

Rx Watchdog Report
Comparative Measures of Price Change for
Prescription Drugs and Other Goods

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Research Report

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

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	II
INTRODUCTION.....	1
AARP MEASURES OF PRICE CHANGE FOR DRUGS WIDELY USED BY MEDICARE PART D ENROLLEES	1
VARIOUS COMPARATIVE MEASURES OF PRICE CHANGE FOR DRUGS AND OTHER GOODS.....	5
CPI-U ALL ITEMS.....	5
CPI FOR MEDICAL CARE.....	6
CPI FOR PRESCRIPTION DRUGS.....	6
NATIONAL HEALTH EXPENDITURES-PRICE INDEX FOR PRESCRIPTION DRUG EXPENDITURES	8
PBM PRICE COMPONENT OF DRUG EXPENDITURE GROWTH.....	9
ANNUAL TRENDS IN MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED PRESCRIPTION DRUGS: AARP TREND IN COMPARISON TO OTHER MEASURES	11
AARP MEASURES OF PRICE CHANGE FOR DRUGS WIDELY USED BY MEDICARE PART D ENROLLEES.....	11
CONSUMER PRICE INDEX MEASURES OF INFLATION.....	13
OTHER MEASURES OF DRUG PRICE INFLATION.....	15
CONCLUSION	16

LIST OF FIGURES

FIGURE 1: COMPONENTS OF ANNUAL PERCENT CHANGE IN MANUFACTURER PRICES FOR AARP COMBINED MARKET BASKET OF MOST WIDELY USED PRESCRIPTION DRUGS, 2004 TO 2008.....	12
FIGURE 2: COMPARISON OF AVERAGE ANNUAL CHANGE IN MANUFACTURER PRICES FOR MOST WIDELY USED PRESCRIPTION DRUGS TO ALTERNATE MEASURES OF INFLATION, 2004 TO 2008.....	14
FIGURE 3: COMPARISON OF AVERAGE ANNUAL CHANGE IN MANUFACTURER PRICES FOR MOST WIDELY USED PRESCRIPTION DRUGS TO ALTERNATE MEASURES OF PRESCRIPTION DRUG PRICE GROWTH, 2004 TO 2008	15

LIST OF TABLES

TABLE 1. AARP PRICE CHANGE INDICES FOR PRESCRIPTION DRUGS: COMPARISON OF DESCRIPTION, DESIGN, AND SPECIAL CONSIDERATIONS.....	3
TABLE 2. OTHER PRICE CHANGE INDICES FOR PRESCRIPTION DRUGS: COMPARISON OF DESCRIPTION, DESIGN, AND SPECIAL CONSIDERATIONS.....	4

EXECUTIVE SUMMARY

The AARP Public Policy Institute's Rx Watchdog reports on changes in manufacturer prices for prescription drugs widely used by Medicare Part D beneficiaries provide a uniquely comprehensive perspective on the impact of drug pricing over time. The reports analyze changes in the prices that drug manufacturers charge to wholesalers and other direct purchasers for their sales to retail pharmacies. These manufacturer price changes are then compared to the rate of general inflation as measured by the Consumer Price Index-All Urban Consumers for All Items (CPI-U).

Some critics have asserted that the market baskets used in these reports overestimate prescription drug price changes and that alternate measures of overall price growth are superior to the CPI-U. This report compares the drug price change measures used in the Rx Watchdog reports with various other measures of drug price change. This report also compares annual manufacturer price changes in the AARP combined market basket of drug products to annual price changes reported by these alternate measures of drug price inflation.

Findings

Most of the drug price indices examined showed a slightly lower rate of growth in 2007 and 2008 than in 2004 through 2006. Variations among the indices are most likely related to differences in what is being measured and in methodology—that is, how the calculations are performed.

The AARP combined drug index showed rates of price growth similar to those of other measures of drug price change over the past five years; however, only the AARP reports showed the role of continued dramatic growth in brand name (8.7 percent) and specialty (9.3 percent) drug prices versus the substantial decline (-10.6 percent) in generic drug prices. The slowed rate of continued growth in drug prices overall was due entirely to the substantial decrease in generic drug prices, while the prices of brand name and specialty drug products continued growth at more than twice the rate of general inflation.

Concluding Observations

The price measures used in the AARP Public Policy Institute's Rx Watchdog reports offer a uniquely comprehensive perspective not provided by other drug price change measures. Nevertheless, the choice of a price change measure is not so much a matter of which measure is better or worse, but rather of what question is being asked and what the index actually measures.

