the average annual changes found in the previous three years (+7.1 percent, -0.3 percent, and

-0.6 percent, respectively). By contrast, the rate of general inflation varied between 2.3 percent and 3.4 percent during these years.

Average Annual Percent Change in Manufacturer Prices for Most Widely Used Generic Prescription Drugs, 2003 to 2007



Note: Shaded bars indicate years when Medicare Part D was operational.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health, Inc., February 2008).

- **Annual price changes.** During 2007, manufacturer prices changed for 52 of the 185 generic prescription drug products in the study's market basket. The prices of the remaining 133 drug products did not change.
- **Cumulative change in manufacturer prices.** On average, manufacturer prices for 125 generic drugs that have been on the market since the beginning of the study (December 2002) decreased 16.5 percent by December 2007, whereas the general inflation rate was 16.1 percent during the same period.
- **Cumulative change in estimated dollar cost of therapy.** For a consumer who takes three generic prescriptions on a chronic basis, the average change in the cost of therapy for the drug products used to treat chronic conditions fell by more than \$201 between the end of 2002 and the end of 2007.
- **Differences by manufacturer and therapeutic category.** Average annual drug manufacturer price increases in 2007 exceeded the rate of general inflation for only 1 of the 22 drug manufacturers with at least two drug products in the market basket, and for only 3 of the 33 therapeutic categories.

Methodology

The list of generic prescription drugs widely used by Medicare beneficiaries is based on the 300 most widely dispensed drug products (including both generic and brand name drugs), the 300 drug products with the highest sales levels, and the 300 drug products with the highest number of days of therapy provided among the prescriptions adjudicated by the largest Medicare Part D plan provider. UnitedHealthcare-PacifiCare provided Medicare Part D coverage in 2006 and is also the organization that insures the AARP Medicare Rx plans. This Medicare Part D plan provider supplied data for all prescriptions provided to Medicare Part D enrollees during 2006. Each drug product represents a unique combination of active chemical ingredient, strength, dosage form, package size, and manufacturer (for example, simvastatin 20 mg tablet, bottle of 30, Teva Pharmaceuticals).

The three market baskets used in this report series (brand name, generic, and specialty drugs) combined account for 81.6 percent of all prescription drug expenditures, 79.2 percent of all prescriptions dispensed, and 91.2 percent of all days of therapy provided. Previous reports by the AARP Public Policy Institute have documented manufacturer price changes of specific *brand name* drugs that are widely used by Medicare beneficiaries; and a forthcoming report will focus on manufacturer price changes of specific *specialty* drugs.

Generic drugs are analyzed and reported on separately from brand name and specialty drugs because the dynamics of manufacturer pricing in the generic drug market differ substantially from those in the brand name and specialty markets. In particular, when there are two or more generic versions of the same drug product on the market, companies compete primarily on price; because generic firms are selling homogeneous goods, pharmacies and wholesalers can use their leverage as purchasers to encourage price competition between firms. By contrast, in the market for single source brand name and specialty drugs without therapeutically equivalent generic substitutes, manufacturers have monopolies for their brand name drug products and compete very little, if at all, on price.

Competition between therapeutically equivalent generic drugs affects the market in two ways. First, the entry of additional generic drugs usually leads to decreases in manufacturer prices (both *list prices* and *net transaction prices*) over time. Second, reimbursement practices by third-party payers create incentives for pharmacies to seek—and manufacturers to provide—reductions in net transaction prices through discounts and rebates below the published list price. The changes in *list prices* (wholesale acquisition cost, or WAC) are examined in this study, but the changes in *net transaction prices* are not captured by publicly available pricing data. While the magnitude of these two effects is not known, the use of manufacturer list prices for generic drugs as a proxy measure of net transaction prices is likely to *overstate increases* in net transaction prices.

Although the market basket studied was identified using data from a large Medicare Part D plan provider, changes in prices charged by drug manufacturers to wholesalers were measured using changes in the WAC as published in the Medi-Span Price-Chek PC database. The average annual change in prices was calculated for each individual drug product as a 12-month rolling average. Aggregate estimates of price or change in drug prices were calculated by weighting each drug product's value by its share among the Medicare Part D provider's 2006 annual sales of generic drug products in the market basket. The number of drugs included in the analysis for a given year varies because not all drugs in the market basket were on the market in earlier years; these trend analyses

are based solely on the new market basket. Analysis for 2003, the earliest year covered in this report, includes 125 drugs, representing 68 percent of the total study market basket of generic drug products.

As an analysis of manufacturer price changes, this particular study is limited because of the lack of publicly available data that capture all of the discounts and rebates that generic drug manufacturers sometimes provide to wholesalers and other direct purchasers. These discounts and rebates can be quite substantial, such that decreases in manufacturer list prices may understate decreases in net transaction prices. As a result, the findings presented here represent an *upper bound* of net transaction price changes by generic drug manufacturers.

Furthermore, the manufacturer price for generic drugs often represents a smaller component of the retail prescription price than does the manufacturer price for brand name prescriptions. Therefore, consumers may have experienced changes in retail prices that do not reflect the patterns and trends reported here.

Concluding Observations

The findings of this report show that the manufacturer prices of a majority of the generic drug products in the market basket do not change. However, when list price changes do occur, they are usually substantial.

Manufacturer drug price changes can have a direct impact on costs borne by Medicare Part D plans and enrollees. Low-cost generic drugs are a means of helping consumers and third-party payers reduce their prescription drug costs, particularly when prices remain stable or are decreasing. The availability of these therapeutically equivalent substitutes is especially important in view of rapid health care cost increases of recent years, a substantial share of which is attributed to prescription drugs.

INTRODUCTION

AARP's Public Policy Institute finds that price increases for generic drugs fell between 2003 and 2007; this is consistent with the pattern that we have seen since initiating our ongoing series of studies on prescription drug prices in 2004. In 2007, the average annual rate of change in manufacturer prices¹ charged to wholesalers and other direct purchasers for 185 generic prescription drugs widely used by Medicare beneficiaries fell by 9.6 percent. The general inflation rate, according to the Consumer Price Index for all items, was 2.9 percent during the same 12-month period.

Generic drugs have long been a means of helping consumers and third-party payers reduce prescription drug costs.² Generic drugs accounted for about two-thirds of all retail prescriptions in the United States in 2007 but, because they are priced substantially below their therapeutically equivalent brand name counterparts, they account for a much smaller dollar share (about 20 percent) of U.S. retail prescription drug purchases.³ The availability of lower-cost generic drugs is particularly important in view of rapid health care cost increases of recent years, a substantial share of which is attributed to prescription drugs.

This report presents our most recent findings on the pattern of changes in manufacturer prices for generic prescription drugs. Consistent with our recent report on the pattern of manufacturer price changes for brand name drugs,⁴ this study takes advantage of a newly constructed market basket. In the past, we have based the market basket on drug use by older Americans in general;⁵ we now base it on the experience of beneficiaries in Medicare Part D plans.

This study reports on the extent to which manufacturer prices for specific *generic* drugs changed between 2003 and 2007. Previous reports by the AARP Public Policy Institute have documented manufacturer price changes of specific *brand name* drugs that are widely used by Medicare beneficiaries; a forthcoming report will focus on manufacturer price changes of specific *specialty*

¹ The manufacturer price tracked and analyzed for this report was the wholesale acquisition cost (WAC), which is a list price reported by the manufacturer and used by manufacturers on their invoices to wholesalers or other direct purchasers. The actual net transaction price from the manufacturer to the wholesaler or other direct purchaser may be less than the WAC due to discounts and rebates. There are no consistent, comprehensive, and publicly reported data sources for this discount and rebate information.

² A generic drug is defined by the U.S. Food and Drug Administration (FDA) as a "chemical clone" that has the same active ingredients as its FDA-approved brand name counterpart and that can be expected to have the same therapeutic effect as its brand name counterpart (FDA, Center for Drug Evaluation and Research, *From Test Tube to Patient: Improving Health through Human Drugs*, September 1999). For the purposes of this analysis, a generic drug is any FDA-approved product that is therapeutically equivalent to a product marketed by the original new drug application (NDA) holder. For the most part, this includes products with an abbreviated NDA (ANDA). It also includes some products that have an NDA that was not the original NDA for the chemical entity, as well as "branded generics," i.e., generic drug products that are marketed using a brand name (e.g., Levoxyl 100 mcg tablets).

³ 2007 figures based on IMS data. Generic Pharmaceutical Industry Association, *Generic Pharmaceutical Association: Statistics*, <http://www.gphaonline.org/Content/NavigationMenu/AboutGenerics/Statistics/default.htm> (accessed March 18, 2008).

⁴ D. Gross, S. Schondelmeyer, and L. Purvis, "Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007," March 2008, http://www.aarp.org/research/health/drugs/rx_watchdog.html.

⁵ Previous reports in this series can be found on the AARP Website, <http://www.aarp.org/research/health/carefinancing/aresearch-import-869-2004-06--IB69.html>.

drugs. Generic drugs are analyzed and reported on separately from brand name and specialty drugs because the dynamics of manufacturer pricing in the generic drug market differ substantially from those in the brand name and specialty markets. In particular, when there are two or more generic versions of the same drug product on the market, companies compete primarily on price:⁶ because generic firms are selling homogeneous goods, pharmacies and wholesalers can use their leverage as purchasers to encourage price competition between firms.⁷ By contrast, in the market for single source brand name and specialty drugs without therapeutically equivalent generic substitutes, manufacturers have monopolies for their products and compete very little, if at all, on price.

This report presents the results of an analysis of changes in manufacturers' list prices set for drugs sold to wholesalers and other direct purchasers from calendar year 2003 through calendar year 2007 for the generic prescription drugs most widely used by Medicare beneficiaries. Specifically, the report compares generic prescription drug price changes over time and to the rate of general inflation.⁸ Also, this report examines differences in average price changes for specific manufacturers and specific therapeutic categories. The report focuses on changes in the prices that generic drug manufacturers charge to wholesalers and other direct purchasers for sales to pharmacies in the retail class of trade. These price changes represent changes in manufacturers' *list prices* for generic drugs, which can affect the level of payment by third-party payers and consumers (and which almost always link pharmacy reimbursement to list prices⁹) but may not reflect discounts or rebates that generic drug manufacturers provide to wholesalers and other direct purchasers.¹⁰ As a result, the price changes reported in this study represent an upper bound of manufacturer price changes. The extent to which these price changes influenced average retail prices of generic drugs during the study period is not known.

⁶ S. Keehan, A. Sisko, C. Truffer, S. Smith, C. Cowan, J. Poisal, M. Clemens, and the National Health Expenditure Accounts Projection Team, "Health Spending Projections through 2017: The Baby-Boom Generation is Coming to Medicare," *Health Affairs*, Web exclusive, February 26, 2008, w145-w155.

⁷ When a pharmacy (or wholesaler) chooses the version of generic drug product to stock, it may take into account factors in addition to the price and price "spread" of a drug (the difference between the price the pharmacy pays for the product and the price at which it sells the product) including, but not limited to, the reputation of the generic firm, breadth of product line, levels of service, in-stock rates, stability of supply over time, and availability through a wholesaler versus direct from the generic firm.

⁸ Price changes were compared to the general inflation rate to better reflect the impact of price increases on consumers, particularly older consumers whose incomes may be pegged to general inflation. The general inflation rate, for purposes of this report, is measured by the Consumer Price Index-All Urban Consumers for All Items (seasonally adjusted) and published by Bureau of Labor Statistics series CUSR0000SA0 (CPI-U). An alternative would be to compare drug price increases to the rate of medical care inflation, which tends to exceed the general rate of inflation of CPI-U.

⁹ United States House of Representatives, Committee on Oversight and Government Reform, Majority Staff, *Private Medicare Drug Plans: High Expenses and Low Rebates Increase the Costs of Medicare Drug Coverage*, October 2007, ii, 15. This congressional report found that "In almost all cases, the private (Part D plan) insurers use pricing formulas that pay pharmacies the drug manufacturers' full list prices minus a fixed percentage and a small dispensing fee. These formulas have resulted in drug prices that are generally no lower than those already available through discount pharmacies and on-line drugstores, while leaving beneficiaries and taxpayers vulnerable to repeated increases in list prices by the drug manufacturers...With only two exceptions, the Part D insurers established drug pricing formulas that pay pharmacies the manufacturers' published 'Average Wholesale Prices,' which are the manufacturers' list prices, minus a fixed percentage (on average 15%), plus a small dispensing fee (on average \$2.10 per prescription)." The report goes on to say, "One consequence of these pricing formulas is that increases in manufacturer list prices are passed through to beneficiaries."

¹⁰ *Ibid.*, ii. The congressional report found that "When the Part D insurers obtain rebates, however, they do not pass them through to beneficiaries by reducing drug prices in coverage gaps like the 'donut hole.'"

Although the market basket studied was identified using data from a Medicare Part D plan provider, changes in prices charged by drug manufacturers to wholesalers were measured using changes in the wholesale acquisition cost (WAC) as published in the Medi-Span Price-Chek PC database.¹¹ The average annual change in prices was calculated for each individual drug product as a 12-month rolling average. Aggregate estimates of price or changes in drug price were calculated for this study by weighting each drug product's value by its dollar share among the Medicare Part D provider's 2006 annual sales. The number of drugs included in the analysis for a given year varies because not all drugs in the market basket were on the market in earlier years; these trend analyses are based solely on the new market basket. Analysis for 2003, the earliest year covered in this report, includes 125 drugs, representing 68 percent of the total generic drug products included in the study.

