Attachment 3

Financial Statistics for the Drug Manufacturers

< Back to previous page

California: Total Retail Sales for Prescription Drugs Filled at Pharmacies, 2006

Compare California to: United States

Total Retail Sales for Prescription Drugs Filled at Pharmacies, 2006

Compare

CA	US
$	$
$15,837,089,019	$192,041,120,674

Notes: Data shown here are for calendar year 2006 and include the total sales for prescription drugs filled at retail pharmacies only. Data are based on Vector One(TM):National by Verispan, L.L.C., which collects data from a panel of retail pharmacies, third party payers, and data providers. Retail pharmacies include independent pharmacies, chain pharmacies, food stores, and mass merchandisers found in 814 defined regional zones. These data describe the total sales for retail pharmacies only and exclude those filled by mail order. Retail prescriptions filled by mail order totaled $50.4 billion or 20.2% of total prescriptions filled in 2006 according to industry statistics reported by The National Association of Chain Drug Stores (http://www.nacds.org/wmspage.cfm?parm1=507).

Sources: Vector One(TM):National from Verispan, L.L.C.: Special Data Request, 2007.

FORTUNE GLOBAL 500 2005

Industry: Pharmaceuticals

Revenues, profits

Rank	Company	Global 500 rank	Revenues	Profits ($ millions)
1	Pfizer	75	52,921	11,361
2	Johnson & Johnson	88	47,348	8,509
3	GlaxoSmithKline	122	37,304	8,095
4	Novartis	186	28,247	5,767
5	Roche Group	209	25,166	5,344
6	Merck	239	22,939	5,813
7	Bristol-Myers Squibb	258	21,886	2,388
8	AstraZeneca	267	21,426	3,813
9	Abbott Laboratories	285	20,473	3,236
10	Sanofi-Aventis	321	18,710	-4,490
11	Wyeth	346	17,358	1,234
12	Eli Lilly	445	13,858	1,810

FORTUNE GLOBAL 500 2006

Industry: Pharmaceuticals

Revenues, profits Profits as % of...

Rank	Company	Global 500 rank	Revenues	Profits ($ millions)
1	Pfizer	101	51,353	8,085
2	Johnson & Johnson	104	50,514	10,411
3	GlaxoSmithKline	143	39,366	8,753
4	Sanofi-Aventis	159	35,429	2,806
5	Novartis	177	32,212	6,130
6	Roche Group	204	28,496	4,644
7	AstraZeneca	253	23,950	4,706
8	Abbott Laboratories	283	22,338	3,372
9	Merck	289	22,012	4,631
10	Bristol-Myers Squibb	321	20,222	3,000
11	Wyeth	343	18,756	3,656
12	Eli Lilly	464	14,645	1,980

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FORTUNE GLOBAL 500 2007

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Industry: Pharmaceuticals

Switch industry

Revenues, profits Profits as % of...

Rank	Company	Global 500 rank	Revenues	Profits ($ millions)
1	Johnson & Johnson	112	53,324.0	11,053.0
2	Pfizer	115	52,415.0	19,337.0
3	GlaxoSmithKline	147	42,730.6	9,915.0
4	Novartis	168	37,020.0	7,175.0
5	Sanofi-Aventis	169	36,998.4	5,026.1
6	Roche Group	188	34,702.8	6,285.4
7	AstraZeneca	252	26,475.0	6,043.0
8	Merck	308	22,636.0	4,433.8
9	Abbott Laboratories	312	22,476.3	1,716.8
10	Wyeth	346	20,350.7	4,196.7
11	Bristol-Myers Squibb	406	17,914.0	1,585.0

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How the Countries Stack Up

Country	Number of Global 500 Companies
United States	162
Japan	67
France	38

Teva

Financials

(In millions of USD)

Income Statement	Quarterly (Dec '07)	Annual (2007)	Annual (2006)
Total Revenue	2,576.00	9,408.00	8,408.00
Gross Profit	1,347.00	4,877.00	4,259.00
Operating Income	661.00	2,395.00	801.00
Net Income	570.00	1,952.00	546.00
Balance Sheet			
Total Current Assets	9,859.00	9,859.00	7,640.00
Total Assets	23,412.00	23,412.00	20,471.00
Total Current Liabilities	5,371.00	5,371.00	4,071.00
Total Liabilities	9,688.00	9,688.00	9,329.00
Total Equity	13,724.00	13,724.00	11,142.00
Cash Flow			
Net Income/Starting Line	570.00	1,952.00	546.00
Cash from Operating	545.00	1,813.00	2,058.00
Cash from Investing	-430.00	-1,353.00	-4,058.00
Cash from Financing	-156.00	-362.00	2,024.00
Net Change in Cash	-20.00	156.00	56.00

Key Stats & Ratios

	Quarterly (Dec '07)	Annual (2007)	Annual (TTM)
Net Profit Margin	22.28%	20.79%	20.79%
Operating Margin	25.66%	25.46%	25.46%
EBITD Margin	-	30.71%	30.99%
Return on Average Assets	10.03%	8.91%	8.91%
Return on Average Equity	17.16%	15.70%	15.70%
Employees	29,712	-	-

Teva sprints ahead of the API field

By Pete Mansell

KEYWORDS

- Contract services (outsourcing)
- Ingredients, excipients and raw materials

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- Teva
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03-Mar-2008 - With active pharmaceutical ingredient sales of $1,460m (€960.8m) in 2007 and a portfolio of more than 250 compounds, Teva Pharmaceutical Industries is by a long stretch the dominant supplier in the global API market.

Speaking at the Israeli company's recent Investor Day, where Teva presented the results of a strategic review and announced its goal of doubling in size by 2012 to generate revenues of $20bn and net income margins of more than 20 per cent, Amir Elstein, executive vice-president, global resources, described the API segment as "*an enormous machine that can leverage a global file portfolio on a global scale*".

The bulk of Teva's APIs feed the company's pharmaceutical business, in which the core generics range is supplemented with branded products such as the multiple sclerosis treatment Copaxone (glatiramer acetate) and Azilect (rasagiline mesilate) for Parkinson's disease. Last year total API sales rose by 10 per cent over 2006, while internal sales to the pharmaceutical business were 21 per cent higher, reflecting "*the impact of vertically integrated product launched in 2007*", Teva reported.

API sales to third parties actually fell by 4 per cent to $561m and in the fourth quarter they were 8 per cent lower at $140m. Quarterly sales of APIs overall reached $463m, a 65 per cent increase over the same period of 2006, with internal sales to the pharmaceutical business jumping 150 per cent.

The proportion of third-party sales in the total API business, and indeed in Teva as a group, is expected to continue declining in the years ahead, particularly as Teva's interests swing more towards branded and innovative drugs while sustaining strong growth in its finished generics business.

At the Investors Day, chief financial officer Dan Suesskind gave a breakdown of group sales that are expected to show compound annual growth of 15-18 per cent between now and 2012, climbing to $19.0-$21.5bn from $9.4bn in 2007. Within that evolution, the Teva Active Pharmaceutical Ingredients (TAPI) business - meaning third-party sales only - is projected to grow from $0.6bn in 2007 to $0.9bn in 2012.

On that basis, the respective shares of generics, branded pharmaceuticals and APIs in Teva's overall turnover would shift from 75 per cent, 19 per cent and 6 per cent in 2007 to 74 per cent (generics), 22 per cent (branded) and 4 per cent (APIs) in 2012. All the same, Suesskind noted, "*we have to remember that most of the value of TAPI resides in the other businesses*".

And as Elstein pointed out, even stripping out internal sales still left Teva ahead of its nearest (unnamed) western API competitor, with estimated sales of $550m in 2007, and far ahead of the nearest Indian rival with sales of $360m. Moreover, those competitor sales included both internal and third-party business.

The breadth of Teva's API range also puts it ahead of the pack, Elstein added. "*We lead them not only in value - actually we have the portfolio to serve the industry*", he said. This enabled the company to offer a highly responsive, "*on-time*" supply source with a light cost structure and "*huge*" capacity that was "*available and growing*".

It included 1,500 active patents, a resource that was also expanding rapidly. According to Elstein, 90 per cent of Teva's patent applications for APIs are granted "*year in, year out*".

The company filed 126 basic R&D files for its molecules worldwide in 2007and intends to more than double that number by 2010. More than 50 per cent of these molecules are first to market in multiple countries, "*so the portfolio has a lot of value*", Elstein commented. That value is also expected to double by 2010.

In terms of API filing, Teva is shifting from a "*unifocal*" strategy centred on the US to a "*multifocal approach*", he noted. "*We can leverage a lot of the work done in and for the US ... and actually this is very cost-effective, because the cost added provides a USA-ready file to International and Europe*," Elstein explained, adding: "*It's a residual cost.*"

"*So what we have on the table,*" he commented, "*is not only the momentum going forward, it's a huge base of available products that were created for the US until today.*"

The company's "*excellent*" vertical integration was part of that proposition. In 2007, Elstein noted, it was designed to cover 50 per cent of the Teva pharmaceutical portfolio by volume and about 70 per cent by value. "*We are committed to provide by 2012 70 per cent coverage of the Teva product arsenal, with more than 85 per cent of the value,*" he told the Investors Day conference.

Vertical integration was "*a very strong and effective top-line and bottom-line enhancer*" for Teva, Elstein added. According to president and chief executive officer Shlomo Yanai, it is another feature that puts the company's API business ahead of the field.

Business Briefing: February 22, 2008

February 22, 2008

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TEVA PLANS TO DOUBLE SALES OVER NEXT FIVE YEARS

Teva Pharmaceutical Industries Ltd., the world's biggest generic-drug maker, aims to double sales to $20 billion in the next five years by introducing more treatments in the United States and increasing medical research.

Teva is targeting net profit of as much as $4.9 billion, compared with almost $2 billion in 2007, Chief Executive Officer Shlomo Yanai said Thursday at a meeting with investors in New York City. The global market for generics, copies of brand-name drugs that have lost patent protection, may reach $120 billion by 2012, compared with about $75 billion now, he said.

Teva, based in Petah Tikvah, Israel, is seeking new sources of revenue as competition drives down the profitability of its generic products in the United States, the company's main market.

Teva will boost spending on research and development by about 1.5 percent of revenue as part of an effort to beat competitors to the market in the United States, said William Marth, Teva's CEO for North America. The FDA gives 180 days of sales exclusivity to companies that are the first to file patent challenges, allowing them to charge higher prices.

Teva has a plant in West Rockhill Township that is one of the largest employers in Upper Bucks County

www.actupny.org

Pharmaceutical Company Profits and Salaries

by Richard Laing, Department of International Health, School of Public Health, Boston University, Presented @ Durban South Africa AIDS Conference 11 July 2000

1999 Pharmaceutical Company Reports

COMPANY	TOTAL REVENUE (in millions)	Cost of Goods (% revenue)	Market and Administration	R & D (% revenue)	Profits
Merck	**$32,714**	53.6 %	15.9 %	6.3 %	18.0 %
Novartis	$32,465	20.0 %	35.0 %	13.1 %	
BMS	$20,222	27.4 %	22.6 %	9.1 %	21.0 %
Pfizer	$14,133	17.9 %	44.9 %	19.6 %	20.0 %
Glaxo Wellcome	$13,754	20.0 %	35.2 %	14.9 %	
AHP	$13,550	27.3 %	37.2 %	12.8 %	-9.0 %
Abbott	$13,178	45.4 %	21.7 %	9.1 %	19.0 %
Warner-Lambert	$12,929	23.5 %	**46.1 %**	9.7 %	13.0 %
Smith Kline	$12,622		38.4 %	13.1 %	
Eli Lilly	$10,003	21.0 %	27.6 %	17.8 %	**27.0 %**
Schering-Plough	$9,176	19.6 %	37.4 %	13.0 %	23.0 %
Pharmacia	$7,253	26.1 %	38.6 %	19.8 %	11.0 %
AMGEN	$3,043	13.2 %	21.5 %	**27.0 %**	33.0 %
Genenteck	$1,039	27.4 %	45.0 %	**35.0 %**	
Biogen	$621	17.9 %	23.5 %		

35.6 %

Data from SEC 10K filings and 1999 Company Annual reports

1999 CEO Incomes

Charles A. Heimbold, Jr.
CEO, Bristol Myers Squibb
1999 Total Salary:
$39,752,611

Melvin R. Goodes
CEO, Warner-Lambertb
Unexercised stock options:
$204,680,776

Name	Company	Salary *	Total **	Unexercised Stock Options
C.A. Heimbold, Jr.	BMS	$31,424,000	$39,753,000	$159,691,000
W.C. Steere, Jr	Pfizer	$15,159,000	$38,983,000	$107,115,000
R.V. Gilmartin	Merck	$6,032,000	$26,424,000	$80,559,000
M.R. Goodes	Warn-Lam	$16,486,000	$22,061,000	$250,681,000
R.J. Kogan	Schering-Plough	$12,505,000	$18,525,000	
M.D. White	Abbott	$4,381,000	$16,272,000	$830,000
S. Taurel	Lilly	$6,041,000	$12,940,000	$33,667,000
J.R. Stafford	AHP	$4,093,000	$11,779,000	$29,867,000
G.M. Binder	AMGEN	$2,119,000	$6,385,000	$104,506,000
F. Hassan	Pharm & Upjohn	$2,366,000	$5,042,000	$17,291,000

* Includes salary, bonus and other compensation
** Includes salary listed above with stock option grants

Data from SEC filings and AFL-CIO websites
http://www.aflcio.org/cgi-bin/aflcio.pl
http://www.sec.gov

U.S. Pharmaceutical Market
1998 - 1999

Total pharmaceutical prescription sales: $107.1 billion: up 15.6% (1998)

Promotional Spending: $5.9 billion (1998)

Leading Sellers:

Prilosec	$4.19 billion (99)
Prozac	$2.57 billion (99)
Augmentin	$1.16 billion (99)
Cipro	$921 million (99)
Rocephin	$517 million (99)
Combivir	$465 million (99)
Viracept	$448 million (99)
Crixivan	$223 million (99)

Sources: MM&M IMS America Business Watch May 1999 & Top 200 Drugs, Pharmacy Times April 2000

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Rx Watchdog Report
Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries 2002 to 2007

David J. Gross
AARP Outreach & Service

Stephen W. Schondelmeyer
PRIME Institute, University of Minnesota

Leigh Purvis
AARP Public Policy Institute

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Rx Watchdog Report
Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries 2002 to 2007

by
David J. Gross
AARP Outreach & Service

Stephen W. Schondelmeyer
PRIME Institute, University of Minnesota

Leigh Purvis
AARP Public Policy Institute

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.

The views expressed herein are for information, debate, and discussion, and do not necessarily represent official policies of AARP.

#2008-05
March, 2008
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EXECUTIVE SUMMARY

Introduction

AARP's Public Policy Institute finds that price increases for brand name drugs have far outstripped the price increases for other consumer goods and services between 2002 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 increase in manufacturer prices charged to wholesalers and other direct purchasers for 220 brand name prescription drugs widely used by Medicare beneficiaries was 7.4 percent, or more than two and one-half times the general inflation rate of 2.9 percent. Especially notable is that we see even steeper price increases during the first two years of the Medicare Part D program that covers drugs for Medicare beneficiaries.

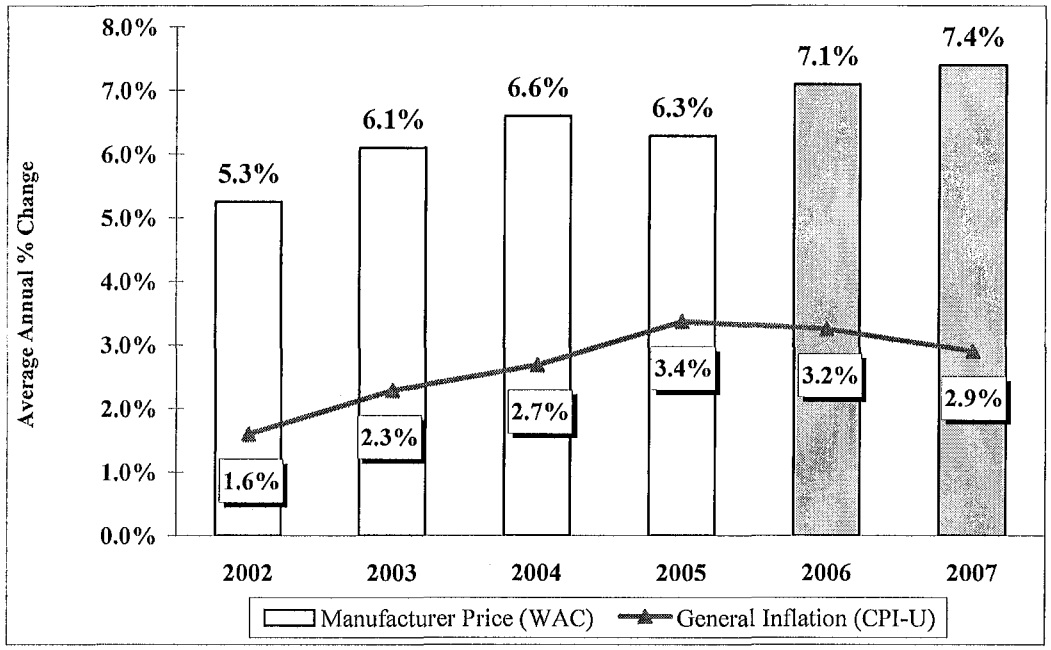
This report presents our most recent findings on the pattern of price increases for brand name drugs. It also introduces a new market basket to our analysis. A market basket is a tool to measure the change in prices for a group of drugs, taking into account the relative spending for the drugs among a population of patients. In the past, we have based the market basket on patterns for older Americans in general; we now base the market basket on the experience of beneficiaries in Medicare Part D plans.