INTRODUCTION

The AARP Public Policy Institute's Rx Watchdog reports on changes in manufacturer prices for prescription drugs widely used by Medicare Part D beneficiaries provide a uniquely comprehensive perspective on the impact of drug pricing over time. The reports analyze changes in the prices that drug manufacturers charge to wholesalers and other direct purchasers for their sales to retail pharmacies. These manufacturer price changes are then compared to the rate of general inflation as measured by the Consumer Price Index-All Urban Consumers for All Items (CPI-U).¹

Some critics have asserted that the market baskets used in these reports overestimate prescription drug price changes² and that alternate measures of overall price growth are superior to the CPI-U.³ This report compares the drug price change measures used in the Rx Watchdog reports with various other measures of drug price change. This report also compares annual manufacturer price changes in the AARP combined market basket of drug products⁴ to annual price changes reported by these alternate measures of drug price inflation.

AARP MEASURES OF PRICE CHANGE FOR DRUGS WIDELY USED BY MEDICARE PART D ENROLLEES

AARP's Public Policy Institute has been reporting manufacturer drug product price changes annually and quarterly since 2004.⁵ Previous reports by the AARP Public Policy Institute 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 in 2003. However, with the Medicare Part D program in its fourth year of operation, we chose to use a new market basket of drugs based on actual drug use in Medicare Part D plans during calendar year 2006. This new market basket contains prescriptions from all types of outlets participating in Medicare Part D, including retail, mail, Internet, long-term care, and outpatient institutional pharmacies. The primary focus is on the manufacturer's price for drug products that are dispensed as outpatient prescriptions. For the most part, this focus is limited to drug products that require a prescription by a physician or authorized provider. However, there are a few exceptions, such as insulin, which is classified by federal regulation as an over-the-counter drug product.

¹ A more detailed description of the methodology used in these reports is provided in Appendix A of D. Gross, S. Schondelmeyer, and L. Purvis, "Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007," March 2008. Available on the AARP website, http://www.aarp.org/research/ppi/health-care/medicare/articles/rx_watchdog.html.

² For example, see Biotechnology Industry Organization, "AARP Drug Price Survey Overlooks Critical Factors, Says BIO," press release, September 26, 2008.

³ Pharmaceutical Research and Manufacturers of America, "PhRMA Statement on AARP March Watchdog Report," press release, March 8, 2008.

⁴ For a description of the AARP combined market basket, see S.W. Schondelmeyer, L. Purvis, and D.J. Gross, "Rx Watchdog Report: Trends in Manufacturer Prices of Prescription Drugs Used by Medicare Beneficiaries, 2004 to 2008," September 2009. Available on the AARP website, http://www.aarp.org/research/ppi/health-care/medicare/articles/rx_watchdog.html.

⁵ Previous reports from this series can be found on the AARP website, http://www.aarp.org/research/ppi/health-care/medicare/articles/rx_watchdog.html.

The Rx Watchdog reports were designed to track changes in manufacturer prices over time for prescription drugs widely used by Medicare Part D beneficiaries. The new market basket for AARP price studies, first used for the 2007 reports, was designed so that the pricing patterns for specific segments of the pharmaceutical market could be examined either individually or in aggregate. The new market basket includes separate indices for (1) brand name drug products; (2) generic drug products; (3) specialty drug products, including both brand and generic versions of specialty drug products; and (4) a combined market basket (i.e., brand, generic, and specialty).

The Rx Watchdog reports were designed to allow tracking of trends for brand, generic, and specialty drugs as well as the aggregate rate of drug price change over time—a feature not present in other price measures. They are the only published reports that provide for analyses of other specific price trends: (1) brand versus generic status of drug products; (2) traditional drug products versus specialty drug products; (3) specific therapeutic categories of drug products; (4) individual drug manufacturers; and (5) individual drug products.

Analysis of drug price trends over time requires that other special considerations be taken into account when monitoring price change levels of drug products. These other special considerations include (1) manufacturer payment of rebates; (2) change in a drug's status from prescription to over-the-counter (OTC); (3) brand name patent expirations with generic market entry; and (4) introduction of drug product modifications (e.g., different dosage forms, strengths, or other features) that result in additional patent or market exclusivity and delay the typical price competition from lower cost generics.