Previous AARP Public Policy Institute reports identified changes in the average annual manufacturer price from calendar year 2000 through 2006 for 75 generic drugs widely used by older Americans. Like the recent report on brand name drugs, this report differs from those previous analyses in three important ways:

- The market basket in this report is based solely on use among Medicare beneficiaries—specifically, 2006 sales and utilization data for enrolled beneficiaries from the largest Medicare Part D plan provider. The previous studies used a market basket based on drug use by older Americans who purchased prescription drugs through the AARP Pharmacy Service, regardless of whether or not they were Medicare beneficiaries.
- This index is based on drug use in 2006, the first year the Medicare drug benefit was in operation; the previous study was based on 2003 use data.¹² The advantage of the new market basket is that it accounts for changes in availability of generic drug products (i.e., drugs for which a generic version was introduced after 2003).¹³
- The market basket used for the current study is based on Medicare Part D drug plans that use formularies and preferred drug lists, while the market basket used for the older studies was based on drug use in the private market (both third-party and cash pay) prior to implementation of Medicare Part D.

¹¹ Medi-Span is a private organization that collects price and other clinical and drug-related data directly from drug manufacturers and wholesalers. Price-Chek PC is a product of Medi-Span (Indianapolis, IN), a division of Wolters Kluwer Health, Inc., and uses data from the Master Drug Database (MDDB®). This commercial drug database has been published for more than 25 years and provides “comprehensive, integratable drug databases to healthcare professionals worldwide. The Medi-Span product line is an accurate and trusted drug information source that integrates with healthcare software applications.” Open Letter to Pharmaceutical Manufacturers, Distributors and Re-packagers, Re: Pharmaceutical Product Pricing Information for the Medi-Span Drug File (MDDB®), July 2003, published on the Medi-Span website, <http://www.medispan.com>. “WAC represents the catalog price, as reported to Medi-Span by a manufacturer, at which wholesalers may purchase drug products from that manufacturer.” Wolters Kluwer Health AWP Policy, August 23, 2007, http://www.medispan.com/marketing/Common/PDF/Marketing/WKH_AWP_Policy.pdf.

¹² Both studies examine trends in drug prices retrospectively. The current study examines price trends from 2003 to 2008 and beyond; the previous studies examined price trends from 2000 to 2007.

¹³ Although the market basket has changed from 2003 to 2006, the general inflation trend in generic drug manufacturer prices between the two market baskets is similar. Both market baskets showed a general downward trend in the rate of change of manufacturer prices for generic prescription drugs. However, the older (2003) market basket continued to show small price increases from 2003 through 2005, while the new (2006) market basket began showing price decreases in 2004. For more information, see Appendix B.

OVERVIEW: NEW MARKET BASKET OF DRUG PRODUCTS

The AARP Public Policy Institute has been reporting manufacturer drug product price changes annually and quarterly since 2004. Previous reports by the AARP Public Policy Institute were based on a market basket of retail and mail-order prescriptions provided to about 2 million people ages 50 and older who used the AARP Pharmacy Service. Based on drugs purchased through the AARP Pharmacy Service, the 200 most widely dispensed drug products (including generic and brand name drugs), and the 200 drug products with the highest sales levels were determined. The same market basket of drugs was used for all previously published AARP Public Policy Institute price trend reports. Since the Medicare Part D program is now operational and actual drug use data under it are available, we chose to use a new market basket of drugs based on actual drug use in Medicare Part D plans during calendar year 2006.

One organization providing Medicare Part D prescription drug coverage in 2006 was UnitedHealthcare–PacifiCare, which also administers the AARP Medicare Rx plans. The combined enrollment of this Medicare Part D plan provider totaled 5.68 million for 2006 (4.46 million in stand-alone prescription drug plans and 1.22 million in Medicare Advantage plans), which represented 25.3 percent of all Medicare Part D enrollees for 2006. This Medicare Part D plan provider supplied data for all prescriptions provided during 2006 to the 5.68 million Medicare beneficiaries enrolled in one of its drug plans. The data set included National Drug Code number (NDC), number of prescriptions, total expenditure, days of therapy, and units dispensed.

The Medicare Part D plan provider accounted for nearly \$12 billion in prescription drug expenditures and almost 175 million prescriptions in 2006. Specialty drugs represented 7.4 percent of the expenditures and 1.3 percent of the prescriptions. After removing specialty drugs, the generic prescriptions accounted for 59.0 percent of all regular (non-specialty) prescriptions and nearly 23.9 percent of expenditures (see Table 1). The average price for these generic prescriptions was about 20 percent of the average price for the brand name single source prescriptions.

Table 1: Characteristics of the Top Medicare Part D Plan Provider

Type of Prescription	Share of Prescriptions	Share of Expenditures
Brand single source	36.1%	69.6%
Brand multiple source	4.9%	6.5%
Generic multiple source	59.0%	23.9%

Note: The expenditures and price per prescription referred to in this section represent the total amount paid to the pharmacy (i.e., the sum of the Part D plan cost and the member cost sharing).

Source: PRIME Institute, University of Minnesota, based on 2006 data from the Medicare Part D plan provider.

The list of all drug product groups (i.e., GPI-patent status groups¹⁴) in the data set provided by the Medicare Part D plan provider for 2006 was sorted by three criteria: (1) total prescription expenditures, (2) number of prescriptions dispensed, and (3) days of therapy provided. The top 300 GPI-patent status categories were identified by each of these three criteria. Since some GPI-patent status groups appeared in more than one of these top 300 lists, the combined list of all GPI-patent status groups totaled 463 groups. There were 221 brand name GPI-patent status groups (i.e., both brand single source and brand multiple source) and 201 generic GPI-patent status groups. Another 32 GPI-patent status groups in this combined top 300 list were classified as specialty drugs, and the remaining 9 GPI-patent status groups had only inactive NDCs, so these groups were excluded from the analysis.

The generic market basket for this price change study as described above is composed of 201 GPI-patent status groups that included 5,541 active NDCs and 424 inactive NDCs.¹⁵ The expenditures for all NDCs in these 201 GPI-patent status groups accounted for 68.5 percent of all generic prescription expenditures. The prescriptions for all NDCs in the 201 generic GPI-patent status groups represented 76.5 percent of all generic prescriptions and 78.8 percent of all generic days of therapy provided. However, 16 of the 201 GPI-patent status groups did not have price information (i.e., WAC) listed in 2006.¹⁶ As a result, this study is based on the 185 widely used generic drug products for which WACs were reported in 2006.¹⁷ These drugs represent 89.0 percent of sales, 91.6 percent of prescriptions, and 91.5 percent of days of therapy provided among the entire set of 201 widely used generic drugs.

Changes in list price were determined by comparing the price (WAC) for a drug product in a given month with the price for the same drug product in the same month in the previous year. A 12-month rolling average of these monthly price changes was then calculated to determine an average annual price change.

A more detailed description of the process used for determining the market basket of drug products to be tracked and the methods used for calculating various measures of the change in prices is provided

¹⁴ GPI-patent status groups are the basic unit of analysis for grouping prescription drugs in this study. All prescription drug products have a unique NDC. These drug products at the NDC level can be grouped so that all drug products with the same active ingredients, dosage form, and strength are grouped into a Generic Product Indicator (GPI) group. Each GPI group includes all drug products at the NDC level with the same active ingredients, dosage form, and strength for any package type and size and from all manufacturers. Within a GPI group, the individual drug products at the NDC level may have a different patent status. If the patents and market exclusivity for the original drug product have not yet expired, then all NDCs within the GPI group will be brand single source drug products. However, if the original drug product no longer has a patent or market exclusivity, then the GPI group may contain both brand multiple source (or brand off-patent) drug products and generic multiple source drug products. The concepts of GPI groups and patent status groups were combined for purposes of this study to create GPI-patent status groups. Each drug product group was classified as one of the following GPI-patent status groups: (1) GPI-brand single source; (2) GPI-brand multiple source; or (3) GPI-generic multiple source.

¹⁵ Inactive NDCs are drug products that are no longer being actively marketed and sold by the manufacturer. In many cases, the manufacturer may be selling an identical, or very similar, drug product under a new NDC.

¹⁶ Some drug manufacturers do not begin listing a WAC until months or years after the drug product is introduced to the market.

¹⁷ In order to measure the impact of changes in list price alone, the weights for drug products in this market basket are fixed over time. Drug products that enter the market as generics after 2006 will not be included in this index. If drug products are withdrawn from the market, they will be dropped from the market basket in subsequent periods and the weights of other drugs will be proportionately adjusted.

in Appendix A of the AARP Public Policy Institute’s March 2008 report, “Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007.”

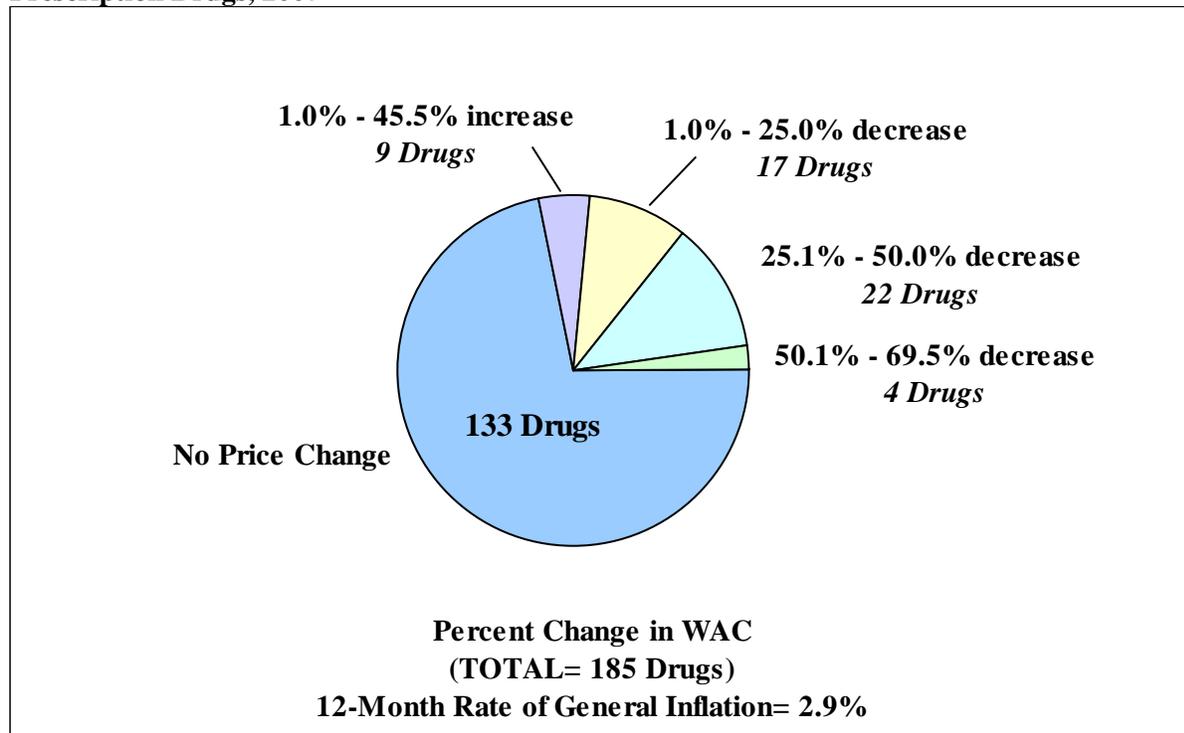
FINDINGS

I. MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED GENERIC PRESCRIPTION DRUGS IN 2007

Distribution of manufacturer price changes

Although the average change was a decrease in manufacturer price, most generic drugs—133 (71.9 percent) of the 185 generic drugs in the market basket—had no change in price in 2007. However, some of the changes in price in 2007 were quite substantial, and most—but not all—of these changes were *decreases* in price (see Figure 1).