Specifically, this report compares brand name prescription drug price changes to the rate of general inflation and from one year to the next. The report also presents differences in average price changes by manufacturer and by major therapeutic category. The report focuses on changes in prices that brand name drug manufacturers charge to wholesalers for sales to the retail class of trade. The manufacturer's charge to wholesalers is the most substantial component of a prescription drug's retail price. While this report does not provide data on drug rebates that plans are able to negotiate with manufacturers—such rebates are typically confidential—when manufacturers increase their price to wholesalers for a brand name drug, the added cost is generally passed on in the retail price to most prescription purchasers.

Findings

- **Overview.** Manufacturers have raised prices of brand name prescription drug products used by Medicare beneficiaries substantially since the implementation of the Medicare drug benefit. Average annual increases in manufacturer prices charged to wholesalers (and other direct purchasers) for the 220 most widely used brand name prescription drugs continued to substantially exceed the rate of general inflation. The annual average rates of increase in 2006 and 2007 (7.1 and 7.4 percent, respectively) were substantially higher than the average annual increases found in the previous three years (6.1 percent, 6.6 percent, and 6.3 percent).

Average Annual Percent Change in Manufacturer Prices for Most Widely Used Brand Name Prescription Drugs, 2002 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).

- **Cumulative change in manufacturer prices.** On average, manufacturer prices for 169 brand name drugs that have been on the market since the beginning of the study (December 2001) increased 50.4 percent by December 2007, compared to the general inflation rate of 19.0 percent during the same period.

- **Cumulative change in estimated dollar cost of therapy.** For a consumer who takes three brand name prescriptions on a chronic basis, the average increase in the cost of therapy for the drug products used to treat chronic conditions rose by more than $1,600 between 2002 and 2007.

- **Annual price changes.** All but four of the 220 brand name prescription drug products in the study's market basket had manufacturer price increases during 2007. Nearly all (99 percent) of these increases exceeded the rate of general inflation during the year.

- **Differences by manufacturer and therapeutic category.** Average annual drug manufacturer price increases in 2007 exceeded the rate of general inflation for all manufacturers with at least two drug products in the market basket, and for all but one therapeutic category.

Methodology

The list of brand name prescription drugs that are 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 a 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, Prevacid (lansoprazole) 30 mg, delayed-release capsule, bottle of 100, TAP Pharmaceuticals).

The three market baskets that will be used in this series of studies (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. Separate studies will consider trends in price changes among the widely used generic and specialty drug products.

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. 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 for this study by weighting each drug product's value by its 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 sample were on the market in earlier years; these trend analyses are based solely on the new market basket. Analysis for 2002, the earliest year covered in this report, includes 169 drugs, representing 77 percent of the total study sample of drug products.

Concluding Observations

Manufacturer drug price increases can have a direct impact on costs borne by Medicare Part D enrollees. Manufacturer price increases result in higher prices at the pharmacy and result in higher out-of-pocket costs for those beneficiaries who pay a percent of drug costs rather than a fixed copayment. The effect of higher drug manufacturer prices on the total retail price also means that enrollees will get to the "donut hole"—the gap in coverage where enrollees have to pay all of their drug costs—much quicker. And once enrollees are in the donut hole, they directly absorb the entire effect of the higher drug manufacturer prices on the retail price.

Higher drug manufacturer prices to retail pharmacies result in higher costs to drug plans, unless plans are able to negotiate higher rebates from drug manufacturers to account for these costs or lower prices from pharmacies (thereby forcing the pharmacies to absorb the cost of the manufacturer's price increase). Higher costs to plans likely result in reduced benefits and/or higher premiums to enrollees.

INTRODUCTION

AARP's Public Policy Institute finds that price increases for brand name drugs have far outstripped the price increases for other consumer goods and services between 2002 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 increase in manufacturer prices charged to wholesalers and other direct purchasers for 220 brand name prescription drugs widely used by Medicare beneficiaries was 7.4 percent, or more than two and one-half times the general inflation rate of 2.9 percent. Especially notable is that we see even steeper price increases during the first two years of the Medicare Part D program that covers drugs for Medicare beneficiaries.

This report presents our most recent findings on the pattern of price increases for brand name prescription drugs. It also introduces a new market basket to our analysis. A market basket is a tool to measure the change in prices for a group of drugs, taking into account the relative spending for the drugs among a population of patients. In the past, we have based the market basket on patterns for older Americans in general[1]; we now base the market basket on the experience of beneficiaries in Medicare Part D plans.

While this report focuses on manufacturer prices for brand name drug products, forthcoming reports will focus on manufacturer price changes among generic drugs and among specialty drugs. Importantly, separate analysis of the price changes for brand name drugs, generic drugs, and specialty drugs are being reported because these three sets of drugs are typically made by different drug manufacturers and their prices are subject to different market dynamics, pricing, and related behaviors.

These reports focus on changes in the prices that drug manufacturers charge to wholesalers and other direct purchasers for their sales to retail pharmacies. The manufacturer's charge to wholesalers is the most substantial component of a brand name prescription drug's retail price. Data in this report do not include drug rebates that Part D plans are able to negotiate with manufacturers—such rebates are typically confidential. However, because we examine trends over time, the lack of rebate data should not prove to be a major bias because when manufacturers increase their price to wholesalers for a brand name drug, the added cost is generally passed on in the retail price to most prescription purchasers.[2] Changes in drug manufacturers' prices are measured by changes in the wholesale acquisition cost (WAC) published in the Medi-Span Price-Chek PC database.[3]

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[1] Previous reports in this series can be found on the AARP Website at: http://www.aarp.org/research/health/carefinancing/aresearch-import-869-2004-06--IB69.html.

[2] Rebates generally do not benefit retail pharmacies, drug prices paid by Medicare Part D enrollees, or cash-paying consumers (i.e., people who pay up front for their prescriptions when they are in the Medicare Part D coverage gap or who have no drug coverage or have indemnity insurance).

[3] 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

Previous AARP reports identified steady increases in the average annual manufacturer price from calendar year 2000 through 2006 for 197 brand name drugs widely used by older Americans. 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 a Medicare Part D plan provider. The previous studies used a market basket based on use by all older Americans who purchased prescription drugs through the AARP Pharmacy Service, regardless of whether they were Medicare beneficiaries.

- This index is based on drug use in 2006, the first year that the Medicare drug benefit was in operation; the previous study was based on 2003 use data.[4] The advantages of the new market basket are that it accounts for changes in use patterns since 2003 (including new drug products introduced since 2003) and changes in availability of generic drug products (i.e., drugs for which brand name use has dropped substantially because a generic version was introduced after 2003).[5]

- 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.

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 AARP were based on a market basket of retail and mail-order prescriptions provided to about two million people age 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 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 insures the AARP Medicare Rx plans. The combined

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Policy, August 23, 2007, found on the Web at:
http://www.medispan.com/marketing/Common/PDF/Marketing/WKH_AWP_Policy.pdf)

[4] Both studies examine trends in drug prices retrospectively. The current study examines price trends from 2002; the previous studies examined price trends from 2000.

[5] Although the market basket has changed from 2003 to 2006, the general trend in brand name drug manufacturer prices between the two market baskets is similar. Both market baskets showed a general upward trend in the rate of increase of manufacturer prices for brand name prescription drugs. The average rate of price increases of the Part D (2006) market basket for the years 2002 to 2004 was somewhat below the level found with the market basket based on drug use by older Americans in 2003. However, for the years 2005 to 2007, the Part D (2006) market basket showed price increases that were somewhat higher than those found with the 2003 market basket. For more information, see Appendix B.

enrollment of this Medicare Part D plan provider totaled 5.68 million for 2006 (4.46 million in stand-alone prescription drug plans [PDPs] and 1.22 million in Medicare Advantage plans), which represents 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 this group of 5.68 million Medicare enrollees. The data set included NDC (National Drug Code number), 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 brand single source prescriptions accounted for 36.1 percent of all regular (non-specialty) prescriptions and nearly 70 percent of expenditures (see Table 1). This relationship is driven by an average price for a brand single source prescription that was nearly five times the average price of a generic prescription.

Table 1: Characteristics of the 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 GPI-patent status groups[6] 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 463groups. 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 only had inactive NDCs, so these groups were excluded from the analysis.

[6] 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 number. 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 has 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.

The brand name market basket for this price change study as described above is composed of 221 GPI-patent status groups that included 1,729 active NDCs and 68 inactive NDCs.[7] The expenditures for all NDCs in these 221 GPI-patent status groups accounted for 84.6 percent of all brand name (both brand single source and brand multiple source) prescription expenditures. The prescriptions for all NDCs in these 221 GPI-patent status groups represented 82.7 percent of all brand name prescriptions and 84.2 percent of all brand name days of therapy provided. One brand name drug product (Abbott's Norvir 100 mg,) had an extremely large one-time price increase (more than 400 percent) in 2003. Because this unusual price change was an extreme outlier and distorted the overall trends, this drug product has been excluded from all analyses.[8] Therefore, the market basket for brand name drugs used to track manufacturer drug prices in this, and subsequent studies, includes 220 brand name drug products.[9]

Price changes were determined by comparing the price (i.e., the wholesale acquisition cost or 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 in Appendix A.

FINDINGS

I. ANNUAL TRENDS IN MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED BRAND NAME PRESCRIPTION DRUGS

Annual percent change in manufacturer prices

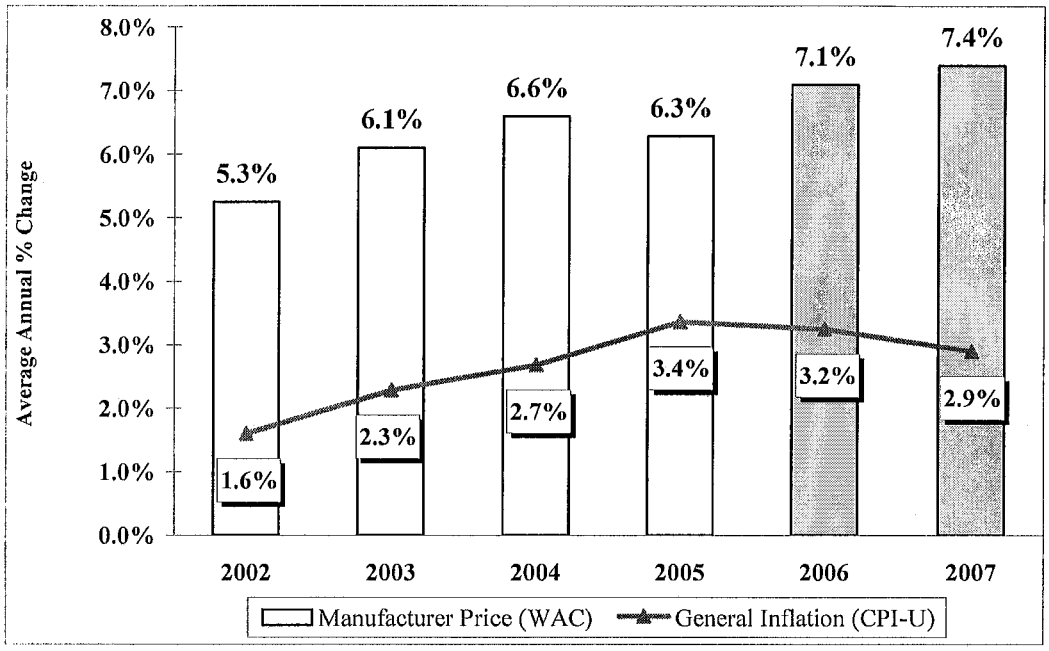
- Manufacturer prices for the brand name drug products most widely used by Medicare beneficiaries rose 7.1 percent in 2006 and 7.4 percent in 2007, the first two years of operation of the Medicare Part D drug benefit, when measured as a 12-month rolling average and weighted by actual 2006 sales to Medicare Part D beneficiaries (Figure 1).

- The average annual increases in 2006 and 2007 (7.1 and 7.4 percent, respectively) were substantially higher than the rates of increase for manufacturer prices in the prior four years. The average manufacturer price increase for this market basket was 5.3 percent in 2002, and ranged between 6.1 percent and 6.6 percent during the years 2003 to 2005.

[7] 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 number.
[8] Norvir 100 mg was ranked number 121 in the market basket of 221 widely used brand name prescription drugs, sorted by 2006 sales in the Medicare Part D plan provider's drug plans. The impact of including Norvir 100 mg is shown in Figures D1, D2, and D3 in Appendix D.
[9] In order to measure the impact of price changes alone, the weights for drug products in this market basket are fixed over time. Drug products that enter the market after 2006 will not be included in this index. If drug products are withdrawn from the market, these drug products will be dropped from the market basket in subsequent periods and the weights of other drugs will be proportionately adjusted.

- Furthermore, the average annual price increase in 2007 for these brand name prescription drug products was more than two and one-half times the rate of general inflation[10] (7.4 percent vs. 2.9 percent); in 2006, the rate of brand name price increase was more than twice the rate of general inflation (7.1 percent vs. 3.2 percent).

Figure 1: Average Annual Percent Change in Manufacturer Prices for Most Widely Used Brand Name Prescription Drugs, 2002 to 2007

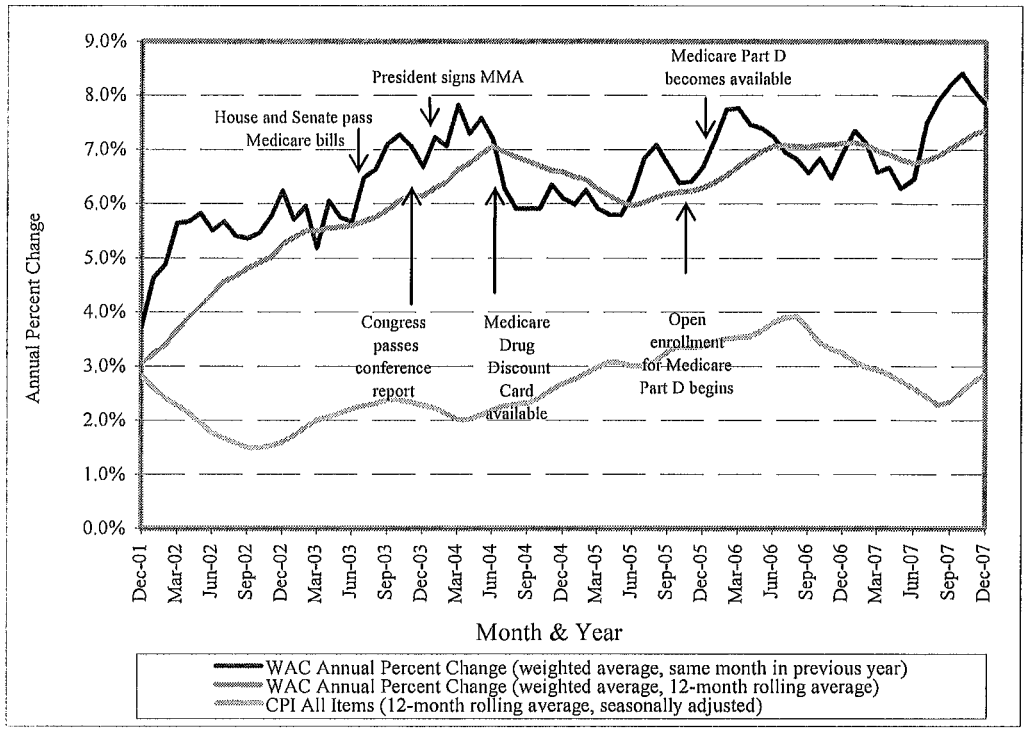


Note: Shaded bars indicate years when Medicare Part D was operational.
Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health, Inc., February 2008).

The average annual price change reported in Figure 1 is 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 2). Figure 2 shows that the point-to-point annual change in prices accelerated rapidly at three specific times since Medicare beneficiaries were first able to choose Part D plans in the fall of 2005: (1) December 2005 through February 2006, (2) December 2006 through January 2007, and (3) July 2007 through October 2007. Throughout the entire time the Medicare Part D prescription drug program has been in operation, the rate of increase in brand name drug prices has been well above (usually two-fold or more) the rate of general inflation.

[10] The general inflation rate reported is based on the average annual rate of change in the Consumer Price Index-All Urban Consumers for All Items (seasonally adjusted) (CPI-U), Bureau of Labor Statistics series CUSR0000SA0.

Figure 2: Comparison of Rolling Average and Point-to-Point Changes in Manufacturer Prices for Most Widely Used Brand Name Prescription Drugs, 2002 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 increases for the 212 most widely used brand name drugs for treating chronic conditions (out of a total market basket of 220 drugs)[11] were translated into increases in the average annual cost of therapy (Figure 3).[12]

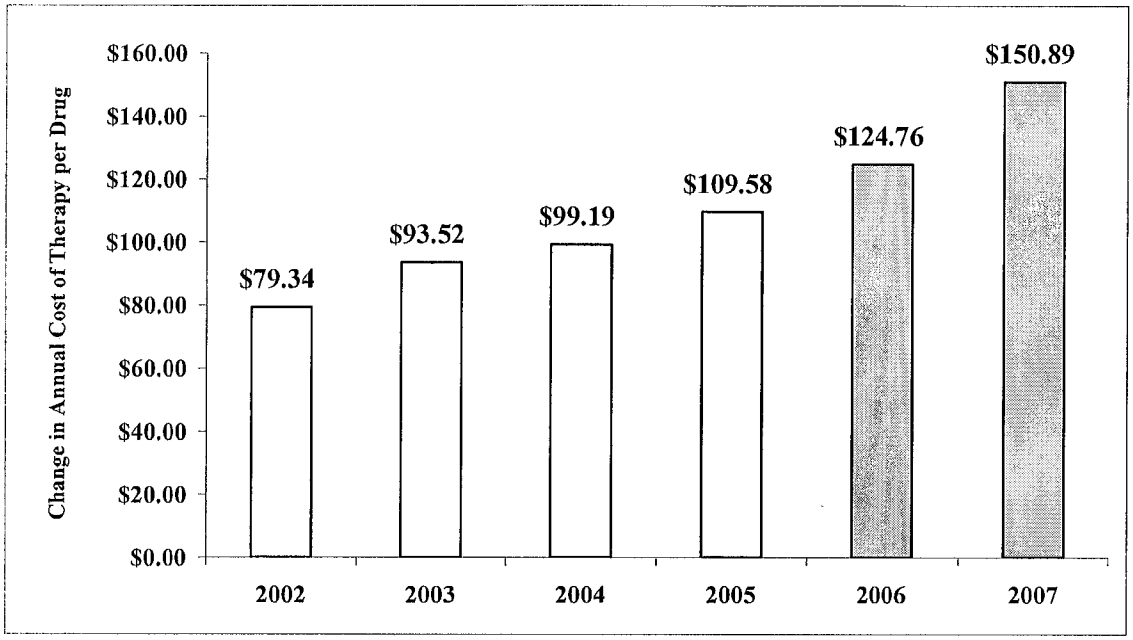
- The average increase in the cost of therapy was nearly $125 per year for each prescription drug in 2006 and nearly $151 per year per prescription drug in 2007. These amounts were substantially higher than the average annual increases in previous years, which had ranged from about $80 per year in 2002 to $110 per year in 2005.