Table 1 summarizes how the four AARP Public Policy Institute Rx Watchdog reports have accommodated each of these special factors. As a point of comparison, table 2 summarizes of how other measures of price change address or incorporate the possible effects of these special considerations.

Table 1: AARP Price Change Indices for Prescription Drugs: Comparison of Description, Design, and Special Considerations

Price Index	AARP Brand ¹	AARP Generic ²	AARP Specialty ³	AARP Combined ⁴
SAMPLE DESIGN & DESCRIPTION				
Persons Covered	Medicare Part D enrollees	Medicare Part D enrollees	Medicare Part D enrollees	Medicare Part D enrollees
Outlets Covered	All retail, mail, Internet, & long-term care pharmacies in Medicare Part D	All retail, mail, Internet, & long-term care pharmacies in Medicare Part D	All retail, mail, Internet, & long-term care pharmacies in Medicare Part D	All retail, mail, Internet, & long-term care pharmacies in Medicare Part D
Type of Units	Prescriptions	Prescriptions	Prescriptions	Prescriptions
Sample of Units	Top 220 brand prescription drug products by expenditures, prescriptions, & days of therapy	Top 185 generic prescription drug products by expenditures, prescriptions, & days of therapy	Top 144 specialty prescription drug products by expenditures, prescriptions, & days of therapy	Top 549 prescription drug products by expenditures, prescriptions, & days of therapy
Sample Timeframe & Rotation	Every 2 to 3 years	Every 2 to 3 years	Every 2 to 3 years	Every 2 to 3 years
Price Level in Market	Manufacturer	Manufacturer	Manufacturer	Manufacturer
Reporting Frequency	Quarterly	Quarterly	Quarterly	Quarterly
SPECIAL REPORTING				
Manufacturer Specific	Yes	Yes	Yes	Yes
Therapeutic Class Specific	Yes	Yes	Yes	Yes
Drug Product Specific	Yes	Yes	Yes	Yes
Brand Specific	Yes	(NA)	Yes (Specialty brand)	Yes
Generic Specific	(NA)	Yes	Yes (Specialty generic)	Yes
Specialty Specific	(NA)	(NA)	Yes	Yes
OTHER SPECIAL CONSIDERATIONS				
Status of Rebates	Not included	Not included	Not included	Not included
Prescription to Over-the-Counter Shifts	Over-the-counter is included when appropriate as brand	Over-the-counter is included when appropriate as generic	(NA)	Over-the-counter is included when appropriate as brand or generic
Brand to Generic Shifts	Generic entry accounted for when market basket updated	Generic entry accounted for when market basket updated	Generic entry accounted for when market basket updated	Generic entry accounted for when market basket updated
Higher Cost Brand Shifts	Higher cost brand entry accounted for when market basket updated	Higher cost brand entry accounted for when market basket updated	Higher cost brand entry accounted for when market basket updated	Higher cost brand entry accounted for when market basket updated

¹ D. Gross, S. Schondelmeyer, and L. Purvis, "Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007," March 2008.*

² D. Gross, S. Schondelmeyer, and L. Purvis, "Rx Watchdog Report: Trends in Manufacturer Prices of Generic Prescription Drugs Used by Medicare Beneficiaries, 2003 to 2007," June 2008.*

³ S. Schondelmeyer, L. Purvis, and D. Gross, "Rx Watchdog Report: Trends in Manufacturer Prices of Specialty Prescription Drugs Used by Medicare Beneficiaries, 2004 to 2007," September 2008.*

⁴ This report is the first in a series of reports on the market composite change in drug prices, including the proportionately weighted effect of brand name, generic, and specialty drug products. (S. Schondelmeyer, L. Purvis, and D. Gross, "Rx Watchdog Report: Trends in Manufacturer Prices of Prescription Drugs Used by Medicare Beneficiaries, 2004 to 2008," September 2009.)*

* The above-cited reports are available on the AARP website, http://www.aarp.org/research/ppi/health-care/medicare/articles/rx_watchdog.html.