Figure 1: Distribution of Percent Changes in Manufacturer Prices of Most Widely Used Generic Prescription Drugs, 2007



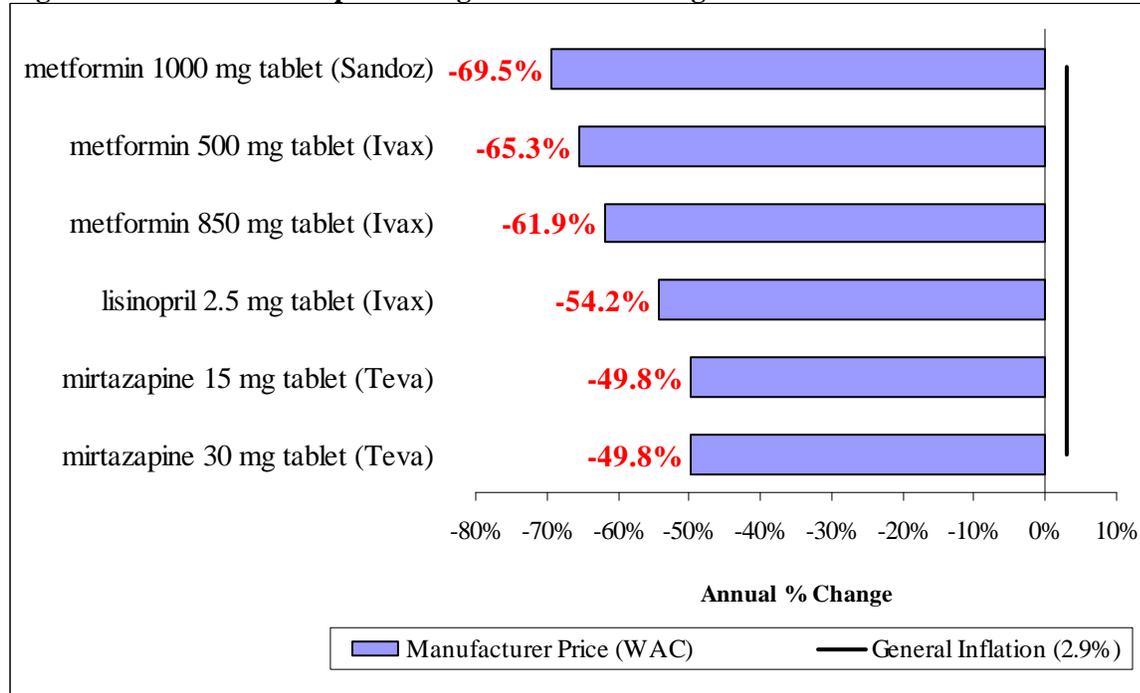
Prepared by the AARP Public Policy Institute and the PRIME Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

- Forty-three (23.2 percent) of the 185 generic drug products experienced *decreases* in manufacturer price in 2007, including 17 with decreases between 0.1 percent and 25.0 percent, 22 with decreases between 25.1 percent and 50.0 percent, and 4 drug products with decreases of more than 50.1 percent.

- Nine (4.9 percent) of the 185 drug products experienced *increases* in manufacturer price in 2007. Five generic drug products had increases of at least five times the rate of general inflation; these changes ranged from 15.0 percent to 45.5 percent.

The five generic drugs with the greatest average annual decreases in manufacturer price in 2007 are shown in Figure 2. These drugs are used to treat diabetes (metformin), high blood pressure (lisinopril), and depression (mirtazapine).

Figure 2: Generic Prescription Drug Products with Highest Decreases in Manufacturer Price, 2007

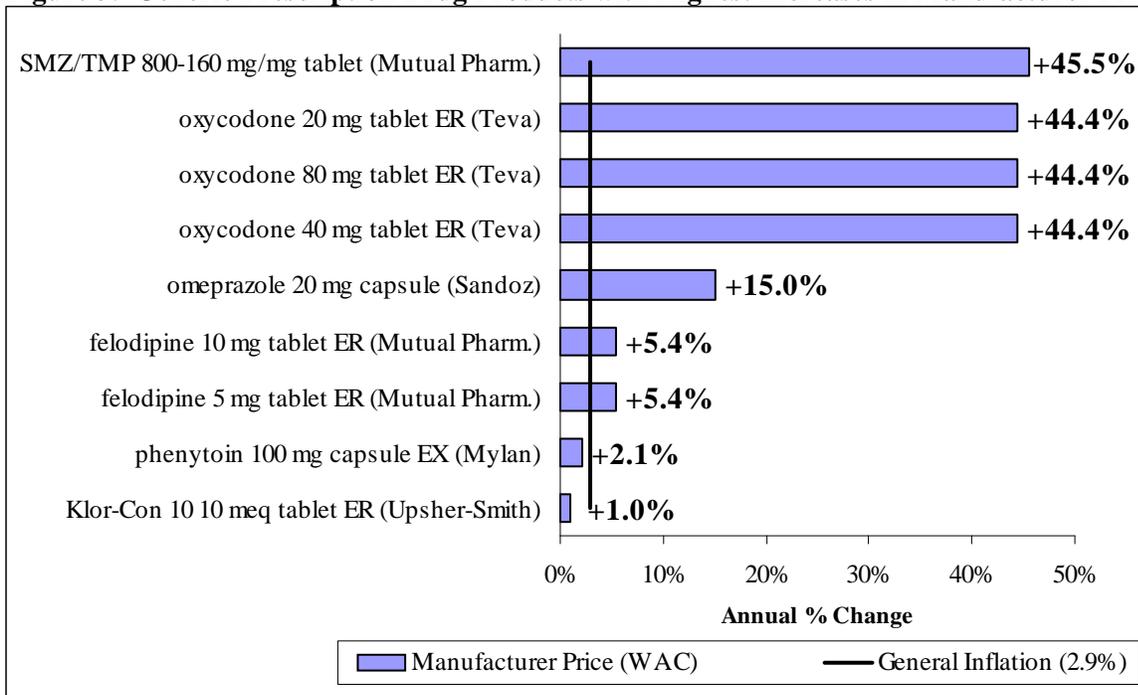


The general inflation rate is based on CPI-U.

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The nine generic drugs with increases in manufacturer price in 2007 are shown in Figure 3. These drugs are used to treat infections (SMZ/TMP), pain (oxycodone), acid reflux (omeprazole), heart disorders (felodipine), seizures (phenytoin), and low potassium (Klor-Con 10).

Figure 3: Generic Prescription Drug Products with Highest Increases in Manufacturer Price, 2007



The general inflation rate is based on CPI-U.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

Table 2 shows a similar trend in price changes among the 25 generic drug products with the greatest sales in 2006. More than half of these drugs (13 of 25) had price changes during 2007. Of those drugs that had changes in manufacturer price in 2007, 11 had decreases. Only one of these top-selling 25 drug products had a price increase (omeprazole 20 mg capsule) in 2007.

Table 2: Annual Percent Change in Manufacturer Prices for Top 25 Generic Prescription Drug Products, 2007

Rank by Sales among Study Market basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	Annual Percent Change in WAC
1	simvastatin 20 mg tablet	30	Teva	Cholesterol Agents (HMG Co-A)	-38.6%
2	simvastatin 40 mg tablet	90	Teva	Cholesterol Agents (HMG Co-A)	-38.6%
3	omeprazole 20 mg capsule	1000	Sandoz	Ulcer Drugs	15.0%
4	metformin 500 mg tablet	100	Ivax	Antidiabetics, Oral	-65.3%
5	fentanyl 100 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
6	gabapentin 300 mg capsule	100	Greenstone	Anticonvulsants	0.0%
7	lisinopril 20 mg tablet	100	Lek Pharmaceuticals	Antihypertensives (ACEs)	-33.6%
8	fexofenadine 180 mg tablet	100	Teva	Antihistamines, Non-Sedating	0.0%
9	Klor-Con M 20 meq tablet ER	100	Upsher-Smith	Minerals & Electrolytes	0.0%
10	pravastatin 40 mg tablet	90	Teva	Cholesterol Agents (HMG Co-A)	-45.9%
11	azithromycin 250 mg tablet	6	Greenstone	Antibiotics	0.0%
12	fentanyl 50 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
13	lisinopril 40 mg tablet	100	Lek Pharmaceuticals	Antihypertensives (ACEs)	-33.6%
14	lisinopril 10 mg tablet	100	Lek Pharmaceuticals	Antihypertensives (ACEs)	-33.6%
15	megestrol acetate 40 mg/ml susp	240	Par	Antineoplastics	0.0%
16	sertraline 100 mg tablet	30	Teva	Antidepressants (SSRIs)	-37.6%
17	sertraline 50 mg tablet	30	Teva	Antidepressants (SSRIs)	-37.6%
18	gabapentin 600 mg tablet	100	Greenstone	Anticonvulsants	0.0%
19	fentanyl 75 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
20	metformin 1000 mg tablet	100	Sandoz	Antidiabetics, Oral	-69.5%
21	amiodarone 200 mg tablet	60	Eon Laboratories	Other, Antiarrhythmics	0.0%
22	propoxyphene-N/APAP 100-650 tablet	500	Teva	Analgesics, Opioid Combinations	0.0%
23	lovastatin 20 mg tablet	60	Actavis Mid Atlantic/Eliz.	Cholesterol Agents (HMG Co-A)	-33.2%
24	hydrocodone/APAP 5-500 mg tablet	500	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
25	tramadol HCl 50 mg tablet	1000	Pliva	Analgesics, Opioid	0.0%
General rate of inflation (as measured by growth in CPI-U)					2.9%

*Ranking based on prescriptions processed by the top Medicare Part D plan provider during 2006.

See Appendix C for explanation of therapeutic category acronyms.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

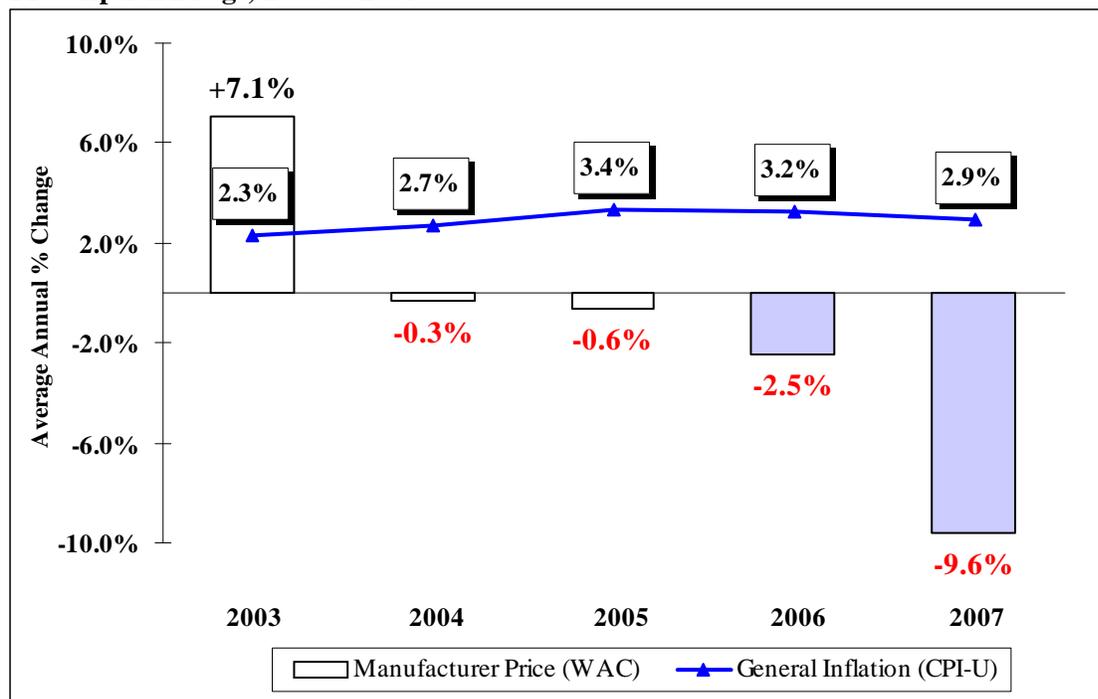
- Sandoz’s metformin 1000 mg tablets had the greatest annual percent decrease (-69.5 percent) in manufacturer price during 2007 among the top 25 generic drug products with the greatest sales in 2006.
- All 11 of the top 25 drug products that had decreases in annual manufacturer price in 2007 had decreases of more than 30 percent.
- The price of Sandoz’s omeprazole 20 mg capsule increased 15 percent, more than five times the rate of general inflation in 2007 (2.9 percent).

II. ANNUAL TRENDS IN MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED GENERIC PRESCRIPTION DRUGS, 2003-2007

Annual percent change in manufacturer prices

On average, manufacturer prices for the generic drug products most widely used by Medicare beneficiaries fell by 9.6 percent in 2007, when measured as a 12-month rolling average and weighted by actual 2006 sales to Medicare Part D beneficiaries. This was the largest average decrease in generic drug prices for this market basket since at least 2003 (Figure 4).