An older American who takes three prescription drugs is likely to have experienced an average increase in the annual cost of therapy of $374.28 in 2006 and another $452.67 in 2007, assuming that the consumer uses brand name drugs for chronic conditions and that the price increases were passed on in the form of higher prices. While insurance would cover much of this cost for some

[11] Drug products typically used to treat acute conditions or for less than one year duration include: Lidoderm 5%, Levaquin 250 mg, 500 mg, and 750 mg, Patanol 0.1%, Avelox 400 mg, Lamisil 250 mg, and Valtrex 1 Gm.
[12] Note that the figures in this section reflect manufacturer prices and not necessarily the prices a consumer would face at the drugstore.

beneficiaries, it would not cover the costs for Medicare Part D enrollees in the donut hole[13] (the period when beneficiaries pay 100 percent of their prescription costs).[14]

Figure 3: Average Change in Annual Cost of Therapy Due to Manufacturer Price Changes for Most Widely Used Brand Name Prescription Drugs in the Treatment of Chronic Conditions, 2002 to 2007



Note: Shaded bars indicate years when Medicare Part D was operational.
Does not include eight 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).

II. SIX-YEAR CUMULATIVE IMPACT OF MANUFACTURER PRICE CHANGES FOR WIDELY USED PRESCRIPTION DRUGS, 2002-2007

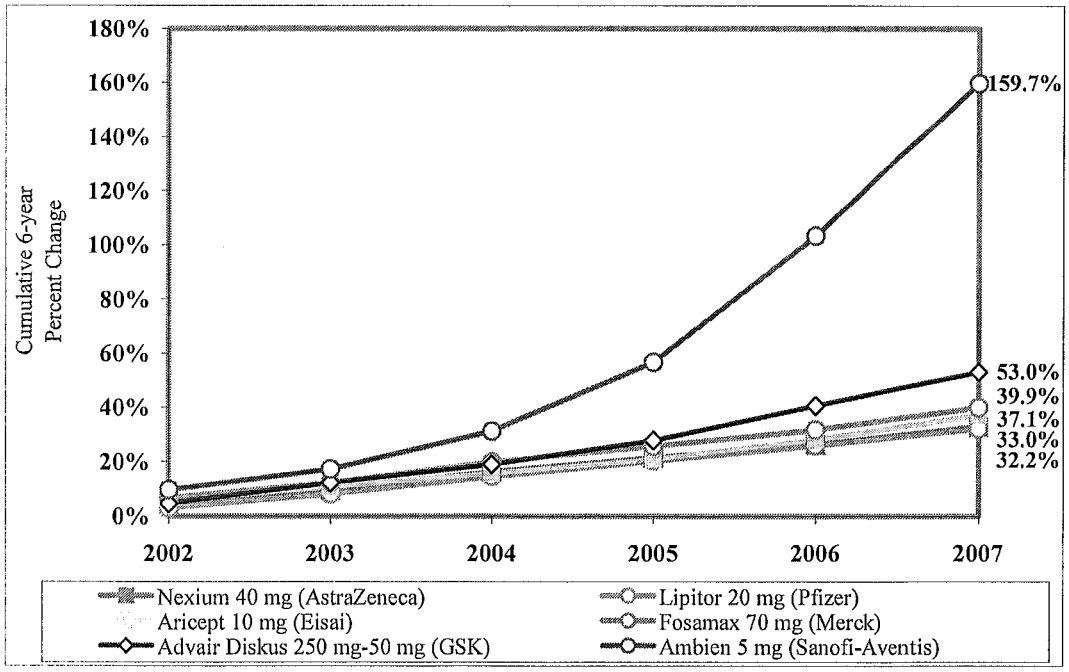
Six-year cumulative percent change in manufacturer prices

- More than three-fourths (169 of 220) of the most widely used drugs in the market basket for this analysis have been on the market for the entire six-year period from 2002 through 2007. Cumulatively, the average manufacturer price increase for these 169 brand name drug products was 50.4 percent, compared with 19.0 percent for general inflation—or more than 2.5 times the rate of general inflation.[15]

[13] The cost impact on beneficiaries is based on the continued use of the brand name drug product. Eighty-five percent of the brand name drug products in this index (187 of 220) are single source drug products that do not have therapeutically equivalent generic alternatives. For the remaining 15 percent of these brand name drug products, the beneficiary could save money if he or she switched to a less-expensive generic drug product.
[14] This "gap" in coverage generally began after the beneficiary has $2,400 (in 2007) in total drug costs and continues until the beneficiary spent $3,850 out of-pocket. Some plans might offer some coverage in the gap and some low-income beneficiaries also have gap coverage.
[15] The six-year average cumulative growth rate for all drugs in the market basket was 50.8 percent. This number was calculated by compounding the average annual growth rate for each year from 2002 to 2007.

- Figure 4 illustrates the cumulative effect of manufacturer price changes between 2002 and 2007 for six specific drug products. Five of these drug products were chosen because they are among the 25 most widely used drugs in the market basket and are from a variety of therapeutic classes:
    - Nexium 40 mg capsules (AstraZeneca)—used in the treatment of acid reflux disease
    - Lipitor 20 mg tablets (Pfizer)—used to treat high cholesterol
    - Aricept 10 mg tablets (Eisai)—an anti-Alzheimer's drug
    - Fosamax 70 mg tablets (Merck)—used to treat osteoporosis
    - Advair Diskus 250-50 mg (GlaxoSmithKline)—a respiratory inhaler
- The sixth drug, Ambien 5 mg tablets (Sanofi-Aventis), which is used as a sleep aid, was chosen because it had the largest percent price increase in 2007 among all drug products in the market basket.

Figure 4: Six-Year Cumulative Percent Change in Manufacturer Price for Six Widely Used Brand Name Prescription Drugs, 2002 to 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).

- The six-year (2002 to 2007) cumulative percent change in manufacturer prices for six specific drug products is shown in Figure 4:

  - The manufacturer price of Ambien 5 mg rose nearly 160 percent over the entire six-year period, when measured as a 12-month rolling average change. This cumulative growth was more than eight times the rate of growth in general inflation and was largely driven by a 20 percent increase in 2005 and nearly 30 percent increases in both 2006 and 2007.

  - The manufacturer price of Advair Diskus 250 mg-50 mg increased cumulatively by 53 percent, and the manufacturer prices of Fosamax 70 mg tablets and Aricept 10 mg tablets each increased by nearly 40 percent over the six-year period.

  - The manufacturer prices of Lipitor 20 mg tablets and Nexium 40 mg capsules each increased cumulatively by more than 30 percent between 2002 and the end of 2007.

Six-year cumulative change in annual cost of therapy

- All but 8 of the 169 drug products that have been on the market since the end of 2001 are used to treat chronic conditions. By the end of 2007, the average annual cost of therapy for these drug products was $536 higher than six years earlier, assuming that manufacturers' price increases were passed along in the form of higher prices[16] and that the consumer used these brand name drugs for chronic conditions. For a consumer who takes three brand name medications, this translates into an average increase in annual therapy costs of $1,608 between December 31, 2001 and December 31, 2007.

- The six-year (2001 to 2007) cumulative change in cost of therapy due to manufacturer prices for six specific drug products is shown in Figure 5:

  - Manufacturer prices for a one-year supply of Ambien 5 mg tablets have risen over $900 between the end of 2001 and the end of 2007.

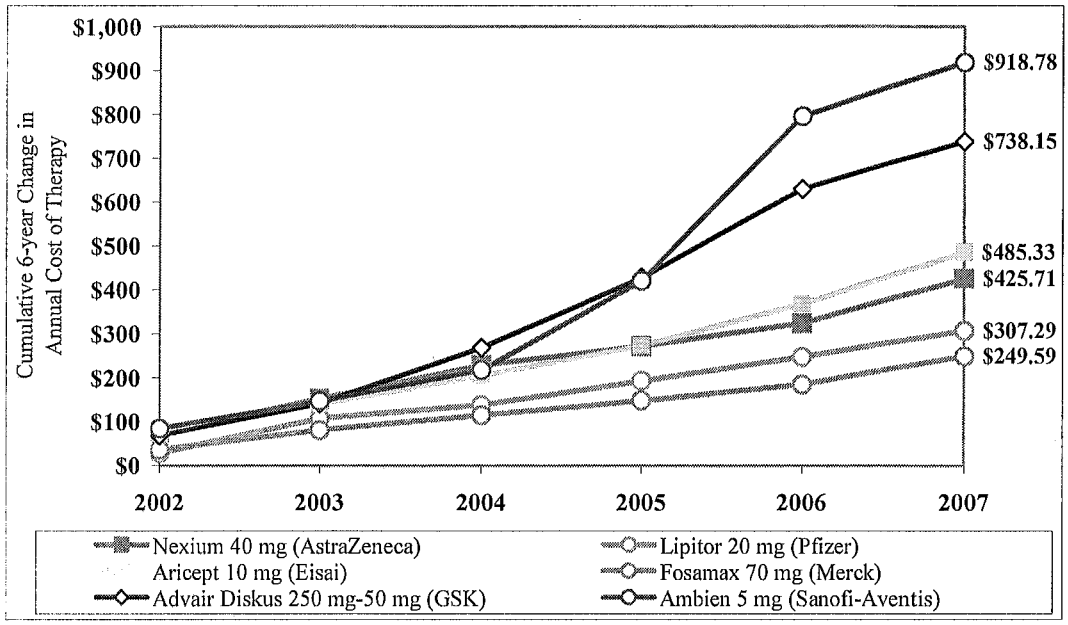
  - Manufacturer prices for a one-year supply of Advair Diskus 250 mg-50 mg have risen over $700 between the end of 2001 and the end of 2007.

  - Manufacturer prices for a one-year supply of Aricept 10 mg tablets have risen almost $500 and for Nexium 40 mg capsules manufacturer prices have risen over $400 by the end of the six-year period (2001 to 2007).

  - Manufacturer prices for a one-year supply of Lipitor 20 mg tablets have risen over $300 and for a one-year supply of Fosamax 70 mg tablets have risen almost $250 by the end of the six-year period (2001 to 2007).

[16] The actual amount that an individual consumer pays out-of-pocket may depend on a variety of factors.

Figure 5: Six-Year Cumulative Change in Cost of Therapy Due to Manufacturer Price Changes for Six Widely Used Brand Name Prescription Drugs, 2002 to 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).

III. MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED BRAND NAME PRESCRIPTION DRUGS IN 2006

Distribution of manufacturer price changes

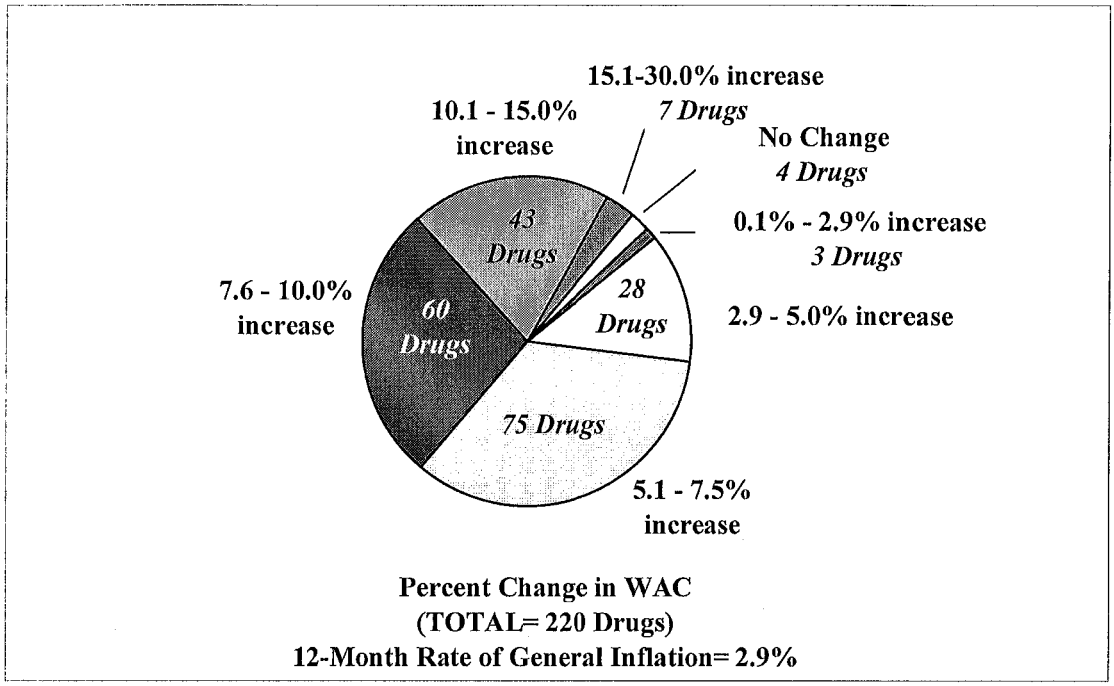
All but 4 of the 220 (98.2 percent) most widely used brand name prescription drug products in this study's market basket had manufacturer price increases during 2007, when measured as a 12-month rolling average (Figure 6).

- Annual manufacturer price increases for 213 (96.8 percent) of the 220 drug products exceeded the rate of general inflation (2.9 percent) in 2007.

- Annual manufacturer price increases for 185 (84.1 percent) of the 220 drug products increased more than 5.0 percent in 2007, including 60 (28.3 percent) with a price increase between 7.6 percent and 10.0 percent, 43 (19.5 percent) with a price increase between 10.1 and 15.0 percent, and 7 (3.2 percent) with a price increase of more than 15.0 percent.

More than 40 percent (89 of the 220 drug products) had more than one manufacturer price increase during 2007. Three forms of one drug—Depakote (125 mg, 250 mg, and 500 mg)—had four price increases during 2007. Another form of the same drug—Depakote ER 500 mg—had three price increases in 2007.

Figure 6: Distribution of Percent Changes in Manufacturer Prices for Most Widely Used Brand Name Prescription Drugs, 2007

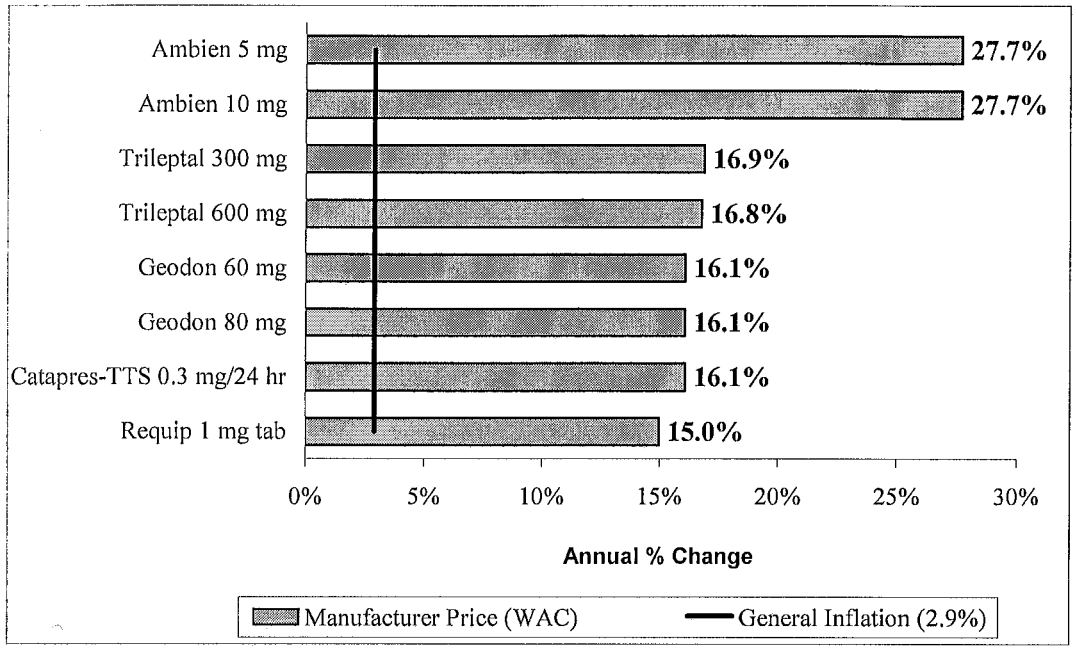


Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

- The only four drug products with no change in manufacturer price for 2007 were different strengths of the same drug—Zocor (10 mg, 20 mg, 40 mg, and 80 mg). Zocor is a brand name drug that faced its first generic competition in June 2006. Three additional drug products (Plavix 75 mg, Xenaderm 90 units/Gm, and Proscar 5 mg) had manufacturer price increases that were lower than the rate of general inflation in 2007.