Table 2: Other Price Change Indices for Prescription Drugs: Comparison of Description, Design, and Special Considerations

Price Index	BLS CPI-All ¹	BLS CPI-Medical Care ²	BLS CPI-Rx ³	NHE-Rx Price Growth ⁴	PBM Drug Price Index ⁵
SAMPLE DESIGN & DESCRIPTION					
Persons Covered	Urban consumers in the United States	Urban consumers in the United States	Urban consumers in the United States	U.S. population	Insured population covered by PBM
Outlets Covered	Sample of all types of outlets for goods & services in United States	Sample of all types of medical care providers in United States	Sample of retail, mail, & Internet pharmacies in United States	All retail, mail, & Internet pharmacies in United States	All retail, mail, & Internet pharmacies participating with PBM
Type of Units	All consumer goods & services for day-to-day living	Medical care services & medical care commodities	Prescriptions	Prescriptions	Prescriptions
Sample of Units	Various methods across all goods & services types measured	Item stratum from among goods & services provided & unique to each provider type	"Last 20 prescriptions" filled by a sample pharmacy	All prescription sales	All PBM-covered prescription drug products
Sample Timeframe & Rotation	Varies by item type	Every 1 to 4 years; varies by provider type & service or commodity	Approximately once every 2 years for prescriptions & every 4 years for outlets	Annual based on prescriptions filled in calendar year	Annual based on prescriptions filled in calendar year
Price Level in Market	Retail	Retail	Retail	Retail	Manufacturer
Reporting Frequency	Monthly	Monthly	Monthly	Annual	Annual
SPECIAL REPORTING					
Manufacturer Specific	(NA)	No	No	No	No
Therapeutic Class Specific	(NA)	No	No	No	Yes
Drug Product Specific	(NA)	No	No	No	No
Brand Specific	(NA)	No	No	No	Yes
Generic Specific	(NA)	No	No	No	Yes
Specialty Specific	(NA)	No	No	No	Yes
OTHER SPECIAL CONSIDERATIONS					
Status of Rebates	Not applicable	Not applicable	Not included	In expenditure estimate, not in price estimate	Not included
Prescription to Over-the-Counter Shifts	Remain in sample weights until next item selection period	Remain in sample weights until next item selection period	Remain in sample weights until next item selection period	Remain in sample weights until next item selection period	Accounted for with real time data
Brand to Generic Shifts	Adjusted after 6 months; generic price treated as lower brand price	Adjusted after 6 months; generic price treated as lower brand price	Adjusted after 6 months; generic price treated as lower brand price	Adjusted after 6 months; generic price treated as lower brand price	Accounted for with real time data
Higher Cost Brand Shifts	Not adjusted as prescriptions converted to higher cost brand	Not adjusted as prescriptions converted to higher cost brand	Not adjusted as prescriptions converted to higher cost brand	Not adjusted as prescriptions converted to higher cost brand	Accounted for with real time data

Note: PBM = pharmacy benefit manager; NA = not applicable.

¹ Bureau of Labor Statistics, U.S. Department of Commerce.

² Ibid.

³ Ibid.

⁴ M. Hartman, A. Martin, et al., "National Health Spending in 2007: Slower Drug Spending Contributes to Lowest Rate of Overall Growth Since 1998," *Health Affairs*, 28, no. 1 (Jan.-Feb. 2009): 246-61 (10.1377/hlthaff.28.1.246).

⁵ Express Scripts (Annual Drug Trend Report, 2004 to 2008 and CVS Caremark Annual Trends Rx Reports, 2005 to 2009).

VARIOUS COMPARATIVE MEASURES OF PRICE CHANGE FOR DRUGS AND OTHER GOODS

We provide a general description of several comparative measures of price change for drugs and other goods and services below.

CPI-U ALL ITEMS

The Consumer Price Index is a measure of consumer level prices over time that is prepared by the U.S. Bureau of Labor Statistics (BLS). As described by BLS, “the Consumer Price Index (CPI) is a measure of the average change over time in the prices of consumer items—goods and services that people buy for day-to-day living.” The CPI is a complex construct that combines economic theory with sampling and other statistical techniques and uses data from several surveys to produce a timely and precise measure of average price change for the consumption sector of the American economy. The CPI’s surveys rely on the voluntary cooperation of many people and establishments throughout the country who, without compulsion or compensation, supply data to the government’s data collection staff.