Figure 4: Average Annual Percent Change in Manufacturer Prices for Most Widely Used Generic Prescription Drugs, 2003 to 2007



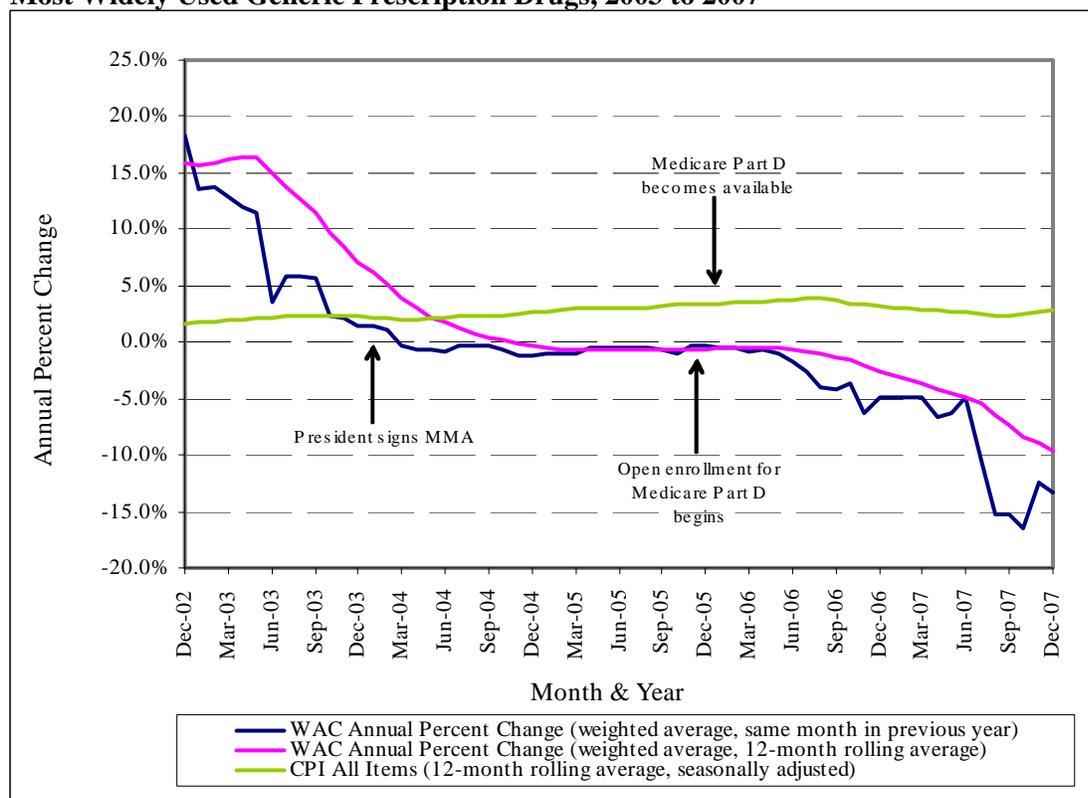
Note: Shaded bars indicate years when Medicare Part D was operational.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health, Inc., February 2008).

- The average annual price changes in 2006 and 2007 (-2.5 and -9.6 percent, respectively) were substantially lower than the rates of change for manufacturer prices for generic prescription drugs in the prior three years. It is interesting to note that this period corresponds to the first two years of operation of the Medicare Part D drug benefit. By contrast, the average manufacturer price for this market basket increased by 7.1 percent in 2003, and fell by only 0.3 percent in 2004 and 0.6 percent in 2005.
- Furthermore, the average annual decreases in price from 2004 through 2007 occurred during a period of increases in the general price level. The annual rate of general inflation ranged from 2.7 percent to 3.4 percent during this four-year period.

The average annual changes in price reported in Figure 5 reflect a conservative measure that, by averaging annual point-to-point price changes for each month in a 12-month period (referred to as a *rolling average change*), smoothes over the entire year the annual amount of change in manufacturer price that occurs for a single month (referred to as an annual *point-to-point change*). The percent change in price compared with the same month in the previous year has been plotted along with the 12-month rolling average to allow more detailed examination of the rate and timing of price changes over the entire study period (Figure 5). Figure 5 shows that, on average, manufacturer prices for generic drugs have been steadily declining (that is, an average negative change in the WAC) since March 2004. Throughout the entire time the Medicare Part D prescription drug program has been in operation, the rate of change in manufacturer prices for generic drugs has been well below zero.

Figure 5: Comparison of Rolling Average and Point-to-Point Changes in Manufacturer Prices for Most Widely Used Generic Prescription Drugs, 2003 to 2007



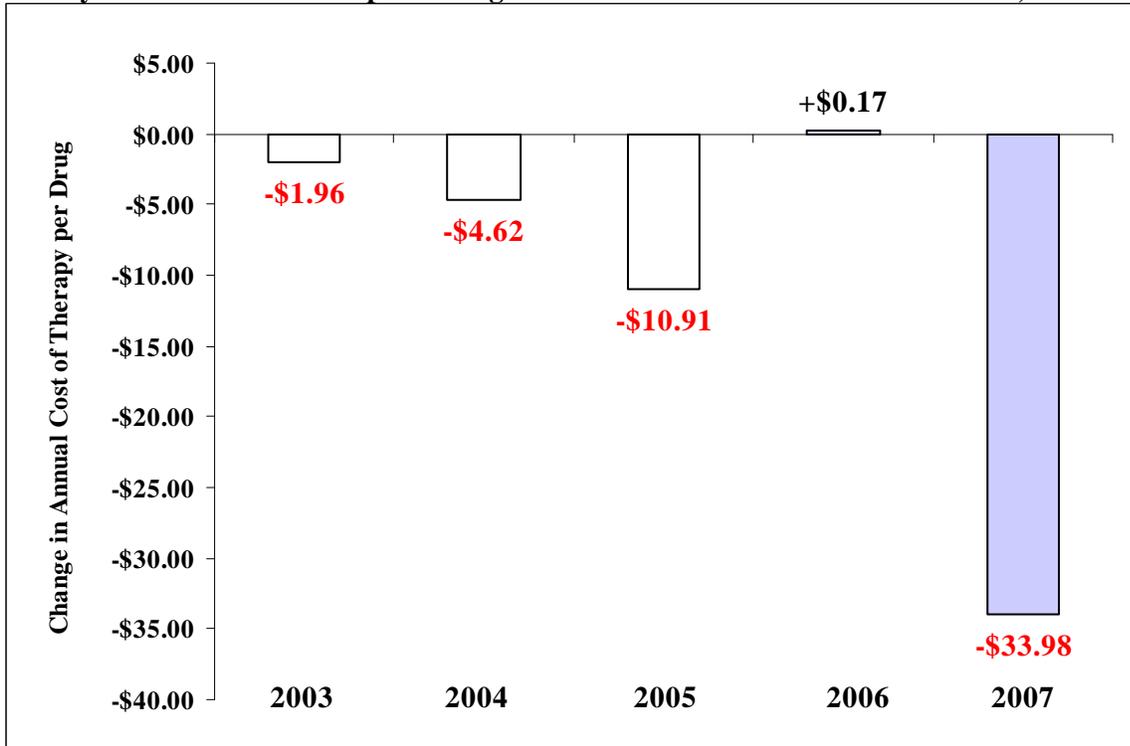
Note: MMA is the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

Prepared by the AARP Public Policy Institute and the PRIME Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

Change in annual cost of therapy

Manufacturer price changes for the 154 most widely used generic drugs for treating chronic conditions (out of a total market basket of 185 drugs) were translated into changes in the average annual cost of therapy (Figure 6).¹⁸

Figure 6: Average Change in Annual Cost of Therapy Due to Manufacturer Price Changes for Most Widely Used Generic Prescription Drugs in the Treatment of Chronic Conditions, 2003 to 2007



Note: Shaded bars indicate years when Medicare Part D was operational.

Does not include 31 drug products typically used for acute conditions or for less than one year.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

- The average annual cost of therapy decreased by nearly \$34 for each generic prescription drug in 2007, assuming that the changes in price were passed on in the form of lower prices. This decrease was substantially greater than the average annual decreases in previous years, which ranged from nearly \$2 per year to nearly \$11 per year between 2003 and 2005, and followed a slight increase of \$0.17 in 2006.¹⁹

¹⁸ Note that the figures in this section reflect manufacturer prices and not necessarily the prices a consumer would pay at the pharmacy. In addition, they do not capture the impact of a consumer switching from a brand name drug to a generic product once the brand name drug loses its patent.

¹⁹ The average annual cost of therapy in 2006 was heavily influenced by some drug products that had very large increases in list price in dollar terms relative to the smaller dollar decreases in list prices of other generic drug products. Similarly, despite an average manufacturer list price *increase* of 7.4 percent in 2003, the average cost of therapy *decreased* by almost \$2. This finding was due to some drug products having very large decreases in list price in dollar terms relative to smaller dollar increases in list prices of other generic drug products.

An older American who takes three prescription drugs is likely to have experienced an average decrease in the annual cost of therapy of \$101.94 in 2007, assuming that the consumer uses generic drugs for chronic conditions and that the decreases in price were passed on in the form of lower prices. While the Medicare Part D plan would benefit from this reduction in cost for some beneficiaries, Medicare Part D enrollees may also benefit if their total costs move them into the “donut hole,” which is the period when beneficiaries pay 100 percent of their prescription costs.²⁰ Fewer than one-third of the stand-alone Medicare Part D drug plans and half of the Medicare Advantage plans cover generic drugs even in the donut hole. Only 8 percent of enrollees in stand-alone Medicare Part D plans have any form of coverage in the gap, and 33 percent of the enrollees in Medicare Advantage plans have any coverage in the gap.²¹

III. FIVE-YEAR CUMULATIVE IMPACT OF MANUFACTURER PRICE CHANGES FOR WIDELY USED GENERIC PRESCRIPTION DRUGS, 2003-2007

Five-year cumulative percent change in manufacturer prices and annual cost of therapy

- More than two-thirds (125 of 185) of the most widely used drugs in the market basket for this analysis have been on the market for the entire five-year period from the end of 2002 to the end of 2007. Cumulatively, the average change in manufacturer prices for these 125 generic drug products was -16.5 percent, compared with +16.1 percent for general inflation.²²

Eighty-three percent (104 of 125) of the drug products that have been on the market since the end of 2002 are used to treat chronic conditions. By the end of 2007, the average annual cost of therapy for these drug products was \$67 lower than five years earlier, assuming that manufacturers’ price decreases were passed along in the form of lower prices²³ and that the consumer used these generic drugs for chronic conditions. For a consumer who takes three generic medications, this translates into an average decrease in therapy costs of \$201 between December 31, 2002, and December 31, 2007. This decrease in therapy cost does not capture the substantial savings a consumer receives initially by switching from a brand-name product to a generic product once the brand-name drug loses its patent. As noted earlier, the data for this study showed that, on average, generic prescriptions for Medicare beneficiaries had a price that was about 80 percent less than the price of patented brand name prescriptions.

²⁰ This “gap” in coverage generally begins after the beneficiary has \$2,510 (in 2008) in total drug costs and continues until the beneficiary spends \$4,050 in out-of-pocket drug costs. The Henry J. Kaiser Family Foundation, “The Medicare Prescription Drug Benefit,” Fact Sheet, February 2008. Some plans might offer some coverage in the gap and some low-income beneficiaries also have gap coverage.

²¹ The cost impact on beneficiaries is based on the continued use of the generic drug product. J. Hoadely, E. Hargrave, J. Cubanski, and T. Neuman, *Medicare Prescription Drug Plans in 2008 and Key Changes since 2006: Summary of Findings*, The Henry J. Kaiser Family Foundation, April 2008.

²² The five-year average cumulative growth rate for all drugs in the market basket was 67.6 percent. This number was calculated by compounding the average annual growth rate (as shown in Figure 4) for each year from 2003 to 2007.

²³ The actual amount that an individual consumer pays out-of-pocket depends on a variety of factors.

IV. MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED GENERIC PRESCRIPTION DRUGS BY MANUFACTURER AND BY THERAPEUTIC CATEGORY, 2007

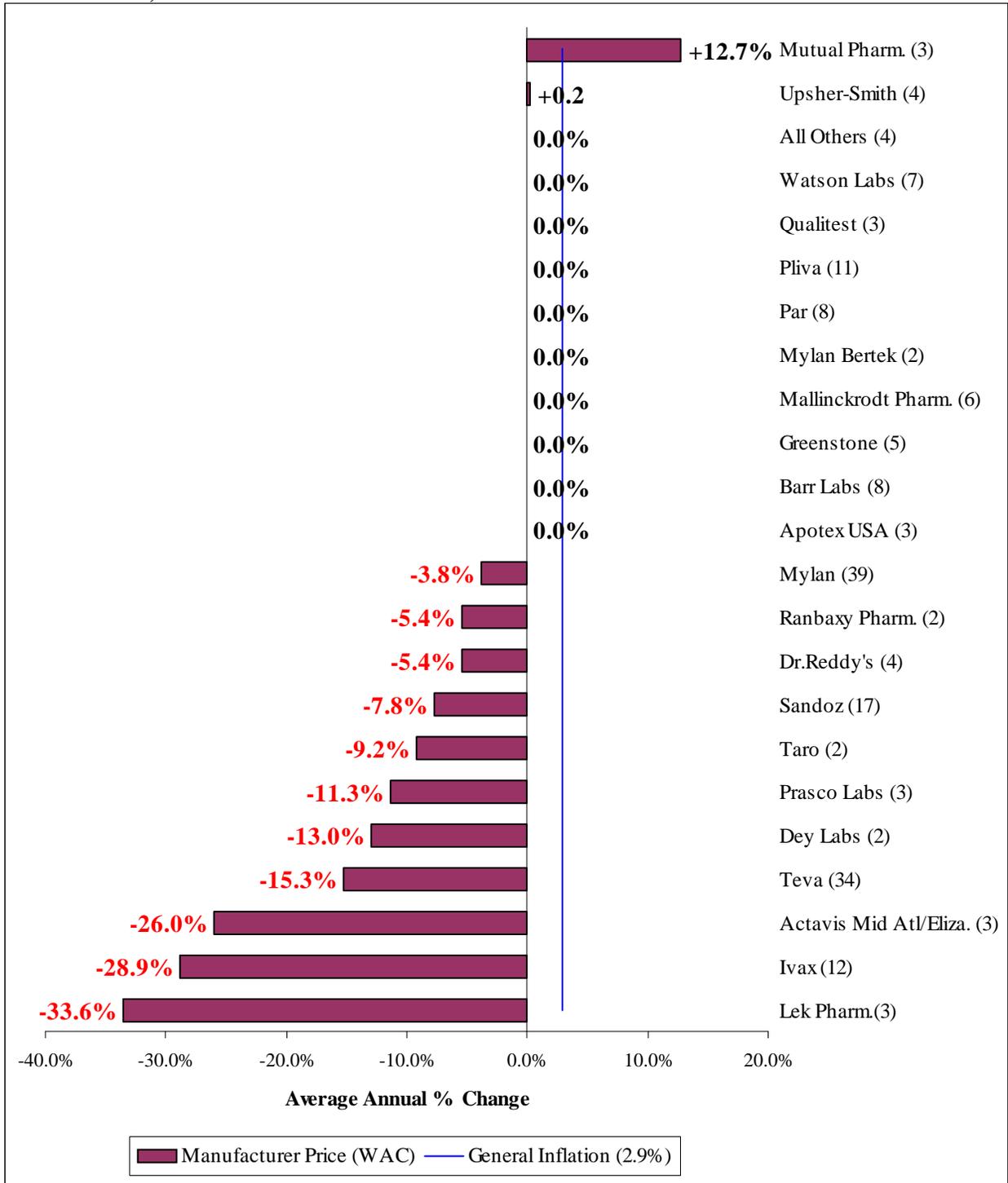
There were 22 generic drug manufacturers²⁴ each with at least two drug products (at the NDC level) among the 185 most widely used generic drugs. These 22 manufacturers supplied 181 drug products that accounted for more than 97 percent of drug sales and prescriptions dispensed among the overall market basket of 185 generic drugs. Another four drug products from four different generic drug firms with one drug product per firm were grouped together in an “All Others” category, resulting in a total of 23 reported drug manufacturer categories.