Eight brand name drug products had increases in manufacturer price of at least 5.5 times the rate of general inflation, ranging from 15.0 percent to 27.7 percent (Figure 7). Five of them (Trileptal 300 mg, Trileptal 600 mg, Geodon 60 mg, Geodon 80 mg, and Catapres-TTS 0.3 mg/24 hr) were among the 89 drug products that had more than one price increase in 2007, while the other three others had a greater than 15 percent increase with a single change in price in 2007.

Figure 7: Brand Name Prescription Drug Products with Highest Percent Change 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).

More than 90 percent (23 of 25) of the brand name drug products with the greatest sales in 2006 had manufacturer price increases during 2007. All but one of these top-selling 25 drug products had an increase that exceeded the rate of general inflation in 2007 (2.9 percent). The remaining 22 drug products had annual manufacturer price increases that met or exceeded twice the rate of general inflation, including 8 drug products that had price increases that met or exceeded three times the rate of general inflation (Table 1).

Table 2: Annual Percent Change in Manufacturer Prices for Top 25 Brand Name 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	Nexium 40 mg capsule	30	AstraZeneca	Ulcer Drugs (PPIs)	5.3%
2	Plavix 75 mg tablet	90	Bristol-Myers Squibb	Anticoagulants	0.5%
3	Prevacid 30 mg DR capsule	100	TAP	Ulcer Drugs (PPIs)	5.0%
4	Protonix 40 mg tablet	90	Wyeth	Ulcer Drugs (PPIs)	5.2%
5	Lipitor 20 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
6	Lipitor 10 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
7	Aricept 10 mg tablet	30	Eisai	Antidementia Agents	7.0%
8	Fosamax 70 mg tablet	4	Merck	Osteoporosis Agents	6.2%
9	Norvasc 10 mg tablet	90	Pfizer	Antihypertensives (CCBs)	11.5%
10	Advair Diskus 250-50 mist	60	GlaxoSmithKline	Respiratory Agents	8.8%
11	Lipitor 40 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
12	Actonel 35 mg tablet	4	Procter & Gamble	Osteoporosis Agents	8.1%
13	Norvasc 5 mg tablet	90	Pfizer	Antihypertensives (CCBs)	11.5%
14	Celebrex 200 mg capsule	100	Pfizer	Anti-Inflammatory Agents	8.7%
15	Namenda 10 mg tablet	60	Forest	Antidementia Agents	5.9%
16	Singulair 10 mg tablet	30	Merck	Respiratory Agents	5.8%
17	Flomax 0.4 mg capsule	100	Boehringer Ingelheim	Prostatic Hypertrophy Agents	11.2%
18	Zetia 10 mg tablet	30	Merck/Schering-Plough	Cholesterol Agents (HMG CoA)	6.5%
19	Lexapro 10 mg tablet	100	Forest	Antidepressants (SSRIs)	6.9%
20	Lantus 100/ml inj	10	Sanofi-Aventis	Antidiabetics (Insulins)	9.4%
21	Zocor 20 mg tablet	30	Merck	Cholesterol Agents (HMG CoA)	0.0%
22	Ambien 10 mg tablet	100	Sanofi-Aventis	Sedatives	27.7%
23	Seroquel 200 mg tablet	100	AstraZeneca	Antipsychotics	9.1%
24	Zocor 40 mg tablet	30	Merck	Cholesterol Agents (HMG CoA)	0.0%
25	Avandia 4 mg tablet	30	GlaxoSmithKline	Antidiabetics (Oral)	7.5%
General rate of inflation (as measured by growth in CPI-U)					**2.9%**

*Ranking based on prescriptions processed by the Medicare Part D plan provider during 2006.
See Appendix B 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).

- Sanofi-Aventis' Ambien 10 mg tablets had the highest annual percent change (27.7 percent) in manufacturer price during 2007 among the top 25 brand name drug products with the greatest sales in 2006.

- Four of the top 25 drug products had annual changes in manufacturer price of more than 10 percent—or more than three and one-half times the rate of general inflation. In addition to Sanofi-Aventis' Ambien 10 mg tablets, the other drug products were Pfizer's Norvasc (5 mg and 10 mg) and Boehringer Ingelheim's Flomax (0.4 mg).

- Merck's Zocor (20 mg and 40 mg) had no manufacturer price change in 2007, and Bristol-Myers Squibb's Plavix 75 mg had a manufacturer price increase of 0.5 percent in 2007.

Interestingly, both of these drugs had recently faced their first generic competition—Zocor in June 2006 and Plavix in August 2006.[17]

IV. MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED BRAND NAME PRESCRIPTION DRUGS BY MANUFACTURER AND BY THERAPEUTIC CATEGORY

Twenty-six drug manufacturers had at least two drug products in the study's market basket of widely used brand name drugs. The weighted average annual increase in price for all 26 drug manufacturers exceeded the rate of general inflation in 2007 (Figure 8).

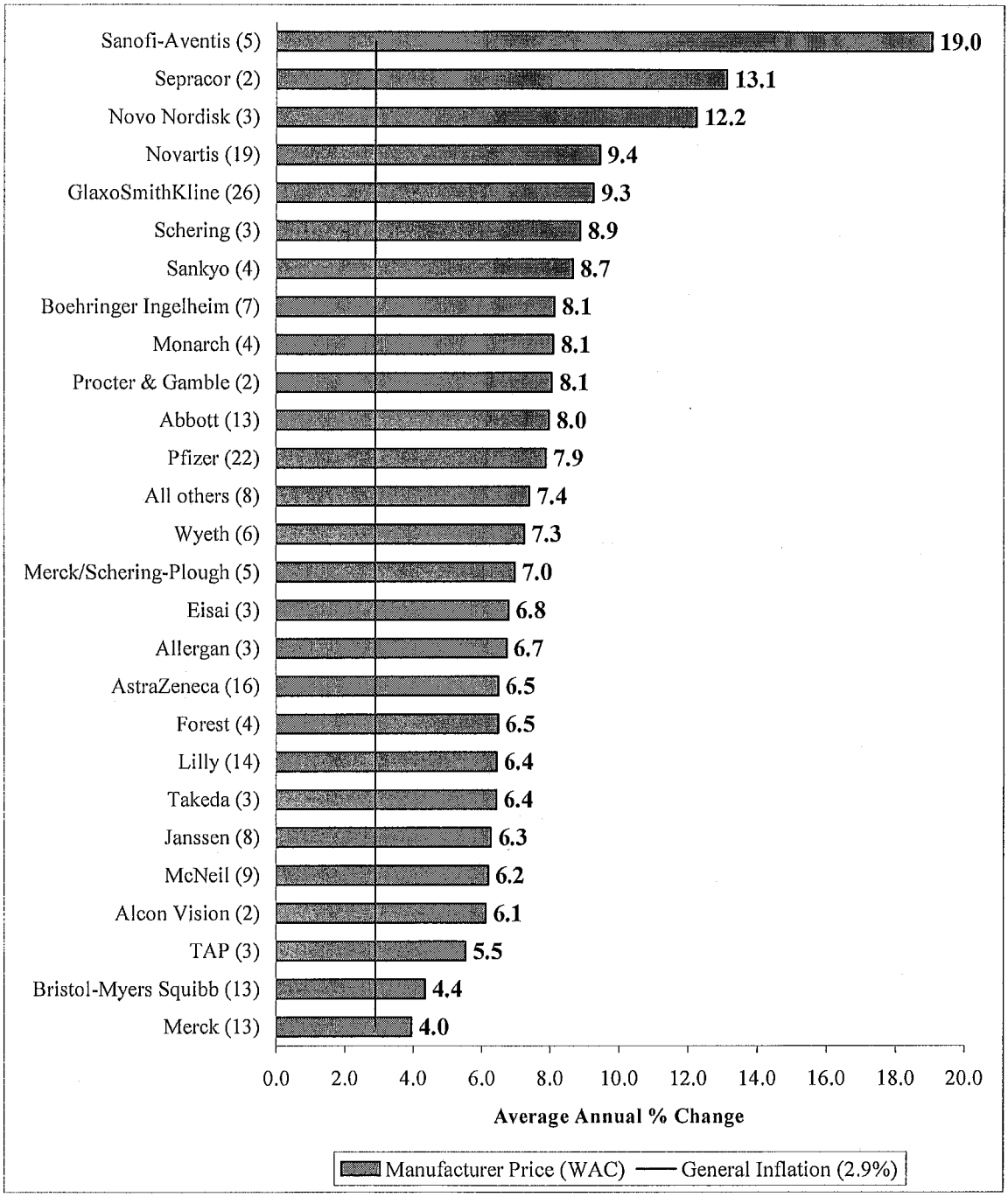
- Three manufacturers—Sanofi-Aventis, Sepracor, and Novo Nordisk—had average annual price increases for the drug products in the market basket of more than four times the rate of general inflation (i.e., greater than 11.6 percent) during 2007. Most notably, one manufacturer (Sanofi-Aventis) had an average annual price increase of 19.9 percent, or almost seven times the rate of general inflation (2.9 percent).

- Nearly all drug manufacturers (23 of 26) had weighted average annual price increases that were at least twice the rate of general inflation during 2007 (i.e., equal to or greater than 5.8 percent or two times 2.9 percent).

- The lowest average price increases were for Bristol-Myers Squibb and Merck. The average 2007 price increases for these manufacturers were 4.4 and 4.0 percent, respectively—still about one and one-half times the rate of general inflation.

[17] See FDC Reports, *The Pink Sheet*, "Apotex Is Appealing Plavix Patent Ruling, Links Case to Norvasc," June 25, 2007, Vol. 69, No. 26, p. 11; and FDC Reports, *The Pink Sheet*, "Impact of Plavix Generics to Linger Well Into 2007," January 29, 2007, Vol. 69, No. 5, p. 8.

Figure 8: Average Annual Percent Change in Manufacturer Price for Brand Name Prescription Drugs by Manufacturer, 2007



Manufacturers with fewer than two drug products in the 2006 market basket of most widely used brand name 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).

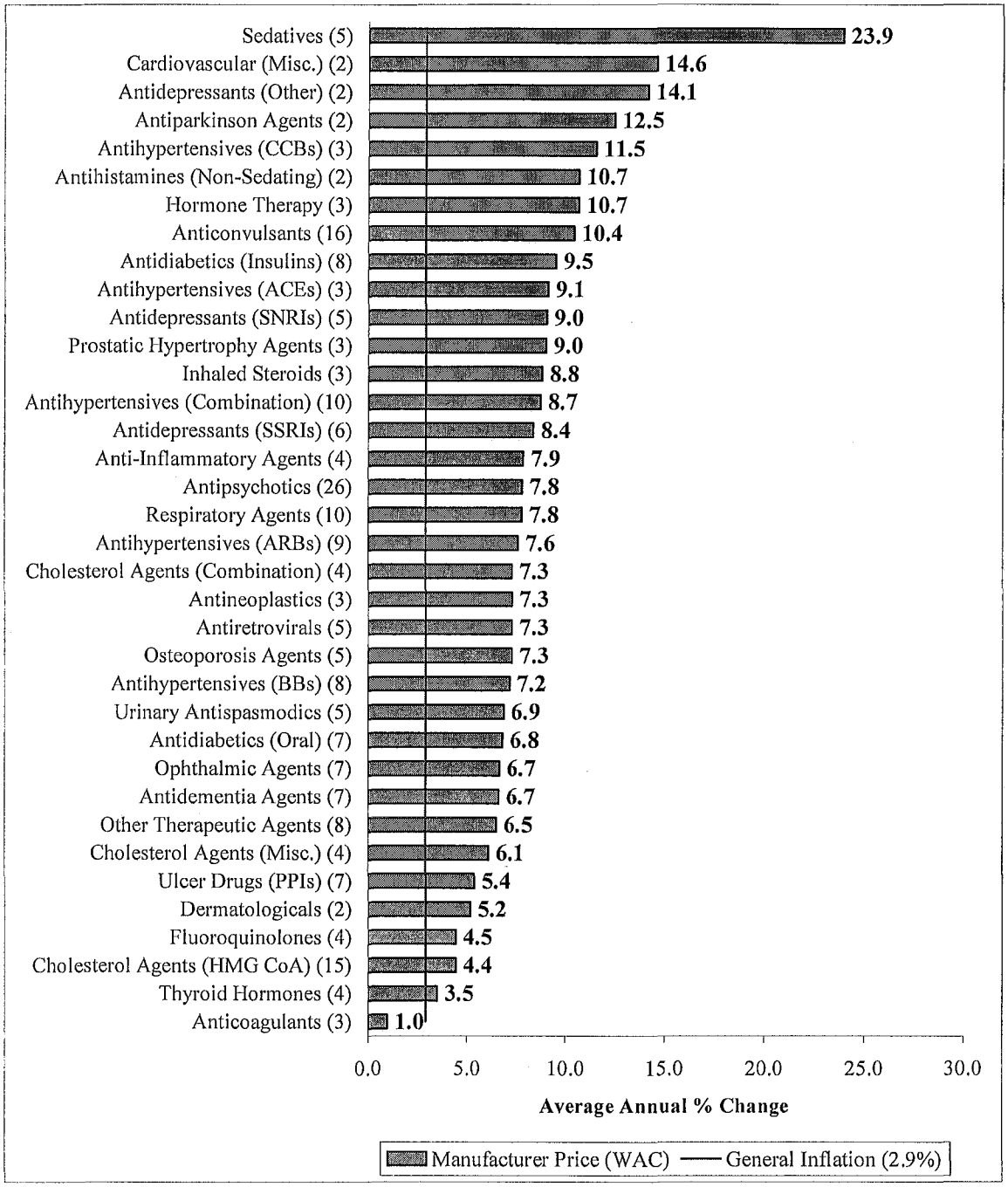
All but one of the 36 therapeutic categories of brand name drug products had average annual manufacturer price increases that met or exceeded the rate of general inflation (2.9 percent) in 2007 (Figure 9).

- The therapeutic category with the highest manufacturer price increase—sedatives—had an average annual manufacturer price increase of 23.9 percent in 2007—more than eight times the rate of general inflation in 2007. Four therapeutic categories, including the sedatives, had average annual price increases of more than four times the rate of general inflation (i.e., more than 11.6 percent per year).

- Thirty of the 36 therapeutic categories had average annual manufacturer price increases that exceeded twice the general inflation rate during 2007 (i.e., greater than 5.8 percent).

- Only one therapeutic category—anticoagulants—had an average price increase of less than the rate of general inflation in 2007. Manufacturer prices for anticoagulants increased only 1.0 percent, on average, in 2007.

Figure 9: Average Annual Percent Change in Manufacturer Price for Brand Name Prescription Drugs by Therapeutic Category, 2007



See Appendix B for explanation of therapeutic category acronyms.
Therapeutic categories with fewer than two drug products in the 2006 market basket of most widely used brand name 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).

CONCLUDING OBSERVATIONS

Manufacturer drug price increases can have a direct impact on costs borne by Medicare Part D enrollees. Manufacturer price increases result in higher prices at the pharmacy and result in higher out-of-pocket costs for those beneficiaries who pay a percent of drug costs rather than a fixed copayment. The effect of higher drug manufacturer prices on the total retail price also means that enrollees will get to the "donut hole"—the gap in coverage where enrollees have to pay all of their drug costs—much quicker. And once enrollees are in the donut hole, they directly absorb the entire effect of the higher drug manufacturer prices on the retail price.

Higher drug manufacturer prices to retail pharmacies result in higher costs to drug plans, unless plans are able to negotiate higher rebates from drug manufacturers to account for these costs or lower prices from pharmacies (thereby forcing the pharmacies to absorb the cost of the manufacturer's price increase). Higher costs to plans likely result in reduced benefits and/or higher premiums to enrollees.

Drug manufacturers have raised prices of brand name prescription drug products used by Medicare beneficiaries substantially since the implementation of the Medicare drug benefit. Average annual increases in manufacturer prices charged to wholesalers (and other direct purchasers) for the 220 most widely used brand name prescription drugs continued to substantially exceed the rate of general inflation. The annual average rates of increase in 2006 (7.1 percent) and 2007 (7.4 percent) were substantially higher than the average annual increases of 6.1 to 6.6 percent found in the previous three years. The 2007 average rate of increase was more than two and one-half times the rate of general inflation (2.9 percent).

The cumulative effect of these manufacturer price increases can be substantial. On average, manufacturer prices of the 169 most widely used prescription drug products that have been on the market since the end of 2001 have increased by more than 50.4 percent during the subsequent six-year period (2002 through 2007), compared with a general inflation rate of 19.0 percent. For a consumer who takes three brand name prescriptions on a chronic basis, the average increase in the cost of therapy for the drug products used to treat chronic conditions rose by more than $1,600 during this six-year period.

All but 4 of the 220 brand name prescription drug products in the study's market basket had manufacturer price increases during 2007. Nearly all (99 percent) of these increases exceeded the rate of general inflation during the year. Average annual drug manufacturer price increases in 2007 exceeded the rate of general inflation for all manufacturers with at least two drug products in the market basket, and for all but one therapeutic category.

APPENDIX A: DETAILED DESCRIPTION OF METHODOLOGY

The purpose of this analysis was to track price changes at the manufacturer to wholesaler level for the prescription drug products most widely used by older Americans. The AARP Public Policy Institute has published a series of reports tracking manufacturers' drug product price changes since 2004 and reporting on annual and quarterly results of these price changes as far back as 2000. These reports have focused on price changes for both brand name and generic drugs. Importantly, separate analysis of the price changes for brand name drugs and generic drugs have been reported because brand name and generic drugs are typically made by different drug manufacturers and are also subject to different market dynamics, pricing, and related behaviors.