Twenty-two drug manufacturers had at least two generic drug products in the study’s market basket of widely used generic drugs. The weighted average annual change in price decreased or remained unchanged for all but two drug manufacturers in 2007 (Figure 7).

- One of the two generic manufacturers with an average annual increase in prices—Mutual Pharmaceuticals—had an average annual increase in price of 12.7 percent, or more than four times the rate of general inflation (2.9 percent). The second manufacturer—Upsher-Smith—had an increase for the drug products in the market basket of 0.2 percent, or less than one-tenth the rate of general inflation during 2007.
- Almost half of the drug manufacturers (10 of 23)—including the “All Others” drug manufacturer category—had no change in prices in 2007 for their generic drug products in the market basket.
- The greatest average decreases in price were for Actavis Mid Atlantic/Elizabeth, Ivax, and Lek Pharmaceuticals. The average 2007 decreases in price for these generic drug manufacturers were 26.0, 28.9, and 33.6 percent, respectively.

²⁴ A generic drug manufacturer is defined as the firm marketing the drug product under its corporate name in 2006. If a listed manufacturer is a division of another firm, its drugs are defined as being manufactured by the parent firm. This includes cases where the firm marketing a drug product may have changed over time due to mergers and acquisitions, divestitures of specific drug products, or for other reasons.

Figure 7: Average Annual Percent Change in Manufacturer Price for Generic Prescription Drugs by Manufacturer, 2007



Note: Manufacturers with fewer than two drug products in the 2006 market basket of most widely used generic prescription drugs are included in the “All Others” category. The number in parentheses after a manufacturer’s name indicates the number of drug products in the market basket for that manufacturer. The general inflation rate is based on CPI-U.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

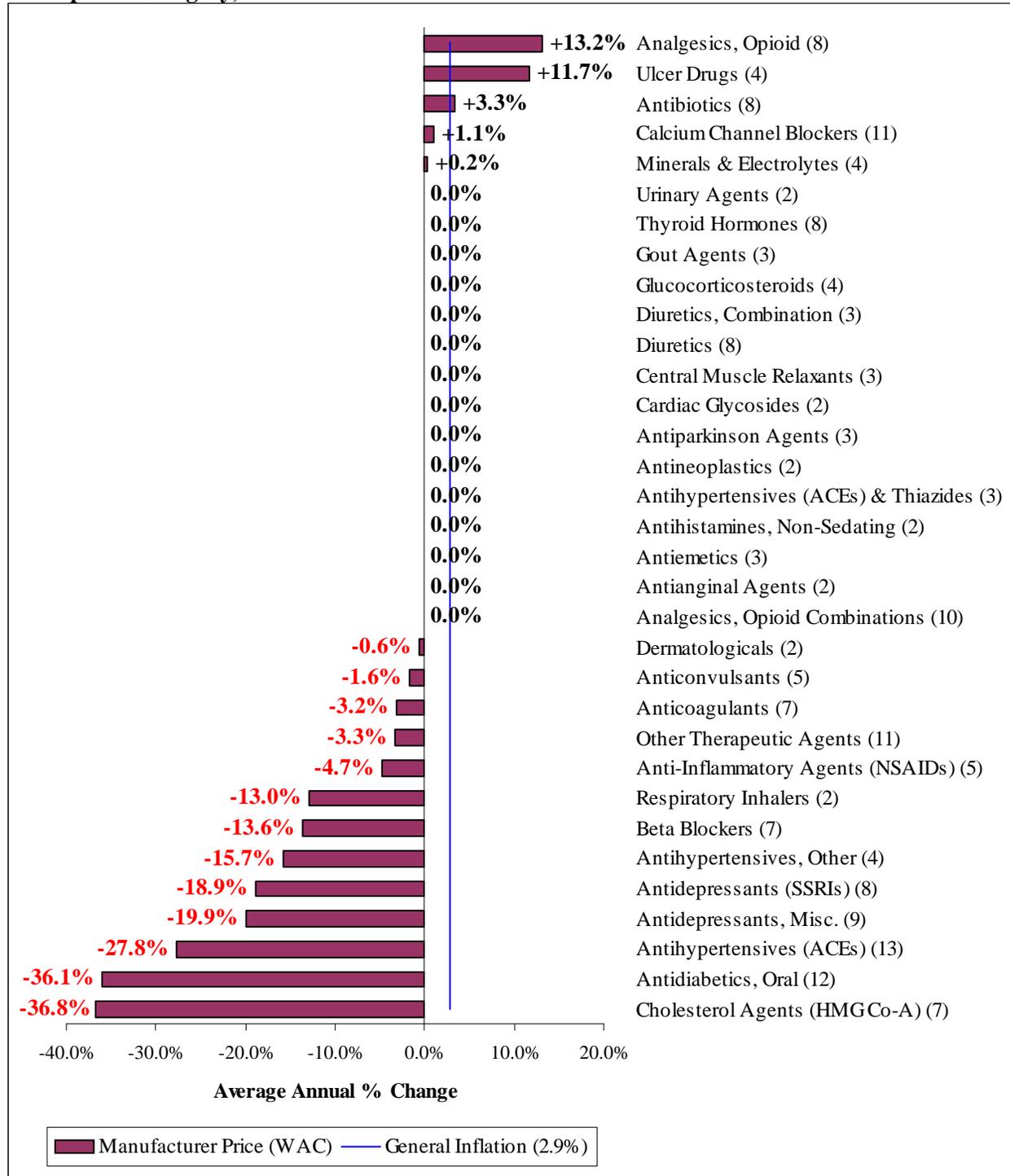
Thirty-two therapeutic categories,²⁵ each containing two or more drug products from the market basket, together accounted for 174 of the total 185 drug products in the market basket. The remaining 11 drug products with other therapeutic uses were grouped together in an “Other Therapeutic Agents” category, resulting in a total of 33 reported therapeutic categories.

Five of the 33 therapeutic categories of generic drug products in the market basket had increases in average manufacturer prices in 2007. Three of these categories had price increases that exceeded the rate of general inflation (2.9 percent) during the same period (Figure 8).

- The two therapeutic categories with the highest increases in average manufacturer price—opioid analgesics and ulcer drugs—had average annual manufacturer price increases of 13.2 percent and 11.7 percent, respectively. These increases were more than four times the rate of general inflation in 2007 (i.e., more than 11.6 percent per year).
- Fifteen therapeutic categories did not have any change in manufacturer reported list prices during 2007.
- Thirteen of the 32 therapeutic categories had decreases in average manufacturer prices during 2007.
- The three therapeutic categories with the greatest decreases—antihypertensives (ACEs), oral antidiabetics, and cholesterol agents (HMG Co-A)—had average decreases in prices that ranged between 27.8 percent and 36.8 percent in 2007.

²⁵ The therapeutic categories used in this study were assigned based on an intermediate level of the GPI code that specifies the groupings of similar chemical entities such as “Calcium Channel Blockers.” When two or more drug products at the NDC level in the market basket were in the same intermediate GPI code category, the category was reported separately in the therapeutic category analysis.

Figure 8: Average Annual Percent Change in Manufacturer Price for Generic Prescription Drugs by Therapeutic Category, 2007



Note: See Appendix C for explanation of therapeutic category acronyms. Therapeutic categories with fewer than two drug products in the 2006 market basket of most widely used generic prescription drugs are included in the “Other Therapeutic Agents” category. The number in parentheses after a therapeutic category indicates the number of drug products in the market basket for that therapeutic category. The general inflation rate is based on CPI-U. Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

STUDY METHODS AND LIMITATIONS

A detailed description of the study methods and data limitations is presented in Appendix A of the AARP Public Policy Institute's March 2008 report, "Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007." The price changes for generic prescription drugs have been analyzed and reported separately from price changes for brand name and specialty drugs because generic drugs are subject to different market dynamics, pricing, and related behaviors. Appendix A to this report provides an overview of the market dynamics for generic drug products.

The analysis of manufacturer price changes for generic drug products in this particular study is limited because of the lack of publicly available data that capture all of the discounts and rebates that generic drug manufacturers sometimes provide to wholesalers and other direct purchasers. These discounts and rebates can be quite substantial for generic drug products, such that increases in manufacturer list prices may overstate increases in net transaction prices, or no change in manufacturer prices may mask decreases in generic drug product prices. As a result, the findings presented here represent an *upper bound* of net transaction price increases by generic drug manufacturers.

Furthermore, the manufacturer price for generic drugs often represents a smaller component of the retail prescription price than does the manufacturer price for brand name drugs. Therefore, consumers may have experienced changes in retail prescription prices for generic drug products that differ from the patterns and trends reported here.

CONCLUDING OBSERVATIONS

Manufacturer drug price changes can have a direct impact on costs borne by Medicare Part D plans and enrollees. Low-cost generic drugs are a means of helping consumers and third-party payers reduce their prescription drug costs. The availability of these therapeutically equivalent generic substitutes is particularly important in view of rapid health care expenditure increases of recent years, a substantial share of which is attributed to prescription drugs.

This study finds that, in 2007, drug manufacturers either *lowered* list prices or kept list prices unchanged for nearly all of the 185 generic prescription drug products most widely used by Medicare Part D enrollees. In addition, the annual average rates of change in manufacturer prices in 2006 and 2007 (-2.5 and -9.6 percent, respectively)—that is, since the implementation of the Medicare drug benefit—were substantially lower than the average annual changes found in the previous three years (+7.1 percent, -0.3 percent, and -0.6 percent).

The cumulative effect of these changes in manufacturer price can be considerable. On average, manufacturer prices of the 125 most widely used prescription drug products that have been on the market since the end of 2002 have *decreased* by more than 16.5 percent during the subsequent five-year period (2003 through 2007), while the general rate of inflation was 16.1 percent over the same time period. For a consumer who takes three generic prescriptions on a chronic basis, the average cost of therapy for the drug products used to treat chronic conditions would have fallen by \$201 during this period if these changes in prices were passed along to the consumer.

Fifty-two of the 185 generic prescription drug products in the study's market basket had a manufacturer price change during 2007; the remaining 133 drug products did not experience a change. Average annual drug manufacturer price increases in 2007 exceeded the rate of general inflation for one manufacturer and for three therapeutic categories.

APPENDIX A: MARKET DYNAMICS FOR GENERIC DRUG PRODUCTS

A detailed description of the study methods and data limitations is presented in Appendix A of the AARP Public Policy Institute's March 2008 report, "Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007." In general, the methods described in Appendix A to that report were also used for monitoring generic prescription drug prices. The price changes for generic prescription drugs have been analyzed and reported separately from price changes for brand name and specialty drugs because generic drugs are subject to different market dynamics, pricing, and related behaviors. This Appendix provides an overview of the market dynamics for generic drug products.

To explain the rationale for the approach used in this project to measure manufacturer prices for generic drugs, it is necessary to acknowledge a key difference between the market for brand name drugs and the market for generic drugs that affects pricing dynamics. In the market for single source brand name drugs (that is, brand name drugs that do not have generic substitutes), pharmacies and wholesalers face a single seller for the product and have no choice but to pay the price that the manufacturer charges in order to fill customers' prescriptions for that product. By contrast, when there are two or more generic versions of the same product on the market, pharmacies and wholesalers can use their leverage as purchasers to encourage generic manufacturers to compete on the basis of price and other factors.²⁶ This competitive process occurs because both state laws and the FDA's rating of therapeutic equivalence for generic versions allow and facilitate pharmacists' substitution of one manufacturer's generic product for another (or for the brand name product) if not prohibited by the prescribing physician. The easy substitution of generics creates price competition between different manufacturers' versions of the same drug because a pharmacy or wholesaler can, and often does, choose to stock only one version of each generic drug.