Now that the Medicare Part D prescription drug program has been implemented, the AARP Public Policy Institute and the University of Minnesota's *PRIME* Institute have collaborated to capture a new, post-Part D market basket of prescription drugs used by seniors. This new market basket of drugs will be used for reports of drug price changes beginning with this report and moving forward. As in the past, the new post-Part D market basket of drugs will include separate data sets and reports for brand name and generic drugs. A new feature will be the identification and tracking of price changes for an important third set of products—specialty pharmaceuticals. This section of the report describes the methods used to develop and apply this new post-Part D market basket of drugs.

This first report focuses on changes in prices of brand name drugs. Price changes among generic drugs and price changes among specialty drugs will be the subject of forthcoming reports. This appendix describes in detail how brand, generic and specialty drugs are defined in this study; how the study identified the market basket (i.e., sample) of drugs; how it measured prices; and how it calculated weighted average price changes. In addition, it describes methods and assumptions used to determine prices and price changes by drug manufacturer and by therapeutic category.

Brand, Generic and Specialty Pharmaceuticals

How brand, generic, and specialty drugs are defined for purposes of this series of price change reports is briefly described in this section.

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 NDA or BLA holder or its licensees.

The market conditions and pricing behavior for brand name and generic drugs are quite different. For example, brand name drugs have a monopoly based on patents and other forms of exclusivity for a number of years after market entry, and they do not experience price competition from therapeutically equivalent drug products that can be routinely substituted at the pharmacy level. On the other hand, generic drug products face price competition from one or more therapeutically equivalent drug products (as evaluated by the Food and Drug Administration [FDA] and reported in the Orange Book), including the brand name product from the time the generic first enters the market. However, certain generic drugs—that is, those for which the manufacturer files a paragraph IV certification of patent non-infringement—may receive 180 days of exclusivity after approval of the first generic product.

Specialty pharmaceuticals are drugs that treat complex, chronic conditions and that often require special administration, handling, and care management. Specialty drugs are expected to be the fastest growing group of drug products in the decade ahead. This important group of drugs and biologicals is not precisely defined, but it includes products based on one or more of the following: (1) how they are made; (2) how they are approved by the FDA; (3) conditions they treat; (4) how they are used or administered; (5) their cost; and (6) other special features. The definition of specialty drugs is further described in a later section of the methodology.

Identifying the Market Basket of Drugs

The AARP Public Policy Institute has been reporting manufacturer drug product price changes annually and quarterly since 2004. These previous reports by AARP were based on a market basket of retail and mail-order prescriptions provided to about two million people age 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 of the previously published AARP price trend reports. Since the new Medicare Part D program has now become a reality and actual Part D drug use data are available, we have chosen to form 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 plans in 2006 was UnitedHealthcare–PacifiCare, which is also the organization that insures the AARP Medicare Rx plans. The combined enrollees of this Medicare Part D plan provider totaled 5.68 million for 2006 (4.46 million in stand-alone PDPs and 1.22 million in Medicare Advantage plans) and represent 25.3 percent of all Medicare Part D enrollees for 2006. The organization supplied data for all prescriptions provided during 2006 to this group of 5.68 million Medicare enrollees. The data set included NDC, number of prescriptions, and total expenditure, as well as the plan-paid amount and the enrollee-paid amount, days of therapy, and units dispensed.

The 5.68 million Medicare Part D enrollees participating in the Medicare Part D plan in 2006 accounted for nearly $12 billion in prescription drug expenditures and almost 175 million prescriptions.

Selection of the market basket of drugs to track for the price index was a multi-step process. Prescriptions covered and adjudicated by the Medicare Part D provider's Medicare Part D prescription drug plans (PDPs) or Medicare Advantage plans (MAPDs) were grouped by NDC number. The NDC is a number that refers to a specific drug product presentation with a unique combination of active chemical ingredient, strength, dosage form, package type and size, and manufacturer (e.g., Prevacid [lansoprazole] 30 mg, delayed-release capsule, bottle of 100, TAP Pharmaceuticals). As a result, some drug entities may be listed among the widely used drug products more than once, for example, when there are different strengths, such as Lipitor 10 mg vs. Lipitor 20 mg vs. Lipitor 40 mg. For each NDC, the Medicare Part D plan provider's total sales revenue from adjudicated prescription claims was determined based on the plan's reimbursement formula and

including the patient cost-sharing amount. Also, the total prescriptions dispensed, the total units supplied, and the total days of therapy provided during 2006 were calculated.

Next, the use and expenditure data from the Medicare Part D plan provider were grouped by NDC code and these data were merged with descriptive data from Medispan's PriceChek PC drug database[18] using the NDC number as the key linking variable. The descriptive data from PriceChek PC included drug product information such as brand name, generic name, manufacturer, patent status, package size, route of administration, usual dose, therapeutic category, usual duration, and each drug product's price history.

All NDCs were classified by the patent status of the drug product presentation—that is, patented brand name (i.e., brand single source [SS]), off-patent brand name (i.e., brand multiple source [BMS] or innovator multiple source [IMS]), and off-patent generic (i.e., generic multiple source [GMS] or non-innovator multiple source [NMS]). Then, all NDC numbers were grouped by the Generic Product Indicator (GPI) code into GPI-patent status groups using the GPI code from MediSpan. The GPI combines drug products into a common group when they have the same active ingredients, dosage form, and strength—a single GPI includes the NDCs for any package type and size and from all manufacturers. When patent status is combined with the GPI categories, each GPI will typically be either a single source GPI (GPI-brand-single source) or a multiple source GPI with both a GPI-brand multiple source group and a GPI-generic multiple source group.

The total expenditures, number of prescriptions dispensed, and days of therapy provided were summed across all NDCs within each GPI-patent status group. The NDCs within each GPI-patent status group were then rank ordered based on total annual expenditure for each NDC. The NDC within each GPI-patent status group that had the highest level of expenditure was designated as the "representative NDC" for that GPI-patent status group. If the NDC with the greatest expenditure level was inactive, the NDC with the next highest level of expenditure was designated as the representative NDC.

Less than 0.5 percent of the expenditures and the prescriptions were for non-drug items and were excluded from the Medicare Part D provider's data set. These non-drug items included devices, medical and diabetic supplies, syringes, compounding service fees, and other professional services. After exclusion of non-drug items, the 2006 data set contained a total of 31,148 NDCs that were grouped into 6,709 GPI-patent status categories.

All GPIs were then coded to distinguish the specialty prescription drugs from other regular prescription drugs. The definition of specialty prescription drugs for purposes of this report is 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 per day of therapy greater than $33 per day. The drugs meeting this definition are referred to as "specialty drugs" and all other prescription drugs are referred to as "regular" or "non-specialty drugs." Throughout this report, references to the market basket of drugs refer to the regular (non-specialty) drugs unless otherwise indicated. Based on the above definition of specialty drugs, 1.3

[18] Price-Chek PC is a product of Medi-Span (Indianapolis, IN), a division of Wolters Kluwer Health, Inc., and is based on data from the Master Drug Database (MDDB®).

percent of the prescriptions and 7.4 percent of the expenditures in the Medicare Part D plan provider's data set for 2006 were considered specialty drugs. The average cost per prescription for specialty drugs was more than $400, and the average cost per day of therapy exceeded $25. Only specialty drugs provided through Medicare Part D are included; the specialty drugs provided under Medicare Part B are not included in this data set or this analysis.

All NDCs were classified by the patent status of the drug product presentation—that is, patented brand name (or SS), off-patent brand name (or IMS), or off-patent generic (NMS). Both the regular and the specialty drug data sets were classified by patent status. Brand single source prescriptions were 36.1 percent of all regular (non-specialty) prescriptions, while brand multiple source prescriptions were 4.9 percent and generic multiple source prescriptions were 59.0 percent of all regular prescriptions. For specialty drugs, brand single source prescriptions were 52.8 percent of all prescriptions, while brand multiple source prescriptions were 3.0 percent and generic multiple source prescriptions were 44.2 percent of all specialty prescriptions.

With respect to drug expenditures the proportion by patent status and drug type shows a different picture. Brand single source prescriptions accounted for 69.6 percent of all regular (non-specialty) expenditures, while brand multiple source prescriptions represented 6.5 percent and generic multiple source prescriptions represented 23.9 percent of all regular prescription expenditures. For specialty drugs, brand single source prescriptions accounted for 89.8 percent of expenditures, while brand multiple source prescriptions represented 3.9 percent and generic multiple source prescriptions represented 6.2 percent of all specialty prescription expenditures.

For regular (non-specialty) prescriptions, the average brand single source prescription had a cost of just over $125,[19] brand multiple source prescriptions had a cost that was about 30 percent lower, and generic multiple source prescriptions had a cost that was nearly 80 percent lower than the cost of the average brand single source prescription. The brand name single source specialty drugs had an average prescription cost that was more than 5.5 times the cost of the average brand single source regular (non-specialty) prescription. The generic multiple source specialty drugs had an average prescription cost that was less than one-twelfth the cost of the average brand single source specialty prescription

The list of all GPI-patent status groups in the Medicare Part D plan provider's data set 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 to 463 GPI-patent status 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.

[19] Cost as used with respect to prescription drugs provided by the Medicare Part D plan provider through the Medicare Part D program refers to the sum of the Part D plan cost and the member cost share amount that was paid to the pharmacy. This cost may or may not include rebates paid by drug manufacturers. To the extent that rebates paid to the Medicare Part D plan are passed on in a lower prescription drug price, cost may include rebates. However, we did not have access to the Medicare Part D rebate data, which are considered proprietary information held by the plan and the manufacturer.

The brand name market basket for this price change study is composed of 221 GPI-patent status groups that included 1,729 active NDCs and 68 inactive NDCs. The expenditures for all NDCs in these 221 GPI-patent status groups accounted for 84.6 percent of all brand name (both brand single source and brand multiple source) prescription expenditures. The prescriptions for all NDCs in these 221 GPI-patent status groups represented 82.7 percent of all brand name prescriptions and 84.2 percent of all brand name days of therapy provided.

This methodology section provides a brief description of the market basket of products for generic and specialty drugs. The price changes for generic and specialty drugs are presented in separate reports. The generic market basket for this price change study is composed of 201 GPI-patent status groups that included 5,541 active NDCs and 424 inactive NDCs. 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.

There were 32 specialty drug GPI-patent status groups in the combined top 300 market basket. These 32 specialty drug GPI-patent status groups included 92 active and 4 inactive NDCs and represented 62.7 percent of all specialty expenditures and 29.9 percent of specialty prescriptions provided by the Medicare Part D plan provider to Medicare Part D enrollees in 2006. Since the proportion of specialty drug expenditures and prescriptions represented by this combined top 300 market basket was somewhat lower than the proportion of expenditures and prescriptions represented in the brand name and generic market baskets, additional specialty drug GPI-patent status groups were selected. There were a total of 1,134 specialty drug GPI-patent status groups in the entire data set for 2006 and these groups included 3,120 active NDCs and 485 inactive NDCs. All specialty drug GPI-patent status groups were sorted by three criteria: (1) total prescription expenditures, (2) number of prescriptions dispensed, and (3) days of therapy provided. The top 100 specialty GPI-patent status categories were identified by each of these three criteria. Since some specialty GPI-patent status groups appeared in more than one of these top 100 specialty drug lists the combined list of all specialty drug GPI-patent status groups totaled to 147 GPI-patent status groups. There were 115 specialty drug GPI-patent status groups in addition to the 32 groups previously identified by the combined top 300 list.

The 147 specialty drug GPI-patent status groups included 956 active NDCs and 112 inactive NDCs. The expenditures for all NDCs in these 147 GPI-patent status groups accounted for 91.4 percent of all specialty drug expenditures. The prescriptions for all NDCs in these 147 GPI-patent status groups represented 91.1 percent of all specialty drug prescriptions and 94.5 percent of all specialty drug days of therapy provided.

The three market baskets (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.

Monitoring Manufacturer Prices

Although the market basket of drugs studied was constructed using data from a Medicare Part D plan provider for 2006, the price changes by drug manufacturers were measured using Wholesale Acquisition Cost (WAC) data published in the Medi-Span Price-Chek PC database.[20] According to Medi-Span, the WAC represents "the reported cost at which wholesalers purchase drug products from a manufacturer and is provided by the manufacturer. WAC may not represent *actual* acquisition cost as wholesalers may obtain discounts through volume purchases or special deals." WAC is a publicly available price that is the closest published price to the actual transaction price between a manufacturer and the wholesaler or other direct purchaser of a drug product. Although drug wholesalers may receive "discounts or special deals" for some drug purchases, the wholesaler's price to the retail class of trade is typically based on, or is a function of, WAC.[21] Therefore, a change in WAC generally results in a similar percent change in price to most prescription purchasers, including "cash pay" customers as well as private and public third-party programs such as Medicare Part D drug plans and Medicare Part D enrollees in the coverage gap.

An alternative measure of manufacturer price is the average wholesale price (AWP). Despite its name, AWP is not the average of manufacturers' prices to wholesalers; rather, it historically has been a suggested list price for the wholesaler's charge to the pharmacy, and this it is frequently used to determine payment and reimbursement rates for community pharmacies in private and public third-party programs. Most payers base their provider payments on AWP or WAC for covered drugs under a pharmacy benefit program.[22] Among the reasons for using WAC rather than AWP as the price measure are the following:

- In most cases, WAC is set by the manufacturer, and "AWP and WAC are related in a constant ratio for each brand-drug manufacturer in which AWP is 1.20 or 1.25 times WAC."[23] As long as the ratio of AWP:WAC remains constant, AWP and WAC will show the same percent change from a given change in drug price by the manufacturer.

- In some instances in the past, the manufacturer sometimes changed AWPs without changing the invoiced (WAC) or the actual price charged to a wholesaler. This might occur, for example, when there is a merger or acquisition of drug companies that had different pricing policies and strategies with respect to the relationship between AWP and WAC, and the newly formed firm standardizes the AWP-WAC spread across all of its products.
- In the past, a drug firm may also have changed AWPs for reasons related to internal pricing policies that are unrelated to mergers or acquisitions, resulting in an AWP change that is not matched by a corresponding change in WAC.[24]

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[20] Price-Chek PC is a product of Medi-Span (Indianapolis, IN), a division of Wolters Kluwer Health, Inc., and is based on data from the Master Drug Database (MDDB®).
[21] Wholesalers often receive prompt pay discounts, but these discounts typically are not passed on to their customers.
[22] Academy of Managed Care Pharmacy, *AMCP Guide to Pharmaceutical Payment Methods*, Comprehensive Edition, version 1.0, October 2007, pp. 3 and 10. "Through 2004, almost every U.S. government and private payer used AWP as its primary benchmark for reimbursement."
[23] *AMCP Guide to Pharmaceutical Payment Methods*, October 2007, p. 14.
[24] Indeed, while, on average, AWPs and WACs for widely used brand name drugs grew at roughly the same rate in 2000 and 2001, AWPs increased an average of nearly 30 percent faster than WACs in 2002 and about 7 percent faster than WACs in 2003.

- For generic drugs, price decreases often occur as more generic competitors enter the market; however, the decrease in manufacturer prices or WAC is not always matched by a decrease in the AWP for a drug product. Rather, generic manufacturers tend to maintain AWP while at the same time increasing the discounts they provide to wholesalers and retail pharmacies. While WAC does not always reflect decreases in generic prices, to the extent that it does so, it is a better measure of prices and price changes than is AWP.

Neither WAC nor AWP routinely captures the absolute level of prices paid (for example, they do not capture rebates that manufacturers pay to certain third-party payers, nor do they capture chargebacks from wholesalers to the manufacturer). However, changes in WAC are the most consistent, publicly available estimate of change in both prices paid to manufacturers and the ingredient cost component of prices paid at retail pharmacies by third-party programs or "cash pay" customers. This is because manufacturers typically reference WAC or AWP as the basis for charging wholesalers and pharmacies that buy directly from drug manufacturers. Also, nearly all third-party contracts (including private programs and public programs such as Medicaid and Medicare Part D) specifically reference WAC or AWP as the basis for determining prescription payment amounts. A recent congressional report found that "In almost all cases, the private insurers [i.e., Medicare Part D plan providers] 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."[25]

Furthermore, because Americans who must pay out-of-pocket for their own prescriptions (either as private "cash pay" consumers or as Medicare Part D enrollees in the coverage gap) typically do not have access to such rebates or discounts, the consideration of third-party rebates and wholesaler discounts is not relevant to an assessment of changes in drug prices for sales to the retail market segment. Finally, even if drug manufacturer rebates to third-party payers and Medicare Part D plans are considered, they typically provide a decrease in drug price of about 8.1 percent—ranging from 4 to 12 percent—of the manufacturer's drug price across Medicare Part D plans.[26] Also, drug manufacturers do not negotiate any rebate on many of the single source brand name drug products. In this scenario, a change in WAC would still be a relevant basis for measuring manufacturer price change because it would result in a consistent percent change in prices (that is, a 5 percent increase in WAC would also result in a 5 percent increase in the rebated price of a drug product after rebates to a Medicare Part D drug plan or a third-party program) unless accompanied by a corresponding change in the rebate percentage.

To assess the impact of price changes on dollars spent, it was also useful to calculate a cost of therapy for each product. The amount of a drug that an average adult would take on a daily basis was determined using the "usual daily dose" reported in the Medi-Span Price-Chek PC database. In cases

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[25] U.S. 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, pp. i-16.
[26] *See* U.S. House of Representatives, *Private Medicare Drug Plans*, October 2007, p. 9. *See also* PriceWaterhouseCoopers, *Study of Pharmaceutical Benefit Management*, HCFA Contract No. 500-97-0399/0097, June 2001, p. 131; Patrick Holjo and Matthew Kamm, *Pharmacy Benefit Managers: Keeping a Lid on Drug Costs*, Banc of America Securities, February 20, 2002, p. 29.

where Medi-Span did not report such a "usual daily dose," the typical daily dose was determined based on dosing information in the FDA-approved labeling for the drug product. Although the vast majority of drugs in this market basket—212 of 220—represent products used in the management and/or treatment of chronic conditions, so one can assume they are taken regularly throughout the year, the market basket contains 8 drugs that are used primarily as acute care medications, which patients would take for a shorter period of time. Consequently, an annual cost of therapy was calculated by excluding these eight drugs and by multiplying the average cost per day of therapy of the remaining drugs by 365 days.

Calculating Annual Price Changes for Each Drug

This report calculates average manufacturer price changes for drug products in the following ways:

- The *annual point-to-point* percent change in price is calculated as the percent change in price for a given month compared with the same month in the previous year (e.g., January 2007 vs. January 2006, February 2007 vs. February 2006).

- The 12-month *rolling average* percent price change is calculated by taking the average of the point-to-point changes over the preceding 12 months. Thus, for example, the average annual price changes for 2007 refer to the average of the annual point-to-point price changes for each of the 12 months from January 2007 through December 2007 compared with the same months in the previous year.

Average annual price changes in a given year were calculated for each drug product for each year that the drug was on the market from 2002 to 2007. First, the annual point-to-point percent change for each month was calculated by comparing the price in a specific month with the same month in the previous year (e.g., January 2007 vs. January 2006, February 2007 vs. February 2006). Next, the average of these annual point-to-point changes was calculated for the 12 months in each calendar year. Thus, for example, average annual price changes for 2007 refer to the average of the annual point-to-point price for each of the 12 months in 2007. This 12-month rolling average tends to be a more conservative estimate of price changes than the point-to-point method (that is, a simple percentage change for a single month from the same month in the previous year), and it accounts for seasonal variations in drug manufacturers' pricing policies.

The following example shows how 12-month rolling average price changes are calculated. Suppose, for example, that drug A had the following pattern of price changes in 2007 when compared to the same month in 2006:

Table A1: Average Annual Percent Change in Price for Hypothetical Prescription Drug A, 2007

Jan 06-Jan 07	Feb 06-Feb 07	Mar 06-Mar 07	Apr 06-Apr 07	May 06-May 07	Jun 06-Jun 07	Jul 06-Jul 07	Aug 06-Aug 07	Sep 06-Sep 07	Oct 06-Oct 07	Nov 06-Nov 07	Dec 06-Dec 07	AVERAGE
2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	**2.67**

In this example, the manufacturer price of drug A was 2 percent higher than the price for the same months in the previous year for the period from January through April 2007. A price hike in May increased the percentage difference to 3 percent for each of the subsequent months in 2007. The 12-month average of these price differences is

(2.0+2.0+2.0+2.0+3.0+3.0+3.0+3.0+3.0+3.0+3.0+3.0)/12, or 2.67 percent.[27]

Calculating Aggregate Average Price Changes Across Multiple Drugs

To aggregate price changes for multiple drugs, a weighted average of price changes was calculated by weighting each drug's annual price change (calculated from Medi-Span Price-Chek data, as shown in the hypothetical example in Table A-1) by its share of the Medicare Part D plan provider's total 2006 prescription sales among the market basket of brand name prescription drugs. As an example, Table A-2 shows that the sample from which drug A was drawn has ten drugs (this small sample size was chosen to simplify this illustrative example). The second column of Table A-2 gives the average annual price change for each of these drugs, denoted as drugs A-J. A straight (or unweighted) average, which adds up individual values and divides by the number of drugs, would result in an average annual price change of 4.76 percent for the drugs in this hypothetical sample. Assuming the hypothetical changes in the dollar cost of therapy for these drugs, shown in the third column, the straight average change in the annual cost of therapy would be $236.13.

A *straight* average, however, distorts the actual impact of price changes because it does not account for each product's "weight" within the sample (that is, it gives equal weight to price changes of both commonly used drugs and drugs that are used less frequently). As a result, it does not accurately capture the average impact of price changes in the marketplace. In Table A-2, drugs with low price increases in percentage terms (drugs E and J) account for a small share (7 percent) of total 2006 sales for the specific group of drugs analyzed. By contrast, drugs with the highest percentage changes (drugs B, D, and I) account for a much larger share (37 percent) of sales. To reflect the relative importance of each drug's price change in the market basket of products, each annual price change was weighted by the drug's share of total 2007 sales. In this simple example, the *weighted* average price increase in 2007 is calculated as the sum of

(Unweighted average price change for drug A × drug A's share of total sales) +
(Unweighted average price change for drug B × drug B's share of total sales) +
(Unweighted average price change for drug C × drug C's share of total sales) +
... +
(Unweighted average price change for drug J × drug J's share of total sales)

or,

$(2.67 \times 0.15) + (10.0 \times 0.14) + (2.67 \times 0.07) + \ldots + (1.0 \times 0.02)$.

[27] If the drug was introduced to the market in July of the previous year, then the price change for the given year is averaged using only the six months that the product was on the market in the previous year (that is, July-December).

Table A2: Average Changes in Price and Cost of Therapy for Ten Hypothetical Prescription Drugs, 2007

Drug Name	Unweighted Average Annual Price Change (%)	Unweighted Average Change in Cost of Therapy ($/year)	Share of Total Sales	Weighted Average Annual Price Change (%)	Weighted Average Change in Cost of Therapy ($/year)
A	2.67%	$623.48	15%	0.40%	$93.52
B	10.00%	$108.68	14%	1.40%	$15.22
C	2.67%	$433.68	7%	0.19%	$30.36
D	8.00%	$54.08	10%	0.80%	$5.41
E	1.50%	$162.76	5%	0.08%	$8.14
F	4.33%	$54.08	14%	0.61%	$7.57
G	6.40%	$216.84	2%	0.13%	$4.34
H	3.25%	$433.68	18%	0.59%	$78.06
I	7.80%	$27.04	13%	1.01%	$3.52
J	1.00%	$247.00	2%	0.02%	$4.94
TOTAL	**4.76%**	**$236.13**	**100%**	**5.22%**	**$251.07**

The results of this calculation are listed in the fifth column of Table A-2, which shows that the weighted annual average price change for drugs in this hypothetical example is 5.22 percent, or approximately one-half percentage point higher than the unweighted average of 4.76 percent. The weighted dollar change in the annual cost of therapy would be $251.07, compared to an unweighted average dollar change of $236.13.

Calculating Average Price Changes Across Multiple Drugs for Years before 2006

The process for aggregating price changes for multiple drugs in years before 2006 is similar to that for 2007. Average price changes for 2002, 2003, and 2004 were derived by first calculating the rolling-average annual price change for each drug (as shown in Table A-1), then weighting each drug's price change by its share of total sales in the sample. The weights used for all years in this study were based on 2006 sales from the Medicare Part D plans of the Medicare Part D plan provider, including the AARP Plans. The 2006 weights were used to keep the market basket constant over time so that the change in prices would be a function of price changes alone and not a function of changes in market basket.

However, some drugs that were in the sample in 2006 were not on the market in all earlier years. As a result, drug products were dropped out of the analysis in the month before they entered the market and for all previous months, and the weights of the products present in the market during each year prior to 2006 were recalculated to reflect their relative share of the total sales as adjusted to reflect only drugs in the market during that period.

For example, suppose that drugs I and J in Table A-2 were not on the market in 2004. Furthermore, assume that total drug spending in 2006 was $100,000. To capture the loss of drugs I and J from the analysis for 2004, the weights are redistributed across the drugs that remain in the analysis (drugs A through H); the new weights are still based on their 2006 sales but as a share of total sales for the smaller number of drugs in the analysis for the year. In this example, the total 2006 sales would be $85,000 without drugs I and J. Drug A's $15,000 in sales, which represented 15 percent of sales for all ten drugs, rises to 18 percent of sales when I and J are excluded. This weight, along with the

analogous weights for drugs B-H, was used to derive the weighted average price change for 2006 (see Table A-3).

Table A3: Recalculating Weights When Prescription Drugs Drop Out of the Sample

	2006Wweights		2004 Weights	
Drug Name	Share of 2006 Sales	Dollar Value of 2006 Sales	Dollar Value of 2006 Sales	Share of 2006 Sales
A	15%	$15,000	$15,000	18%
B	14%	$14,000	$14,000	16%
C	7%	$ 7,000	$ 7,000	8%
D	10%	$10,000	$10,000	12%
E	5%	$ 5,000	$ 5,000	6%
F	14%	$14,000	$14,000	16%
G	2%	$ 2,000	$ 2,000	2%
H	18%	$18,000	$18,000	21%
I	13%	$13,000	–	–
J	2%	$ 2,000	–	–
TOTAL	**100%**	**$100,000**	**$85,000**	**100%**

Weighting the previous years' price changes by 2006 sales potentially creates a bias relative to using each specific year's sales as the basis for assigning weights for that year.
Using 2006 sales gives more weight to drugs that, relative to other drugs, had high rates of sales growth in 2006 or earlier years compared to the year analyzed. In general, however, newer drugs initially have higher rates of sales growth, but relatively lower rates of price growth, than do older drugs. This pattern occurs both because newer drugs may have been introduced at higher prices and because price increases for brand name drugs tend to accelerate in rate and amount closer to the end of a product's effective patent life.

Calculating Annual Cost of Therapy for a Drug Product

To assess the impact of price changes on dollars spent, an annual cost of therapy was calculated for each drug product. This annual cost of therapy analysis excludes the eight drug products in the market basket that are used primarily for treatment of acute conditions and are typically taken for a limited period of time. The amount of a drug that an average adult would take on a daily basis was determined using the "usual daily dose" reported in the Medi-Span Price-Chek PC database or, when this information was not available from Medi-Span, using dosing information in the FDA-approved labeling for the drug product. This usual daily dose was used to calculate the cost per day of therapy by multiplying the number of usual doses per day times the cost per dose of the drug product. Then, to convert the cost per day to the cost per year, the cost per day was multiplied times 365 days to yield the annual cost of therapy for a drug product. The weighted average annual cost of therapy was also calculated using the 2006 sales volumes to weight the annual cost of each drug product to produce the aggregate annual cost of therapy across all drug products in the study's market basket.

Defining Manufacturer

A 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. The analysis of drug manufacturers reported separately on manufacturers with at least two drug products (at the NDC level) among the 220 most widely used brand name drugs. These 26 manufacturers supplied 212 drug products that accounted for more than 97 percent of drug sales and prescriptions dispensed among the overall market basket of 220 brand name drugs. Another eight drug products from eight drug firms with one drug product per firm were grouped together in an "All Others" category, resulting in a total of 27 reported drug manufacturer categories.

Defining Therapeutic Category

Drug products can be classified by the therapeutic purpose for which they are used. If a drug has multiple uses, the drug is usually classified by the most common indication for which it is prescribed. To group drug products in this study into similar therapeutic categories, Medi-Span's therapeutic coding scheme known as the GPI (or generic product indicator) code was used. This scheme consists of a series of hierarchical categories that has seven levels of aggregation, ranging from the most general level with 17 broad categories (e.g., Gastrointestinal Agents) to the most detailed level with more than 36,000 unique groupings, which specify the chemical entity in a specific dosage form at a specific strength (e.g., omeprazole caps delayed release 20 mg). In the middle are several levels with 100, 600, and 4,000 categories or groupings that identify similar classes of therapeutic agents such as "Proton Pump Inhibitors" and "H-2 Antagonists."

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 "Proton Pump Inhibitors." 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. There were 34 therapeutic categories, each containing two or more drug products from the market basket, which together accounted for 212 of the total 220 drug products in the market basket. The remaining eight drug products with other therapeutic uses were grouped together in an "Other Therapeutic Agents" category, resulting in a total of 35 reported therapeutic categories. A therapeutic category may include drug products that are brand single source or brand multiple source.

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

This report represents an update to the AARP Public Policy Institute's 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 studies were based on drug products that were commonly used in 2003. As a result, the newer study of brand name drug products includes drug products that have recently come on the market or have gained in popularity since 2003, discontinues drug products that have faced generic competition and seen a shift from brand name to generic use 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 studies were 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.[28] 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—a substantially lower share.

- 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 221 brand name drugs,[29] 201 generic drugs, 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 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 account for 81.6 percent of all prescription drug expenditures, 79.2 percent of all

[28] Kaiser Family Foundation, "Medicare Chartpack: Overview of Medicare Part D Organizations, Plans and Benefits By Enrollment in 2006 and 2007," November 2007. Available at: http://www.kff.org/medicare/upload/7710.pdf.
[29] One of the brand name drugs (Norvir 100 mg gel caps) was excluded because of a single, extreme outlier observation—a 400 percent increase in manufacturer price in 2003.

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

The 2003 market basket included 197 brand name drugs (including 4 that were later removed from the market) and 75 generic drugs (plus 19 that were excluded because data on the price measure [Wholesale Acquisition Cost, WAC] were not available for these drug products). 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

Not quite half (86 of 197, or 44 percent) of the brand name prescription drug products in the 2003 market basket remained in the 2006 market basket. Drug products dropped from the market basket for some of the following reasons:

- Four drug products were removed from the market.
- Sixty-eight drug products were either replaced due to an inactive NDC (National Drug Code classification number) or had dosages or package sizes that were not as popular in 2006.
- Thirty-one drug products had generic substitutes that came on the market since 2003.
- Three drug products were approved for over-the-counter (OTC) sales since 2003.
- Two drug products had a name change.
- Three drug products did not fit into one of the other categories but nevertheless were not among the most widely used drugs in our 2006 market basket.

The 2006 market basket contained 221 brand name prescription drug products, 135 of which were not in the 2003 market basket for a variety of reasons:

- Thirty-two drug products were introduced after January 2003.
- Fifty-one 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 52 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:

- Five of the 25 most widely used drugs in the 2003 market basket are in the 2006 market basket, but were not among the 25 most widely used drugs (Xalatan 0.005%, Pravachol 40 mg, Evista 60 mg, Toprol XL 50 mg, and Levaquin 500 mg).

- Four drug products that were in the Top 25 in 2003 were not in the 2006 market basket. These drugs were either removed from the market (Vioxx 25 mg), lost patent protection (Neurontin 300 mg), or became less popular than other dosages or package sizes (Plavix 75 mg and Pravachol 20 mg).

- Seven drugs rose in rank by 75 or more spots between 2003 and 2006. Three of these drugs were associated with the treatment of diabetes (Lantus Inj 100/Ml, Avandia tab 8mg, and Actos tab 15mg).

- Six drugs fell in rank by more than 100 spots between 2003 and 2006 (Table B1). Most of them faced additional generic competition or new dosage forms entering the market between 2003 and 2006.

Table B1: Brand Name Drugs That Fell In Rank by More Than 100 Spots, 2003-2006

Rank in 2003 Market Basket	Drug Brand Name and Dosage	Change in Rank Between 2003 and 2006 Market Baskets
18	Pravachol Tab 40mg	-110
71	Coumadin Tab 5mg	-145
75	Flonase Spr 0.05%	-119
88	Synthroid Tab 100mcg	-129
97	Synthroid Tab 50mcg	-121
107	Synthroid Tab 75mcg	-112

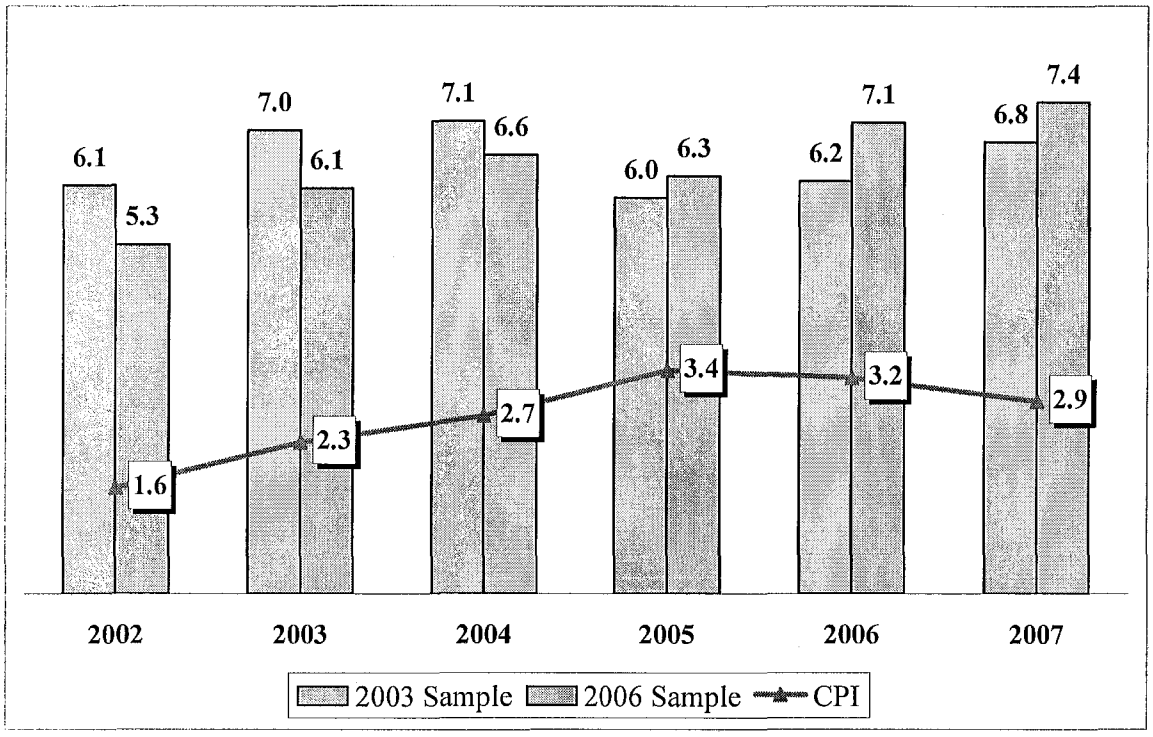
Comparison of manufacturer price trends between the two market baskets

In general, the trends in manufacturer price changes for brand name prescription drugs are similar for the two market baskets. Both show substantial increases over the years that far exceed the rate of general inflation. (Note—the trends for the 2006 market basket start in 2002, because that is the first year that a substantial majority of the drug products were on the market. Seventy-eight percent of the drug products in the 2006 market basket were on the market by January 2002, compared to 62 percent in January 2001.)