Competition among generic products has at least two effects on pricing that are relevant to this study. First, the entry of additional generics usually leads to decreases in manufacturer prices (both *list prices* and *net transaction prices*) over time. Second, reimbursement practices by third-party payers create incentives for pharmacies to seek—and manufacturers to provide—further reductions in net transaction prices through discounts and rebates below the published list price. The changes in *list prices* are examined in this study, but the changes in *net transaction prices* are not captured by publicly available pricing data. While the extent of these two effects is not known, the use of manufacturer list prices for generic drugs as a proxy measure of net transaction prices is more likely to *overstate increases* in net transaction prices than to understate them. These effects are further explained below.

The following illustration shows the effect of competitive pressures in the generic drug market on manufacturer list prices and net transaction prices. Typically, the first generic version of a drug product has manufacturer list prices (i.e., average wholesale price [AWPs] and wholesale acquisition cost [WACs]) and net transaction prices that are about 20 to 30 percent below the corresponding prices of the original brand name drug product. If the first generic product approved happens to be

²⁶ When a pharmacy (or wholesaler) chooses the version of generic drug product to stock, it may take into account several factors in addition to the price and price "spread" of a drug (i.e., difference between the price the pharmacy pays for the product and the price at which it sells the product) including, but not limited to, the reputation of the generic firm, breadth of product line, levels of service, in-stock rates, stability of supply over time, and availability through a wholesaler versus direct from the generic firm.

the only generic, then the manufacturer's list and net transaction prices may be only 10 to 15 percent below those of the original brand. As more generic firms enter the market, the manufacturers' list prices for the generic drug usually drop one or two more times, while the net transaction prices continue to decrease to less than 50 percent of the brand name drug prices within 6 to 12 months after the first generic entered the market and often reach 25 to 33 percent of the brand price within 24 months after initial generic entry. The original brand drug product usually does not lower its price, and sometimes even continues to increase its price, to retail pharmacies when generics enter the market.²⁷

Reimbursement practices enter into the dynamic because, in choosing a generic drug product to stock, a pharmacy or wholesaler seeks to maximize the "spread" between the price it pays the generic firm for the product (i.e., the net transaction price) and the price that third-party programs pay the pharmacy for the products. The price paid to a generic firm largely is based on two factors: the published list price for that product (such as the AWP or WAC) and the discounts and rebates that the pharmacy or wholesaler is able to get from the manufacturer. The pharmacy's selling price is often determined by the source of payment for a prescription; about 85 percent of prescriptions are paid under terms set by third-party payers, including both public and private programs. Most third-party payers base their payments to a pharmacy on the lower of the following: (1) the pharmacy's usual and customary charge, (2) the AWP minus a certain percentage (e.g., AWP-12%) plus a dispensing fee, or (3) the maximum allowable cost (MAC) plus a dispensing fee.²⁸ However, some payers—including certain state Medicaid programs—base their pharmacy payment for generic drugs on the WAC plus a certain percentage (e.g., WAC+9%) instead of AWP minus a certain percentage.²⁹

Because third-party payment (or selling) prices are almost always based on manufacturers' published list prices (i.e., WAC or AWP), pharmacies and other purchasers are more likely to stock the generic product that has a larger difference between manufacturer list price and net transaction price. This means that a generic firm faces competitive pressures to offer discounts or rebates that reduce a pharmacy's net transaction cost without decreasing the list price that determines the pharmacy's payment from third-party payers.

This competitive process for generic drugs may lead to net transaction prices that depart substantially from manufacturer list prices, certainly more so than for brand name drugs. Ideally, a study of prices paid to manufacturers for generic drugs would be based on the net transaction price. However, there are no publicly available data on the size of discounts and rebates that generic drug

²⁷ Shuchita Agarwal, *Market Influences on Generic Drug Utilization: 1993 to 2001*, Ph.D. dissertation, University of Minnesota, September 2004.

²⁸ Many third-party plans, including Medicaid and private plans, set a maximum allowable cost (MAC) to pay pharmacies for the ingredient cost of generic drug products. For Medicaid programs, the MAC rate (federal upper limit) for a given drug product is set at 150 percent of the lowest published price (which is usually the WAC) of all FDA-approved therapeutically equivalent versions of the same generic drug. Not all generic drugs have federally established MACs, and MACs are not always based on the lowest published list price—139 of the 185 generic drug products in this study (75.1 percent) had federal financial participation limits (i.e., the federal Medicaid program's MAC rate), and 128 of the 139 drug products (92.1 percent) had Medicaid federal MAC rates that exceeded the WAC for the same product.

²⁹ National Pharmaceutical Council, *Pharmaceutical Benefits Under State Medical Assistance Programs, 2007*, 4-48. At least eight state Medicaid drug programs use some function of WAC as one basis for setting the pharmacy payment for prescription drugs. Virtually all other states use some function of AWP as a basis for setting the pharmacy payment for prescription drugs.

manufacturers provide or on their net transaction prices. While individual purchasers have information about net transaction prices they paid to manufacturers, such information is considered proprietary and would represent only the experience of a single purchaser. Consequently, because it was not possible to use net transaction prices for this study, the manufacturer list price (WAC) was used instead. These manufacturer list prices are not necessarily representative of changes in manufacturers' net transaction prices for generic drugs.

Despite the difficulties in using manufacturer list prices of generic drugs as a proxy measure for net transaction prices, it is possible to better understand the nature of the potential bias. For example, in theory, manufacturer list prices could *understate net price increases*. Hypothetically, an understated net price increase would result if the manufacturer raised the net transaction price while keeping the list price unchanged. However, this scenario is unlikely because such a practice would reduce a manufacturer's advantage relative to its competitors. That is, this action would reduce the difference between a pharmacy's actual acquisition costs and the payment received from third-party payers, effectively reducing a pharmacy's incentive to stock that particular product.

Therefore, in practice, the use of manufacturer list prices for generic drugs as a proxy measure of net transaction prices is likely to show bias in only one direction. That is, manufacturer list prices for generic drugs are more likely to *overstate increases* and *understate decreases* in net transaction prices. Such pricing practices provide pharmacies with larger differences between reimbursements and the amount that the pharmacy (or its wholesaler) actually paid the manufacturer for the generic drug. Consistent with the conclusion that the bias is one-sided, changes in manufacturer list prices that are presented in this report serve as an upper bound of net transaction price increases for generic drugs. Specifically, reported increases in manufacturer list prices for generic drugs would *overstate increases* in transaction prices if a manufacturer chose to make its product more competitive by raising its list price while keeping its net transaction price unchanged, or it would *understate decreases* in transaction prices if a manufacturer chose to make its product more competitive by lowering its net transaction price while keeping its list price unchanged.

APPENDIX B: MARKET BASKET DIFFERENCES IN THE AARP PUBLIC POLICY INSTITUTE'S CURRENT AND PREVIOUS ANALYSES OF CHANGES IN MANUFACTURER PRICES OF PRESCRIPTION DRUGS

Previous reports based on a market basket of retail and mail-order prescriptions provided to about 2 million people age 50 and older who used the AARP Pharmacy Service tracked changes in the average annual manufacturer price of generic drug products from calendar year 2000 through 2006.

This report represents an update to the previous series of studies on changes in manufacturer prices of prescription drug products. It differs from the earlier studies in three important ways:

- First, the current study is based on a 2006 market basket of widely used drug products, whereas the previous study was based on drug products that were commonly used in 2003. As a result, this study includes drug products that have recently come on the market or have gained in popularity since 2003 and discontinues drug products that are no longer as widely used or that have been removed from the market since 2003.
- Second, the current study is based on drug utilization by Medicare beneficiaries, whereas the previous study was based on drug use by Americans age 50 and older. In each case, the market basket is limited to drug products used by a substantial senior population. The current study is based on utilization data from a Medicare Part D plan provider, which accounted for an estimated 25 percent of the Medicare market in 2006.³⁰ The previous studies were based on adjudicated prescription sales by the AARP Pharmacy Service; these sales represented less than 5 percent of the retail market.
- Third, the market basket used for the current study is based on Medicare Part D drug plans that have formularies and preferred drug lists, whereas the market basket used for the previous studies did not necessarily have these characteristics.

Both market baskets were built in a similar manner—ranking each drug by number of prescriptions and amount of expenditures. In addition, in the current market basket, we also looked at days of therapy provided. The 2006 market basket was built by including the top 300 drug products in each of these three categories: expenditures, prescriptions, and days of therapy. The resulting market basket included 220 brand name drugs, 185 generic drugs (plus 16 that were excluded because data on the price measure [WAC] were not available), and 147 specialty drugs. For purposes of this study, a brand name drug is defined as a product marketed by the original new drug application (NDA) or biological license application (BLA) holder (or its licensee) for a given drug entity. A generic drug is defined as any drug product marketed by an entity other than the original NDA or BLA holder or its licensees. For the purposes of this report, a specialty prescription drug is defined as a prescription drug that is (1) administered by injection, such as intravenous, intramuscular, subcutaneous, or other injection site (not including insulin); (2) any dosage form that has a total prescription cost greater than \$1,000 per prescription; or (3) any dosage form that has a total cost of therapy greater than \$33 per day. The three market baskets (brand name, generic, and specialty drugs) combined accounted for 81.6 percent of all prescription drug expenditures, 79.2 percent of all

³⁰ The Henry J. Kaiser Family Foundation, “Medicare Chartpack: Overview of Medicare Part D Organizations, Plans and Benefits by Enrollment in 2006 and 2007,” November 2007, <http://www.kff.org/medicare/upload/7710.pdf>.

prescriptions dispensed, and 91.2 percent of all days of therapy provided in 2006 by the largest Medicare Part D plan provider.

The 2003 market basket included 197 drugs (including 4 that were later removed from the market) and 75 generic drugs (plus 19 that were excluded because data on the WAC were not available). The drug products in the 2003 market basket, taken together, accounted for 60 percent of sales and 50 percent of prescriptions by the AARP Pharmacy Service in 2003.

Comparison of placement of particular drugs in the two market baskets

Just over one-third (26 of 75, or 35 percent) of the generic prescription drug products in the 2003 market basket remained in the 2006 market basket. Drug products dropped from the market basket were either replaced due to an inactive NDC or had dosages or package sizes that were not as popular in 2006.

The 2006 market basket contained 185 generic prescription drug products, 159 of which were not in the 2003 market basket for a variety of reasons:

- Fifty-eight drug products were introduced after January 2003.
- Twenty-three drug products were on the market in 2003 but have changed NDC number or dosage form as compared to the drug products in the 2003 market basket.
- The remaining 78 drug products were on the market in 2003 but did not have sufficient sales or prescription volume to be ranked among the top drugs.

Some of the drug products that were in both the 2003 and the 2006 market baskets had substantial changes in their rank between the two periods. The large changes in rank between 2003 and 2006 market baskets included the following:

- Thirteen of the 25 most widely used drugs in the 2003 market basket are in the 2006 market basket, but only one is among the 25 most widely used drugs (Klor Con M 20 meq).
- Twelve drug products that were in the Top 25 in 2003 were not in the 2006 market basket. These drugs became less popular than other dosages or package sizes.
- Seven drugs fell in rank by 75 or more spots between 2003 and 2006. Four of these drugs were associated with the treatment of cardiovascular disease (torsemide 20 mg tablet, Digitek 0.25 mg tablet, atenolol 100 mg tablet, and hydrochlorothiazide 50 mg tablet).
- Three drugs fell in rank by 100 or more spots between 2003 and 2006 (Table B1).