The change in price trends for the two market baskets is shown in Figure B1. Both market baskets show manufacturer price increases that are well above the rate of inflation. The older (2003) market basket showed higher percentage price increases from 2002 through 2004, but lower price increases

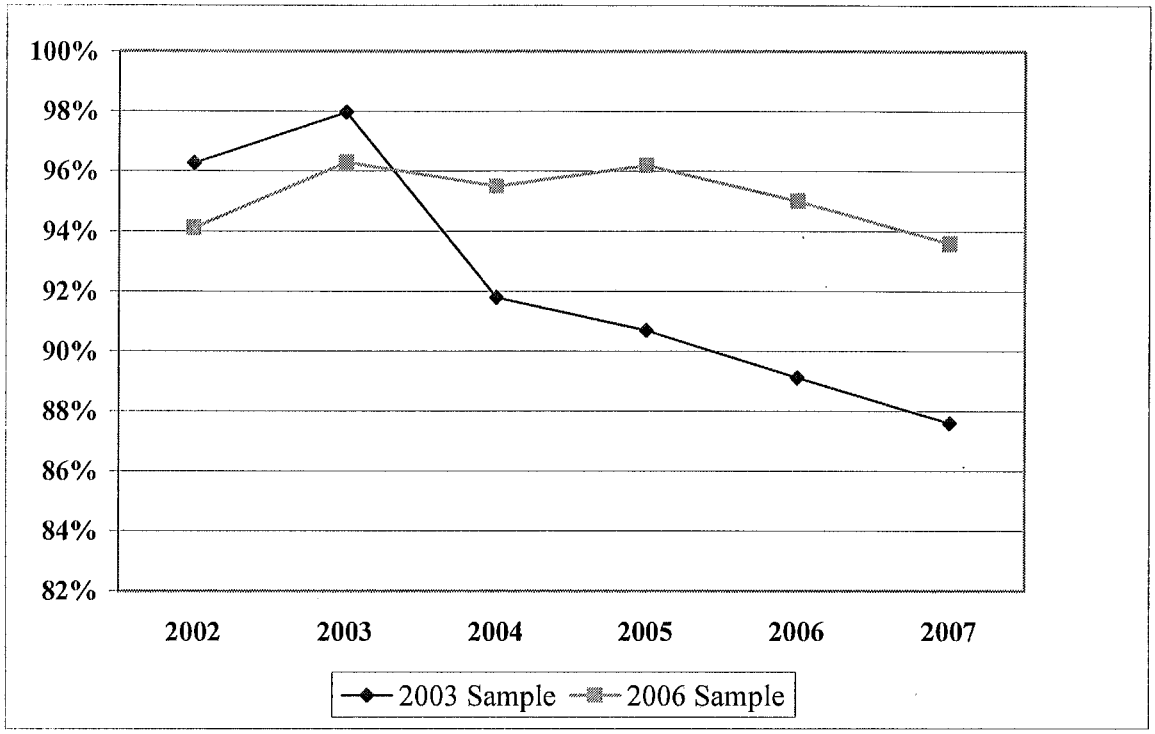
for 2005 through 2007. The difference between the two groups ranged from 0.3 percent (in 2005) to 0.9 percent (in 2003 and 2006).

Figure B1: Average Annual Percentage Change in Manufacturer Prices for Most Widely Used Brand Name Prescription Drugs, 2002 through 2006—Comparison of Two AARP 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. In 2002 and 2003, when the older market basket had a higher percentage price increase, the older sample also had a slightly higher share of drugs with price increases each year (96 percent and 98 percent of drugs for the older sample, compared to 94 percent and 96 percent of drugs for the newer sample). Beginning in 2004, while the newer (2006) market basket had 94 percent to 95 percent of drug products with price increases each year, fewer drug products (about 89 percent in 2005) in the older (2003) market basket had price changes (see Figure B2). This trend is partially explained by the growing number of products in the older market basket for which generic versions became available.

Figure B2: Percentage of Drug Products That Were On the Market for the Entire Year That Experienced a Price Change, 2002-2006—Comparison of Two AARP Market Baskets



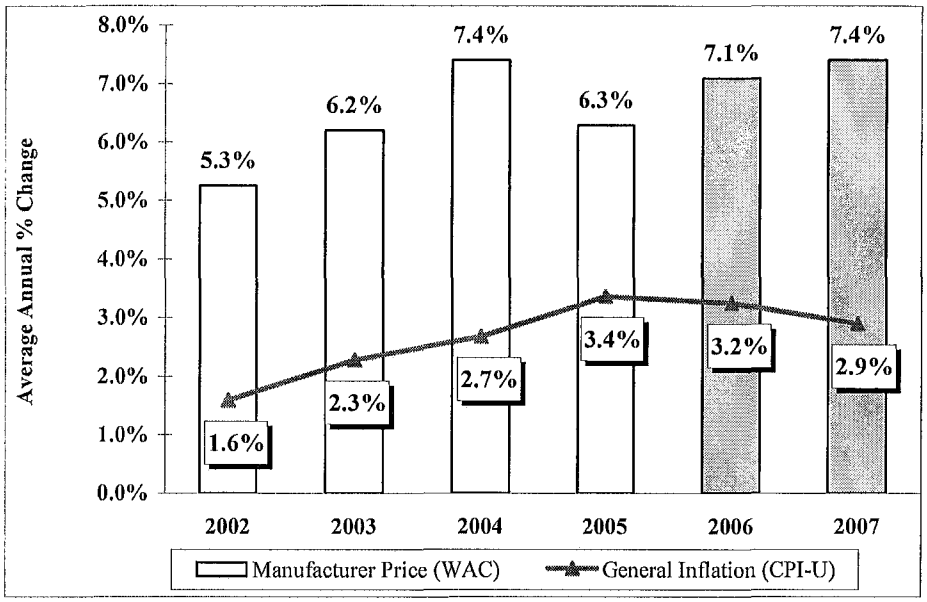
APPENDIX C: THERAPEUTIC CATEGORY ACRONYMS

Therapeutic Category	Definition
Antidepressants (**SNRIs**)	**SNRI** – Serotonin-Norepinephrine Reuptake Inhibitors
Antihypertensives (**ACEs**)	**ACE** – Angiotensin-Converting Enzymes
Antihypertensives (**ARBs**)	**ARB** – Angiotensin II Receptor Blockers
Antihypertensives (**BBs**)	**BB** – Beta Blockers
Antihypertensives (**CCBs**)	**CCB** – Calcium Channel Blockers
Cholesterol Agents (**HMG CoA**)	**HMG CoA** – HMG CoA Reductase Inhibitors
Ulcer Drugs (**PPIs**)	**PPI** – Proton Pump Inhibitors

APPENDIX D: IMPACT OF NORVIR PRICE CHANGE IN 2003 ON AVERAGE BRAND NAME MANUFACTURER PRICE CHANGE

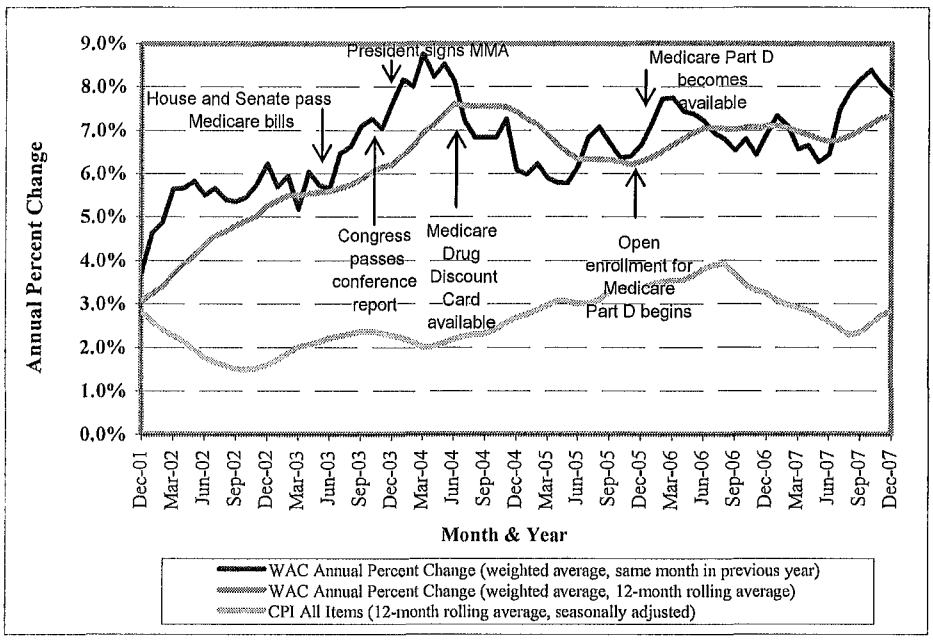
As noted in the main report (footnote 9), one drug product (Norvir 100 mg) had a one-time increase in drug manufacturer price of 400 percent in 2003. Since this price change was an extreme outlier that substantially distorted the average price increase for 2003 and 2004, Norvir 100 mg was dropped from the market basket for this study. Norvir 100 mg was ranked as number 121 among the 221 most widely used brand name prescription drugs when sorted by 2006 sales of a Medicare Part D plan provider. The impact of including Norvir 100 mg, shown in Figures D1, D2, and D3, corresponds with Figures 1, 2, and 3 in the main body of the report.

Figure D1: Average Annual Percent Change in Manufacturer Prices for Three Most Widely Used Brand Name Prescription Drugs, 2002 to 2007, including Norvir 100 mg



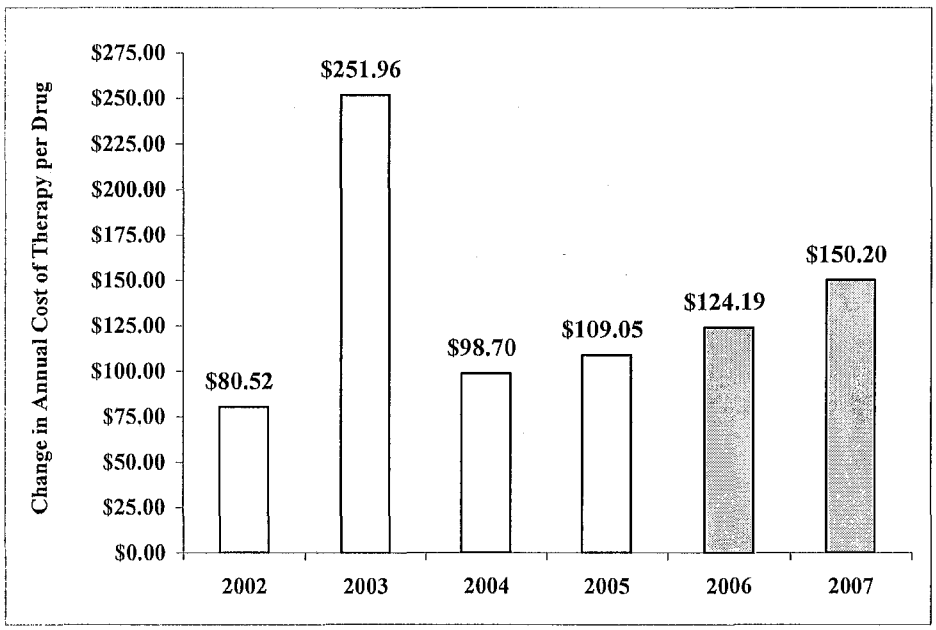
Note: Shaded bars indicate years when Medicare Part D was operational.
Prepared by the AARP Public Policy Institute and the *PRIME* Institute, University of Minnesota, based on data from Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., February 2008).

Figure D2: Comparison of Rolling Average and Point-to-Point Change in Manufacturer Prices for Most Widely Used Brand Name Prescription Drugs, 2002 to 2007, including Norvir 100 mg



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).

Figure D3: Average Change in Annual Cost of Therapy Due to Manufacturer Price Changes For Most Widely Used Brand Name Prescription Drugs in the Treatment of Chronic Conditions, 2002 to 2007, including Norvir 100 mg



Note: Shaded bars indicate years when Medicare Part D was operational.
Does not include eight drug products typically used for acute conditions or for periods of time 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).

APPENDIX E: MARKET BASKET OF BRAND NAME 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	Nexium 40 mg capsule	30	AstraZeneca	Ulcer Drugs (PPIs)	5.3%
2	Plavix 75 mg tablet	90	Bristol-Myers Squibb	Anticoagulants	0.5%
3	Prevacid 30 mg capsule DR	100	TAP	Ulcer Drugs (PPIs)	5.0%
4	Protonix 40 mg tablet	90	Wyeth	Ulcer Drugs (PPIs)	5.2%
5	Lipitor 20 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
6	Lipitor 10 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
7	Aricept 10 mg tablet	30	Eisai	Antidementia Agents	7.0%
8	Fosamax 70 mg tablet	4	Merck	Osteoporosis Agents	6.2%
9	Norvasc 10 mg tablet	90	Pfizer	Antihypertensives (CCBs)	11.5%
10	Advair Diskus 250-50 mcg mist	60	GlaxoSmithKline	Respiratory Agents	8.8%
11	Lipitor 40 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
12	Actonel 35 mg tablet	4	Procter & Gamble	Osteoporosis Agents	8.1%
13	Norvasc 5 mg tablet	90	Pfizer	Antihypertensives (CCBs)	11.5%
14	Celebrex 200 mg capsule	100	Pfizer	Anti-Inflammatory Agents	8.7%
15	Namenda 10 mg tablet	60	Forest	Antidementia Agents	5.9%
16	Singulair 10 mg tablet	30	Merck	Respiratory Agents	5.8%
17	Flomax 0.4 mg capsule	100	Boehringer Ingelheim	Prostatic Hypertrophy Agents	11.2%
18	Zetia 10 mg tablet	30	Merck/Schering-Plough	Cholesterol Agents (HMG CoA)	6.5%
19	Lexapro 10 mg tablet	100	Forest	Antidepressants (SSRIs)	6.9%
20	Lantus 100/ml inj	10	Sanofi-Aventis	Antidiabetics (Insulins)	9.4%
21	Zocor 20 mg tablet	30	Merck	Cholesterol Agents (HMG CoA)	0.0%
22	Ambien 10 mg tablet	100	Sanofi-Aventis	Hypnotics	27.7%
23	Seroquel 200 mg tablet	100	AstraZeneca	Antipsychotics	9.1%
24	Zocor 40 mg tablet	30	Merck	Cholesterol Agents (HMG CoA)	0.0%
25	Avandia 4 mg tablet	30	GlaxoSmithKline	Antidiabetics (Oral)	7.5%
26	Actos 30 mg tablet	30	Takeda Pharmaceuticals	Antidiabetics (Oral)	6.4%
27	Zyprexa 20 mg tablet	30	Lilly	Antipsychotics	6.1%
28	Zyprexa 10 mg tablet	30	Lilly	Antipsychotics	6.1%
29	Detrol LA 4 mg capsule	30	Pfizer	Urinary Antispasmodics	7.6%
30	Lidoderm 5% patch	30	Endo Pharmaceuticals	Dermatologicals	6.0%
31	Tricor 145 mg tablet	90	Abbott	Cholesterol Agents (Misc.)	4.9%
32	Actos 45 mg tablet	30	Takeda Pharmaceuticals	Antidiabetics (Oral)	6.4%
33	Avandia 8 mg tablet	30	GlaxoSmithKline	Antidiabetics (Oral)	6.8%
34	Seroquel 25 mg tablet	100	AstraZeneca	Antipsychotics	9.1%
35	Evista 60 mg tablet	30	Lilly	Other Therapeutic Agents	5.0%
36	Combivent 120-20 mcg/act aerosol	14.7	Boehringer Ingelheim	Respiratory Agents	5.8%
37	Levaquin 500 mg tablet	50	McNeil	Fluoroquinolones	3.9%
38	Vytorin 10-40 tablet	30	Merck/Schering-Plough	Cholesterol Agents (Combination)	7.3%
39	Vytorin 10-20 tablet	30	Merck/Schering-Plough	Cholesterol Agents (Combination)	7.3%

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	Seroquel 300 mg tablet	60	AstraZeneca	Antipsychotics	9.1%
41	Aricept 5 mg tablet	30	Eisai	Antidementia Agents	7.0%
42	Advair Diskus 500-50 mcg mist	60	GlaxoSmithKline	Respiratory Agents	7.8%
43	Lexapro 20 mg tablet	100	Forest	Antidepressants (SSRIs)	6.9%
44	Aciphex 20 mg tablet	30	Eisai	Ulcer Drugs (PPIs)	5.9%
45	Zyprexa 5 mg tablet	30	Lilly	Antipsychotics	6.1%
46	Zoloft 100 mg tablet	30	Pfizer	Antidepressants (SSRIs)	10.2%
47	Risperdal 2 mg tablet	60	Janssen	Antipsychotics	6.6%
48	Depakote ER 500 mg tablet	100	Abbott	Anticonvulsants	4.9%
49	Depakote 500 mg DR tab	100	Abbott	Anticonvulsants	14.0%
50	Zyprexa 15 mg tablet	30	Lilly	Antipsychotics	6.1%
51	Diovan 160 mg tablet	90	Novartis	Antihypertensives (ARBs)	7.8%
52	Arimidex 1 mg tablet	30	AstraZeneca	Antineoplastics	8.5%
53	Seroquel 100 mg tablet	100	AstraZeneca	Antipsychotics	9.1%
54	Effexor XR 75 mg capsule	30	Wyeth	Antidepressants (SNRIs)	10.2%
55	Risperdal 3 mg tablet	60	Janssen	Antipsychotics	6.6%
56	Toprol XL 50 mg tablet	100	AstraZeneca	Antihypertensives (BBs)	3.5%
57	Crestor 10 mg tablet	90	AstraZeneca	Cholesterol Agents (HMG CoA)	7.5%
58	Risperdal 1 mg tablet	60	Janssen	Antipsychotics	5.8%
59	Xalatan 0.005% sol	2.5	Pfizer	Ophthalmic Agents	7.6%
60	Risperdal 0.5 mg tablet	60	Janssen	Antipsychotics	5.8%
61	Toprol XL 100 mg tablet	100	AstraZeneca	Antihypertensives (BBs)	3.5%
62	Coreg 6.25 mg tablet	100	GlaxoSmithKline	Antihypertensives (BBs)	10.4%
63	Zoloft 50 mg tablet	30	Pfizer	Antidepressants (SSRIs)	10.2%
64	Effexor XR 150 mg capsule	30	Wyeth	Antidepressants (SNRIs)	10.2%
65	Diovan 80 mg tablet	90	Novartis	Antihypertensives (ARBs)	7.8%
66	Coreg 25 mg tablet	100	GlaxoSmithKline	Antihypertensives (BBs)	10.4%
67	Humulin 70/30 IU/ml inj	10	Lilly	Antidiabetics (Insulins)	8.1%
68	Zyprexa 2.5 mg tablet	30	Lilly	Antipsychotics	6.1%
69	Lipitor 80 mg tablet	90	Pfizer	Cholesterol Agents (HMG CoA)	5.0%
70	Actos 15 mg tablet	30	Takeda Pharmaceuticals	Antidiabetics (Oral)	6.4%
71	Topamax 100 mg tablet	60	McNeil	Anticonvulsants	10.0%
72	Advair Diskus 100-50 mcg mist	60	GlaxoSmithKline	Respiratory Agents	10.7%
73	Coreg 12.5 mg tablet	100	GlaxoSmithKline	Antihypertensives (BBs)	10.4%
74	Diovan HCT 160-12.5 mg tablet	90	Novartis	Antihypertensives (Combination)	7.8%
75	Zyrtec 10 mg tablet	100	Pfizer	Antihistamines (Non-Sedating)	9.7%
76	Ambien 5 mg tablet	100	Sanofi-Aventis	Hypnotics	27.7%
77	Lotrel 5-20 mg capsule	100	Novartis	Antihypertensives (Combination)	9.9%
78	Keppra 500 mg tablet	120	UCB Pharmaceuticals	Anticonvulsants	11.7%
79	Risperdal 4 mg tablet	60	Janssen	Antipsychotics	6.6%
80	Lotrel 10-20 mg capsule	100	Novartis	Antihypertensives (Combination)	9.9%
81	Cymbalta 60 mg capsule	30	Lilly	Antidepressants (SNRIs)	6.8%
82	Abilify 15 mg tablet	30	Bristol-Myers Squibb	Antipsychotics	10.0%

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
83	Cozaar 50 mg tablet	90	Merck	Antihypertensives (ARBs)	5.9%
84	Lamictal 100 mg tablet	100	GlaxoSmithKline	Anticonvulsants	9.4%
85	Coreg 3.125 mg tablet	100	GlaxoSmithKline	Antihypertensives (BBs)	10.4%
86	Altace 10 mg capsule	100	Monarch Pharmaceuticals	Antihypertensives (ACEs)	8.1%
87	Boniva 150 mg tablet	3	Roche	Osteoporosis Agents	8.4%
88	Geodon 80 mg capsule	60	Pfizer	Antipsychotics	16.1%
89	Cosopt 2-0.5% sol	10	Merck	Ophthalmic Agents	6.0%
90	Abilify 30 mg tablet	30	Bristol-Myers Squibb	Antipsychotics	10.0%
91	Aggrenox 25-200 mg capsule	60	Boehringer Ingelheim	Anticoagulants	4.2%
92	Abilify 10 mg tablet	30	Bristol-Myers Squibb	Antipsychotics	10.0%
93	Nasonex 50 mcg/act spray	17	Schering	Inhaled Steroids	7.5%
94	Travatan 0.004% sol	2.5	Alcon Vision	Ophthalmic Agents	6.5%
95	Risperdal 0.25 mg tablet	500	Janssen	Antipsychotics	5.8%
96	Humulin N U-100 inj	10	Lilly	Antidiabetics (Insulins)	8.1%
97	Kaletra 200-50 mg tablet	120	Abbott	Antiretrovirals	4.1%
98	Miacalcin 200/act spray	3.7	Novartis	Osteoporosis Agents	11.0%
99	Lumigan 0.03% sol	2.5	Allergan	Ophthalmic Agents	6.4%
100	Casodex 50 mg tablet	30	AstraZeneca	Antineoplastics	3.0%
101	Toprol XL 25 mg tablet	100	AstraZeneca	Antihypertensives (BBs)	3.5%
102	Humalog 100 IU/ml inj	10	Lilly	Antidiabetics (Insulins)	7.9%
103	Cozaar 100 mg tablet	30	Merck	Antihypertensives (ARBs)	5.9%
104	Avodart 0.5 mg capsule	30	GlaxoSmithKline	Prostatic Hypertrophy Agents	6.5%
105	Femara 2.5 mg tablet	30	Novartis	Antineoplastics	9.6%
106	Abilify 20 mg tablet	30	Bristol-Myers Squibb	Antipsychotics	10.0%
107	Wellbutrin XL 300 mg tablet	30	GlaxoSmithKline	Antidepressants (Other)	14.2%
108	Novolog Mix 70-30 IU/ml inj	10	Novo Nordisk	Antidiabetics (Insulins)	12.1%
109	Abilify 5 mg tablet	30	Bristol-Myers Squibb	Antipsychotics	10.0%
110	Novolog 100 IU/ml inj	10	Novo Nordisk	Antidiabetics (Insulins)	12.1%
111	Alphagan P 0.15% sol	10	Allergan	Ophthalmic Agents	7.3%
112	Diovan 320 mg tablet	90	Novartis	Antihypertensives (ARBs)	7.8%
113	Provigil 200 mg tablet	100	Cephalon	Other Therapeutic Agents	4.6%
114	Wellbutrin XL 150 mg tablet	30	GlaxoSmithKline	Antidepressants (Other)	14.1%
115	Prevacid 30 mg STB tab	30	TAP	Ulcer Drugs (PPIs)	12.3%
116	Zocor 80 mg tablet	30	Merck	Cholesterol Agents (HMG CoA)	0.0%
117	Lescol XL 80 mg tablet	100	Novartis	Cholesterol Agents (HMG CoA)	9.9%
118	Depakote 250 mg DR tab	100	Abbott	Anticonvulsants	14.0%
119	Cymbalta 30 mg capsule	30	Lilly	Antidepressants (SNRIs)	6.8%
120	Premarin 0.625 mg tablet	100	Wyeth	Hormone Therapy	12.4%
121**	Norvir 100 mg gel cap	30	Abbott	Antiretrovirals	0.0%
122	Asacol 400 mg DR tab	180	Procter & Gamble	Other Therapeutic Agents	7.7%
123	Hyzaar 100-25 mg tablet	30	Merck	Antihypertensives (Combination)	7.0%
124	Viread 300 mg tablet	30	Gilead Sciences	Antiretrovirals	12.4%
125	Ditropan XL 10 mg tablet	100	McNeil	Urinary Antispasmodics	3.5%

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	Diovan HCT 160-25 mg tablet	90	Novartis	Antihypertensives (Combination)	7.8%
127	Ambien CR 12.5 mg tablet	100	Sanofi-Aventis	Hypnotics	13.5%
128	Pravachol 40 mg tablet	90	Bristol-Myers Squibb	Cholesterol Agents (HMG CoA)	7.4%
129	Proscar 5 mg tablet	30	Merck	Prostatic Hypertrophy Agents	0.7%
130	Prevacid 15 mg DR cap	30	TAP	Ulcer Drugs (PPIs)	6.5%
131	Lotrel 5-10 mg capsule	100	Novartis	Antihypertensives (Combination)	9.9%
132	Lamictal 25 mg tablet	100	GlaxoSmithKline	Anticonvulsants	7.4%
133	Altace 5 mg capsule	100	Monarch Pharmaceuticals	Antihypertensives (ACEs)	9.8%
134	Lyrica 75 mg capsule	90	Pfizer	Anticonvulsants	6.0%
135	Novolin R U-100 inj	10	Novo Nordisk	Antidiabetics (Insulins)	12.7%
136	Patanol 0.1% sol	5	Alcon Vision	Ophthalmic Agents	5.6%
137	Niaspan 500 mg ER tab	100	Abbott	Cholesterol Agents (Misc.)	7.4%
138	Lamictal 200 mg tablet	60	GlaxoSmithKline	Anticonvulsants	12.1%
139	Viagra 100 mg tablet	30	Pfizer	Other Therapeutic Agents	7.6%
140	Lyrica 50 mg capsule	90	Pfizer	Anticonvulsants	6.0%
141	Nexium 20 mg capsule	30	AstraZeneca	Ulcer Drugs (PPIs)	5.3%
142	Norvasc 2.5 mg tablet	90	Pfizer	Antihypertensives (CCBs)	11.5%
143	Diovan HCT 80-12.5 mg tablet	90	Novartis	Antihypertensives (Combination)	7.8%
144	Sustiva 600 mg tablet	30	Bristol-Myers Squibb	Antiretrovirals	7.2%
145	Trileptal 300 mg tablet	100	Novartis	Anticonvulsants	16.9%
146	Skelaxin 800 mg tablet	100	Monarch Pharmaceuticals	Other Therapeutic Agents	4.2%
147	Restasis 0.05% emulsion	1	Allergan	Ophthalmic Agents	6.4%
148	Avapro 300 mg tablet	90	Bristol-Myers Squibb	Antihypertensives (ARBs)	9.6%
149	Benicar 40 mg tablet	30	Sankyo	Antihypertensives (ARBs)	8.6%
150	Avelox 400 mg tablet	30	Schering	Fluoroquinolones	7.6%
151	Avapro 150 mg tablet	90	Bristol-Myers Squibb	Antihypertensives (ARBs)	9.6%
152	Levaquin 250 mg tablet	50	McNeil	Fluoroquinolones	3.9%
153	Mobic 15 mg tablet	100	Boehringer Ingelheim	Anti-Inflammatory Agents	4.2%
154	Lamisil 250 mg tablet	30	Novartis	Other Therapeutic Agents	14.0%
155	Depakote 125 mg capsule	100	Abbott	Anticonvulsants	14.0%
156	Topamax 25 mg tablet	60	McNeil	Anticonvulsants	10.0%
157	Zocor 10 mg tablet	30	Merck	Cholesterol Agents (HMG CoA)	0.0%
158	Clarinex 5 mg tablet	100	Schering	Antihistamines (Non-Sedating)	13.0%
159	Topamax 200 mg tablet	60	McNeil	Anticonvulsants	10.0%
160	Atrovent HFA 17 mcg aerosol	12.9	Boehringer Ingelheim	Respiratory Agents	5.8%
161	Seroquel 50 mg tablet	100	AstraZeneca	Antipsychotics	8.6%
162	Exelon 3 mg capsule	60	Novartis	Antidementia Agents	6.6%
163	Humalog Mix 75-25 IU/ml sus	10	Lilly	Antidiabetics (Insulins)	7.9%
164	Vytorin 10-80 mg tablet	30	Merck/Schering-Plough	Cholesterol Agents (Combination)	7.3%
165	Crestor 20 mg tablet	90	AstraZeneca	Cholesterol Agents (HMG CoA)	7.5%
166	Flovent HFA 110 mcg aerosol	12	GlaxoSmithKline	Respiratory Agents	12.4%
167	Toprol XL 200 mg tablet	100	AstraZeneca	Antihypertensives (BBs)	3.5%
168	Fosamax Plus D tab	4	Merck	Osteoporosis Agents	6.2%

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	Epzicom 600-300 mg tablet	30	GlaxoSmithKline	Antiretrovirals	6.9%
170	Razadyne 8 mg tablet	60	Janssen	Antidementia Agents	6.5%
171	Benicar 20 mg tablet	30	Sankyo	Antihypertensives (ARBs)	7.7%
172	Avandia 2 mg tablet	60	GlaxoSmithKline	Antidiabetics (Oral)	6.1%
173	Zyprexa 7.5 mg tablet	30	Lilly	Antipsychotics	6.1%
174	Lunesta 3 mg tablet	100	Sepracor Pharmaceuticals	Hypnotics	13.1%
175	Duoneb 2.5-0.5 mg/3 ml sol	3	Dey Labs	Respiratory Agents	6.1%
176	Pravachol 80 mg tablet	90	Bristol-Myers Squibb	Cholesterol Agents (HMG CoA)	7.4%
177	Namenda 5 mg tablet	60	Forest	Antidementia Agents	5.9%
178	Levaquin 750 mg tablet	20	McNeil	Fluoroquinolones	3.9%
179	Hyzaar 50-12.5 mg tablet	30	Merck	Antihypertensives (Combination)	6.9%
180	Crestor 5 mg tablet	90	AstraZeneca	Cholesterol Agents (HMG CoA)	7.5%
181	Trileptal 600 mg tablet	100	Novartis	Anticonvulsants	16.8%
182	Lunesta 2 mg tablet	100	Sepracor Pharmaceuticals	Hypnotics	13.1%
183	Xenaderm 90 units/Gm oint	60	Healthpoint Medical	Dermatologicals	0.4%
184	Geodon 40 mg capsule	60	Pfizer	Antipsychotics	7.6%
185	Mobic 7.5 mg tablet	100	Boehringer Ingelheim	Anti-Inflammatory Agents	4.2%
186	Exelon 6 mg capsule	60	Novartis	Antidementia Agents	6.6%
187	Catapres-TTS 0.3 mg/24hr dis	4	Boehringer Ingelheim	Cardiovascular (Misc.)	16.1%
188	Altace 2.5 mg capsule	100	Monarch Pharmaceuticals	Antihypertensives (ACEs)	10.8%
189	Androgel 1% (50 mg) gel	5	Unimed	Hormone Therapy	6.0%
190	Ditropan XL 5 mg tablet	100	McNeil	Urinary Antispasmodics	3.5%
191	Zoloft 25 mg tablet	30	Pfizer	Antidepressants (SSRIs)	10.2%
192	Geodon 60 mg capsule	60	Pfizer	Antipsychotics	16.1%
193	Paxil CR 25 mg tablet	30	GlaxoSmithKline	Antidepressants (SSRIs)	11.2%
194	Flonase 0.05% spray	16	GlaxoSmithKline	Inhaled Steroids	8.8%
195	Serevent Diskus 50 mcg aerosol	60	GlaxoSmithKline	Respiratory Agents	13.4%
196	Requip 1 mg tablet	100	GlaxoSmithKline	Antiparkinson Agents	15.0%
197	Vesicare 5 mg tablet	30	GlaxoSmithKline	Urinary Antispasmodics	10.0%
198	Celebrex 100 mg capsule	100	Pfizer	Anti-Inflammatory Agents	8.7%
199	Benicar HCT 40-25 mg tablet	30	Sankyo	Antihypertensives (Combination)	10.8%
200	Valtrex 1 GM tab	30	GlaxoSmithKline	Other Therapeutic Agents	7.4%
201	Zyprexa Zydis 20 mg tablet	30	Lilly	Antipsychotics	5.8%
202	Detrol LA 2 mg capsule	30	Pfizer	Urinary Antispasmodics	9.1%
203	Azmacort 100 mcg aerosol	20	Abbott	Respiratory Agents	9.4%
204	Lexiva 700 mg tablet	60	GlaxoSmithKline	Antiretrovirals	6.9%
205	Avalide 300-12.5 mg tablet	30	Bristol-Myers Squibb	Antihypertensives (Combination)	9.6%
206	Welchol 625 mg tablet	180	Sankyo	Cholesterol Agents (Misc.)	7.9%
207	Niaspan 1,000 mg tablet	100	Abbott	Cholesterol Agents (Misc.)	10.5%
208	Effexor XR 37.5 mg capsule	30	Wyeth	Antidepressants (SNRIs)	10.2%
209	Vytorin 10-10 mg tablet	30	Merck/Schering-Plough	Cholesterol Agents (Combination)	7.3%
210	Comtan 200 mg tablet	100	Novartis	Antiparkinson Agents	9.8%
211	Nasacort AQ 55 mcg/act aerosol	16.5	Sanofi-Aventis	Inhaled Steroids	13.0%

Rank by Sales Among Study Market Basket*	Product Name, Strength, and Dosage Form	Package Size	Manufacturer	Therapeutic Class	2007 Annual Percent Change in WAC
212	Topamax 50 mg tablet	60	McNeil	Anticonvulsants	10.0%
213	Duragesic 100mcg/hr patch	5	Janssen	Other Therapeutic Agents	7.6%
214	Starlix 120 mg tablet	100	Novartis	Antidiabetics (Oral)	9.9%
215	Premarin 0.3 mg tablet	100	Wyeth	Hormone Therapy	12.4%
216	Coumadin 5 mg tablet	100	Bristol-Myers Squibb	Anticoagulants	7.1%
217	Synthroid 100 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
218	Synthroid 50 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
219	Synthroid 75 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
220	Synthroid 125 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
221	Lanoxin 125 mcg tablet	1000	GlaxoSmithKline	Cardiovascular (Misc.)	5.4%
218	Synthroid 50 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
219	Synthroid 75 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
220	Synthroid 125 mcg tablet	100	Abbott	Thyroid Hormones	3.5%
221	Lanoxin 125 mcg tablet	1000	GlaxoSmithKline	Cardiovascular (Misc.)	5.4%

* Ranking based on prescriptions processed by the Medicare Part D plan provider during 2006.
** Norvir 100 mg gel cap has been excluded from all analyses in this report, except where specifically noted, due to a single extreme outlier price change of 400 percent in 2003.
See Appendix B 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).