Table B1: Generic Drugs that Fell in Rank by More than 100 Spots, 2003 through 2006

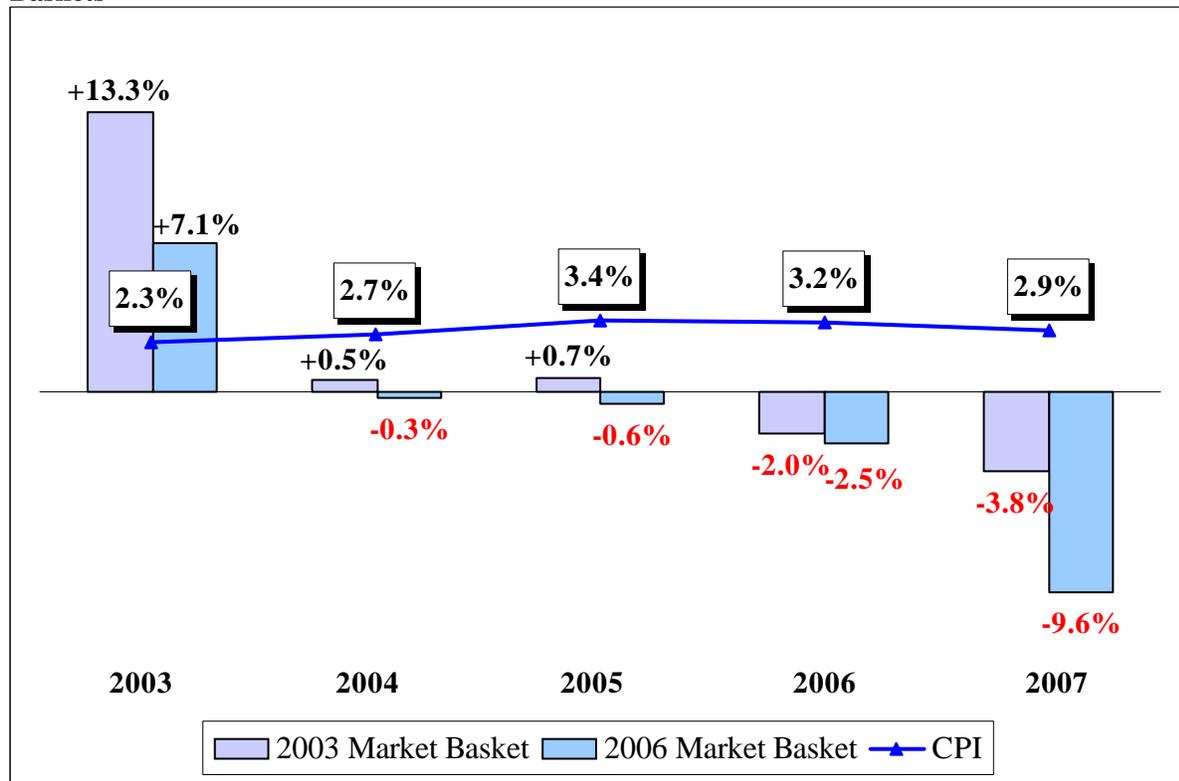
Rank in 2003 Market Basket	Drug Name and Dosage	Change in Rank Between 2003 and 2006 Market Baskets
16	torsemide 20 mg tablet	-115
88	meclizine HCl 25 mg tablet	-100
91	hydrochlorothiazide 50 mg tablet	-106

Comparison of manufacturer price trends between the two market baskets

In general, the trends in manufacturer price changes for generic prescription drugs are similar for the two market baskets. Both began showing marked changes in their rates of increase in 2004, and both have seen average price decreases since 2006. (Note: Trends for the 2006 market basket start in 2003, because at that point the majority of the drug products in the market basket were on the market. Sixty-eight percent of the drug products in the 2006 market basket were on the market by January 2003, compared to only 51 percent in January 2002.)

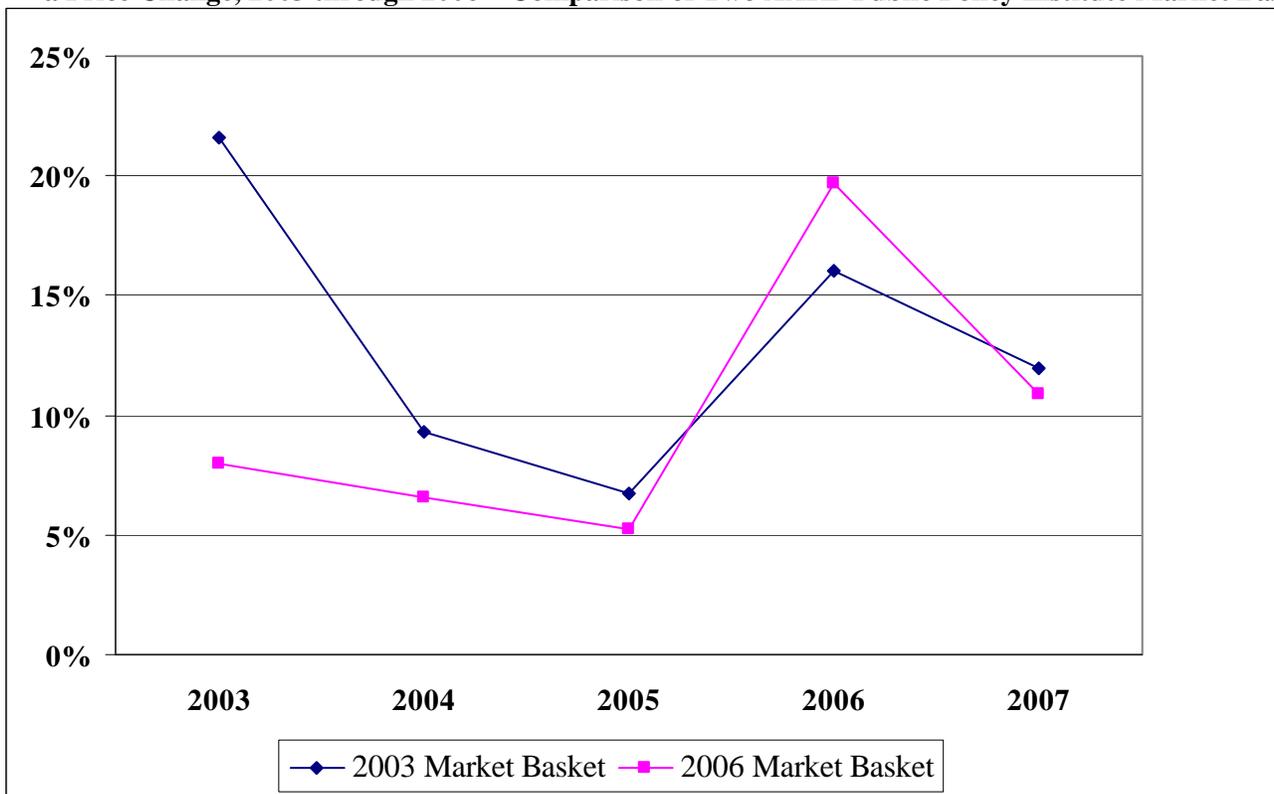
The change in price trends for the two market baskets is shown in Figure B1. The older (2003) market basket continued to show price increases from 2003 through 2005, while the new (2006) market basket began showing price decreases in 2004. The difference between the two groups ranged from 0.1 percent (in 2002) to 6.2 percent (in 2003).

Figure B1: Average Annual Percentage Change in Manufacturer Prices for Most Widely Used Generic Prescription Drugs, 2003 through 2006—Comparison of Two AARP Public Policy Institute Market Baskets



The trends shown in Figure B1 can be partially explained by examining the number and proportion of drug products in each market basket that had price increases in any given year. For example, in 2003, when the older market basket had a higher percentage price increase, the older market basket also had a higher share of drugs with price changes each year (22 percent of drugs for the older market basket, compared to 8 percent of drugs for the newer sample) (Figure B2).

Figure B2: Percentage of Drug Products that Were on the Market for the Entire Year that Experienced a Price Change, 2003 through 2006—Comparison of Two AARP Public Policy Institute Market Baskets



APPENDIX C: THERAPEUTIC CATEGORY ACRONYMS

Therapeutic Category	Definition
Antidepressants (SSRIs)	SSRI – Selective-Serotonin Reuptake Inhibitor
Antihypertensives (ACEs)	ACE – Angiotensin-Converting Enzyme
Cholesterol Agents (HMG Co-A)	HMG Co-A – HMG Co-A Reductase Inhibitor
Anti-Inflammatory Agents (NSAIDs)	NSAID - Non-Steroidal Anti-Inflammatory Drug

APPENDIX D: MARKET BASKET OF GENERIC DRUG PRODUCTS MOST WIDELY USED BY MEDICARE BENEFICIARIES AND ANNUAL PERCENT CHANGE IN MANUFACTURER PRICES: 2007

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
1	simvastatin 20 mg tablet	30	Teva	Cholesterol Agents (HMG Co-A)	-38.6%
2	simvastatin 40 mg tablet	90	Teva	Cholesterol Agents (HMG Co-A)	-38.6%
3	omeprazole 20 mg capsule	1000	Sandoz	Ulcer Drugs	15.0%
4	metformin 500 mg tablet	100	Ivax	Antidiabetics, Oral	-65.3%
5	fentanyl 100 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
6	gabapentin 300 mg capsule	100	Greenstone	Anticonvulsants	0.0%
7	lisinopril 20 mg tablet	100	Lek Pharmaceuticals	Antihypertensives (ACEs)	-33.6%
8	fenofenadine 180 mg tablet	100	Teva	Antihistamines, Non-Sedating	0.0%
9	Klor-Con M 20 meq tablet ER	100	Upsher-Smith	Minerals & Electrolytes	0.0%
10	pravastatin 40 mg tablet	90	Teva	Cholesterol Agents (HMG Co-A)	-45.9%
11	azithromycin 250 mg tablet	6	Greenstone	Antibiotics	0.0%
12	fentanyl 50 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
13	lisinopril 40 mg tablet	100	Lek Pharmaceuticals	Antihypertensives (ACEs)	-33.6%
14	lisinopril 10 mg tablet	100	Lek Pharmaceuticals	Antihypertensives (ACEs)	-33.6%
15	megestrol acetate 40 mg/ml susp	240	Par	Antineoplastics	0.0%
16	sertraline 100 mg tablet	30	Teva	Antidepressants (SSRIs)	-37.6%
17	sertraline 50 mg tablet	30	Teva	Antidepressants (SSRIs)	-37.6%
18	gabapentin 600 mg tablet	100	Greenstone	Anticonvulsants	0.0%
19	fentanyl 75 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
20	metformin 1000 mg tablet	100	Sandoz	Antidiabetics, Oral	-69.5%
21	amiodarone 200 mg tablet	60	Eon Laboratories	Other, Antiarrhythmics	0.0%
22	propoxyphene-N/APAP 100-650 tablet	500	Teva	Analgesics, Opioid Combinations	0.0%
23	lovastatin 20 mg tablet	60	Actavis Mid Atlantic/Eliz.	Cholesterol Agents (HMG Co-A)	-33.2%
24	hydrocodone/APAP 5-500 mg tablet	500	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
25	tramadol HCL 50 mg tablet	1000	Pliva	Analgesics, Opioid	0.0%
26	fentanyl 25 mcg/hr patch	5	Sandoz	Analgesics, Opioid	0.0%
27	furosemide 40 mg tablet	1000	Mylan	Diuretics	0.0%
28	simvastatin 80 mg tablet	90	Ranbaxy Pharmaceuticals	Cholesterol Agents (HMG Co-A)	-7.6%
29	Nifedical XL 60 mg tablet	100	Teva	Calcium Channel Blockers	0.0%
30	oxycodone 40 mg tablet ER	100	Teva	Analgesics, Opioid	44.4%
31	oxycodone 80 mg tablet CR	100	Teva	Analgesics, Opioid	44.4%
32	carbidopa/levodopa 25-100 mg tablet	100	Teva	Antiparkinson Agents	0.0%
33	warfarin 5 mg tablet	100	Barr Laboratories	Anticoagulants	0.0%
34	glyburide 5 mg tablet	1000	Teva	Antidiabetics, Oral	0.0%
35	paroxetine 20 mg tablet	30	Apotex USA	Antidepressants (SSRIs)	0.0%
36	finasteride 5 mg tablet	100	Teva	Other, Genitourinary Agents	0.0%
37	budeprion 150 mg tablet SR	100	Teva	Antidepressants, Misc.	0.0%
38	hydrochlorothiazide 25 mg tablet	1000	Ivax	Diuretics	0.0%
39	phenytoin 100 mg capsule EX	1000	Mylan	Anticonvulsants	2.1%

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
40	oxycodone 20 mg tablet ER	100	Teva	Analgesics, Opioid	44.4%
41	ipratropium soln inhaler	2.5	Dey Laboratories	Respiratory Inhalers	-16.7%
42	hydrocone/APAP 10-500 mg tablet	500	Watson Laboratories	Analgesics, Opioid Combinations	0.0%
43	atenolol 50 mg tablet	1000	Sandoz	Beta Blockers	-28.9%
44	gemfibrozil 600 mg tablet	500	Teva	Other, Cholesterol Agents	0.0%
45	glipizide 10 mg tablet ER	100	Watson Laboratories	Antidiabetics, Oral	0.0%
46	carbidopa/levodopa 50-200 mg tablet ER	100	Mylan	Antiparkinson Agents	0.0%
47	furosemide 20 mg tablet	1000	Mylan	Diuretics	0.0%
48	felodipine 10 mg tablet ER	100	Mutual Pharmaceuticals	Calcium Channel Blockers	5.4%
49	amoxicillin/k clavulanate 875 mg tablet	20	Teva	Antibiotics	0.0%
50	metoprolol 50 mg tablet	1000	Mylan	Beta Blockers	0.0%
51	mirtazapine 15 mg tablet	30	Teva	Antidepressants, Misc.	-49.8%
52	lisinopril 5 mg tablet	100	Mylan	Antihypertensives (ACEs)	-23.9%
53	nifedipine 30 mg tablet ER	100	Mylan	Calcium Channel Blockers	0.0%
54	levothyroxine 100 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
55	levothyroxine 50 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
56	Klor-Con 10 meq tablet ER	500	Upsher-Smith	Minerals & Electrolytes	1.0%
57	pravastatin 20 mg tablet	90	Teva	Cholesterol Agents (HMG Co-A)	-45.9%
58	simvastatin 10 mg tablet	90	Teva	Cholesterol Agents (HMG Co-A)	-38.6%
59	ranitidine 150 mg tablet	500	Par	Ulcer Drugs	0.0%
60	Endocet 10-325 mg tablet	100	Endo Pharmaceuticals	Analgesics, Opioid Combinations	0.0%
61	verapamil 240 mg tablet ER	500	Ivax	Calcium Channel Blockers	0.0%
62	nifedipine 90 mg tablet ER	100	Mylan	Calcium Channel Blockers	0.0%
63	Nifediac CC 60 mg tablet ER	100	Teva	Calcium Channel Blockers	0.0%
64	hydrocone/APAP 10-325 mg tablet	500	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
65	nabumetone 500 mg tablet	100	Teva	Anti-Inflammatory Agents (NSAIDs)	0.0%
66	metformin 500 mg tablet ER	100	Par	Antidiabetics, Oral	0.0%
67	Digitek 0.125 mg tablet	1000	Mylan Bertek	Cardiac Glycosides	0.0%
68	atenolol 25 mg tablet	1000	Sandoz	Beta Blockers	-28.8%
69	fexofenadine 60 mg tablet	100	Teva	Antihistamines, Non-Sedating	0.0%
70	levothyroxine 75 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
71	lisinopril/HCTZ 20-12.5 tablet	100	Ivax	Antihypertensives (ACEs) & Thiazides	0.0%
72	nitrofurantoin 100 mg capsule	100	Mylan	Urinary Agents	0.0%
73	paroxetine 40 mg tablet	30	Apotex USA	Antidepressants (SSRIs)	0.0%
74	paroxetine 10 mg tablet	30	Apotex USA	Antidepressants (SSRIs)	0.0%
75	felodipine 5 mg tablet ER	100	Mutual Pharmaceuticals	Calcium Channel Blockers	5.4%
76	spironolactone 25 mg tablet	500	Mylan	Diuretics	0.0%
77	clotrimazole/betamethasone dipro. cream	45	Taro	Dermatologicals	0.0%
78	methotrexate 2.5 mg tablet	100	Barr Laboratories	Antineoplastics	0.0%
79	triamterene/HCTZ 37.5-25 capsule	1000	Sandoz	Diuretics, Combination	0.0%
80	warfarin 2 mg tablet	100	Barr Laboratories	Anticoagulants	0.0%
81	hydrochlorothiazide 12.5 mg capsule	100	Mylan	Diuretics	0.0%
82	cilostazol 100 mg tablet	60	Prasco Laboratories	Anticoagulants	-21.9%

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
83	enalapril 20 mg tablet	100	Mylan	Antihypertensives (ACEs)	-38.5%
84	carisoprodol 350 mg tablet	500	Qualitest	Central Muscle Relaxants	0.0%
85	enalapril 10 mg tablet	100	Mylan	Antihypertensives (ACEs)	-37.2%
86	oxycodone/APAP 5-325 mg tablet	100	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
87	mirtazapine 30 mg tablet	30	Teva	Antidepressants, Misc.	-49.8%
88	fluoxetine 20 mg capsule	100	IVAX	Antidepressants (SSRIs)	0.0%
89	cephalexin 500 mg capsule	500	Ranbaxy Pharmaceuticals	Antibiotics	0.0%
90	cyclobenzaprine 10 mg tablet	1000	Pliva	Central Muscle Relaxants	0.0%
91	warfarin 1 mg tablet	100	Barr Laboratories	Anticoagulants	0.0%
92	quinapril 40 mg tablet	90	Greenstone	Antihypertensives (ACEs)	0.0%
93	albuterol nebulizer 0.083% nebulizer	3	Dey Laboratories	Respiratory Inhalers	-5.9%
94	sotalol HCL 80 mg tablet	100	Par	Beta Blockers	0.0%
95	lisinopril/HCTZ 20-25 mg tablet	100	Mylan	Antihypertensives (ACEs) & Thiazides	0.0%
96	nitroglycerin 0.4 mg/hr patch	30	Mylan	Antianginal Agents	0.0%
97	Nifediac CC 30 mg tablet ER	100	Teva	Calcium Channel Blockers	0.0%
98	nitroglycerin 0.2 mg/hr patch	30	Mylan	Antianginal Agents	0.0%
99	hydroxyzine HCL 25 mg tablet	100	Pliva	Other, Antianxiety Agents	0.0%
100	metformin 850 mg tablet	100	IVAX	Antidiabetics, Oral	-61.9%
101	benazepril 20 mg tablet	100	Teva	Antihypertensives (ACEs)	-4.8%
102	APAP/codeine 300-30 mg tablet	1000	Teva	Analgesics, Opioid Combinations	0.0%
103	metoprolol 25 mg tablet	100	Mylan	Beta Blockers	0.0%
104	gabapentin 100 mg capsule	100	Teva	Anticonvulsants	-6.2%
105	promethazine 25 mg tablet	100	Sandoz	Other, Antihistamines	0.0%
106	pentoxifylline 400 mg tablet ER	100	Teva	Other, Cardiovascular Agents	0.0%
107	quinapril 20 mg tablet	90	Greenstone	Antihypertensives (ACEs)	0.0%
108	hydrocodone/APAP 7.5-750 tablet	500	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
109	ciprofloxacin 500 mg tablet	100	Dr.Reddy's	Antibiotics	0.0%
110	warfarin 2.5 mg tablet	100	Barr Laboratories	Anticoagulants	0.0%
111	Enulose 10 gm/15 soln	473	Actavis Mid Atlantic/Eliz.	Other, Gastrointestinal Agents	-12.2%
112	citalopram 20 mg tablet	100	Dr.Reddy's	Antidepressants (SSRIs)	-10.0%
113	diltiazem 240 mg capsule ER	100	Mylan	Calcium Channel Blockers	0.0%
114	diclofenac 75 mg tablet DR	100	Sandoz	Anti-Inflammatory Agents (NSAIDs)	-22.5%
115	glipizide 5 mg tablet ER	100	Watson Laboratories	Antidiabetics, Oral	0.0%
116	levothyroxine 125 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
117	warfarin 3 mg tablet	100	Barr Laboratories	Anticoagulants	0.0%
118	baclofen 10 mg tablet	100	IVAX	Central Muscle Relaxants	0.0%
119	torsemide 20 mg tablet	100	Teva	Diuretics	0.0%
120	hydroxychloroquine 200 mg tablet	100	Sandoz	Other, Antimalarials	-38.9%
121	glimepiride 4 mg tablet	100	Prasco Laboratories	Antidiabetics, Oral	0.0%
122	hydrocodone/APAP 7.5-500 tablet	500	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
123	naproxen 500 mg tablet	500	Dava Pharmaceuticals	Anti-Inflammatory Agents (NSAIDs)	0.0%
124	Klor-Con M 10 meq tablet ER	100	Upsher-Smith	Minerals & Electrolytes	0.0%
125	warfarin 4 mg tablet	100	Barr Laboratories	Anticoagulants	0.0%

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
126	enalapril 5 mg tablet	100	Mylan	Antihypertensives (ACEs)	-37.6%
127	famotidine 20 mg tablet	100	Ivax	Ulcer Drugs	0.0%
128	Digitek 0.25 mg tablet	100	Mylan Bertek	Cardiac Glycosides	0.0%
129	furosemide 80 mg tablet	100	Mylan	Diuretics	0.0%
130	terazosin 5 mg capsule	100	Sandoz	Antihypertensives, Other	-29.2%
131	atenolol 100 mg tablet	100	Sandoz	Beta Blockers	-24.2%
132	SMZ/TMP 800-160 tablet DS	500	Mutual Pharmaceuticals	Antibiotics	45.5%
133	levothyroxine 25 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
134	triamterene/HCTZ 37.5-25 tablet	500	Pliva	Diuretics, Combination	0.0%
135	benazepril 40 mg tablet	100	Teva	Antihypertensives (ACEs)	-4.8%
136	amoxicillin 500 mg capsule	500	Teva	Antibiotics	0.0%
137	verapamil 180 mg tablet ER	100	Ivax	Calcium Channel Blockers	0.0%
138	metoclopramide 10 mg tablet	1000	Pliva	Antiemetics	0.0%
139	glimepiride 5 mg tablet	100	Sandoz	Antidiabetics, Oral	-24.2%
140	trazodone 50 mg tablet	1000	Pliva	Antidepressants, Misc.	0.0%
141	glimepiride 10 mg tablet	100	Sandoz	Antidiabetics, Oral	-21.0%
142	diltiazem 180 mg capsule ER	100	Mylan	Calcium Channel Blockers	0.0%
143	benazepril 10 mg tablet	100	Teva	Antihypertensives (ACEs)	-6.2%
144	metoprolol 100 mg tablet	1000	Mylan	Beta Blockers	0.0%
145	clonidine 0.1 mg tablet	1000	Mylan	Antihypertensives, Other	0.0%
146	allopurinol 300 mg tablet	500	Mylan	Gout Agents	0.0%
147	carbamazepine 200 mg tablet	1000	Taro	Anticonvulsants	-28.6%
148	levothyroxine 150 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
149	lisinopril/HCTZ 10-12.5 tablet	100	Ivax	Antihypertensives (ACEs) & Thiazides	0.0%
150	levothyroxine 88 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
151	hydrocodone/APAP 10-650 mg tablet	100	Mallinckrodt Pharm.	Analgesics, Opioid Combinations	0.0%
152	oxybutynin 5 mg tablet	1000	Pliva	Urinary Agents	0.0%
153	terazosin 2 mg capsule	100	Sandoz	Antihypertensives, Other	-29.2%
154	citalopram 40 mg tablet	100	Dr.Reddy's	Antidepressants (SSRIs)	-10.0%
155	timolol maleate 0.5% ophth soln	10	Falcon Pharmaceuticals	Other, Ophthalmic	0.0%
156	metoclopramide 5 mg tablet	500	Pliva	Antiemetics	0.0%
157	allopurinol 100 mg tablet	100	Mylan	Gout Agents	0.0%
158	ibuprofen 800 mg tablet	500	Par	Anti-Inflammatory Agents (NSAIDs)	0.0%
159	clonidine 0.2 mg tablet	100	Mylan	Antihypertensives, Other	0.0%
160	ranitidine 300 mg tablet	30	Par	Ulcer Drugs	0.0%
161	levothyroxine 112 mcg tablet	100	Mylan	Thyroid Hormones	0.0%
162	trazodone 100 mg tablet	100	Pliva	Antidepressants, Misc.	0.0%
163	prednisone 10 mg tablet	500	Watson Laboratories	Glucocorticosteroids	0.0%
164	triamcinolone 0.1% cream	80	Actavis Mid Atlantic/Eliz.	Dermatologicals	-2.2%
165	prednisone 5 mg tablet	1000	Watson Laboratories	Glucocorticosteroids	0.0%
166	diphenoxylate/atropine 2.5 mg tablet	100	Mylan	Other, Antidiarrheals	0.0%
167	Klor-Con 8 meq tablet ER	500	Upsher-Smith	Minerals & Electrolytes	0.0%
168	trazodone 150 mg tablet	100	Pliva	Antidepressants, Misc.	0.0%

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
169	glimepiride 2.5 mg tablet	100	Teva	Antidiabetics, Oral	0.0%
170	amitriptyline 25 mg tablet	1000	Mylan	Antidepressants, Misc.	0.0%
171	lisinopril 2.5 mg tablet	100	Ivax	Antihypertensives (ACEs)	-54.2%
172	meclizine 25 mg tablet	1000	Par	Antiemetics	0.0%
173	glimepiride 2 mg tablet	100	Prasco Laboratories	Antidiabetics, Oral	0.0%
174	ibuprofen 600 mg tablet	500	Par	Anti-Inflammatory Agents (NSAIDs)	0.0%
175	benztropine 1 mg tablet	1000	Pliva	Antiparkinson Agents	0.0%
176	methylprednisolone 4 mg tablet (pak)	21	Qualitest	Glucocorticosteroids	0.0%
177	colchicine 0.6 mg tablet	100	Qualitest	Gout Agents	0.0%
178	ciprofloxacin 250 mg tablet	100	Dr.Reddy's	Antibiotics	0.0%
179	triamterene/HCTZ 75-50 mg tablet	500	Mylan	Diuretics, Combination	0.0%
180	prednisone 20 mg tablet	100	Watson Laboratories	Glucocorticosteroids	0.0%
181	hydrochlorothiazide 50 mg tablet	1000	Ivax	Diuretics	0.0%
182	amitriptyline 50 mg tablet	1000	Mylan	Antidepressants, Misc.	0.0%
183	doxycycline hyclate 100 mg capsule	500	Watson Laboratories	Antibiotics	0.0%
184	amitriptyline 10 mg tablet	100	Mylan	Antidepressants, Misc.	0.0%
185	estradiol 1 mg tablet	100	Barr Laboratories	Other, Estrogens	0.0%

* Ranking based on prescriptions processed by the largest Medicare Part D plan provider during 2006.

See Appendix C for explanation of therapeutic category acronyms.

Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).