The target population of the Consumer Price Index, used here for comparison, is all urban consumers in the United States. The CPI for All Urban Consumers, or CPI-U, “represents the buying habits of the residents of urban or metropolitan areas in the United States.”⁶ The CPI-U is based on the expenditures of almost all residents of urban or metropolitan areas, and represents about 87 percent of the total U.S. population. This index is calculated by observing price changes among a wide array of products in urban areas and weighting these products by the share of consumers’ expenditures spent on purchasing them. The version of the CPI-U reported as a comparison measure in the AARP drug price inflation report series is the CPI-U for All Items, with adjustments made for seasonal variations.⁷

The CPI-U All Items differs from the AARP price indices in several ways. CPI-U All Items is a measure of *retail* price change for *all types of goods and services*, while the AARP indices are measures of *manufacturer* price change for *prescription drug products* widely used by Medicare Part D enrollees. CPI-U All Items does not include rural U.S. residents, while the AARP indices do. Despite these differences, the CPI-U All Items provides a useful comparison to the AARP price indices. That is, this difference reflects the impact of manufacturer drug price changes on Medicare Part D enrollees in comparison to the price changes for all goods and services being purchased by the average urban consumer. The CPI-U All Items is particularly relevant for older

⁶ Bureau of Labor Statistics, BLS Handbook of Methods, Chapter 17. The Consumer Price Index, updated 6/2007, p. 1.

⁷ Bureau of Labor Statistics, BLS Handbook of Methods, Chapter 17. The Consumer Price Index, updated 6/2007, pp. 3-6 and appendix 6. The “All Items” index is an aggregate of all items (211 item strata) that are tracked and divided into eight major expenditure categories: food and beverages, housing, apparel, transportation, medical care, recreation, education and communication, and other goods and services.

consumers whose Social Security income is pegged to the rate of general inflation using this measure.

CPI FOR MEDICAL CARE

The Consumer Price Index for Medical Care (CPI-Medical Care) is one of the eight major components of the CPI-U All Items. The Medical Care component is grouped into two broad categories: medical care commodities (prescription drugs, nonprescription drugs, medical equipment, and medical supplies) and medical care services (physician services, dental services, eye care services, other professional services, hospital services, long-term care services, and health insurance premiums). Health insurance expenditures encompassed by the CPI-Medical Care include out-of-pocket copays, deductibles, fees, and other expenses as well as health insurance premiums paid by the consumer. Basically, all health expenditures (not recouped through health insurance) which the consumer paid directly to retail outlets and to doctors and other medical providers for medical services, as well as health insurance premiums, are included.

The CPI-Medical Care differs from the AARP price indices in several ways. CPI-Medical Care is a measure of *retail* price change for *all types of medical goods and services*, while the AARP indices are measures of *manufacturer* price change for *prescription drug products* widely used by Medicare Part D enrollees. CPI-Medical Care does not include rural U.S. residents, while the AARP indices do. Despite these differences, the CPI-Medical Care provides a useful comparison to the AARP price indices, in that a comparison of the two reflects the impact of manufacturer drug price changes on Medicare Part D enrollees in comparison to the price changes for all medical care goods and services being purchased by the average urban consumer. The CPI-Medical Care typically exceeds the rate of general inflation as measured by the CPI-U All Items. When the CPI-Medical Care exceeds the rate of general inflation, health care expenditures of older consumers limited by Social Security income will consume a larger share of that income, leaving less for housing, food, and other goods and services.

CPI FOR PRESCRIPTION DRUGS

The Consumer Price Index for Prescription Drugs (CPI-Rx) is one subcomponent of Medical Care Commodities reported in the CPI-Medical Care. It “is comprised of drugs one may purchase by prescription at a retail, mail order or Internet pharmacy. However, prescription drugs that are primarily consumed and paid for as part of hospital visits are not included in this sample.”⁸ Similarly, drugs administered by a physician, dentist, or other health provider as a part of an outpatient office visit or an inpatient stay are not included in the CPI-Rx.

⁸ Bureau of Labor Statistics, Measuring Price Change for Medical Care in the CPI, updated March 3, 2008, Bureau of Labor Statistics website, <http://www.bls.gov/cpi/cpifact4.htm>.

The CPI-Rx employs a streamlined data sampling method that is unique to this prescription drug subcomponent of the CPI. A sample of pharmacies for each region covered by the CPI is selected for inclusion, and the BLS field staff obtains a list of the last 20 prescriptions dispensed at each sample pharmacy. This “last 20 list” serves as a proxy for all of the prescription drugs dispensed at that pharmacy, and a price is obtained for each prescription on the list.⁹ The price obtained includes both patient and insurance payments to the pharmacy, and the sum of all 20 prices makes up total spending by the consumer or other payer at this pharmacy. “This item selection procedure is done for every outlet when it is initiated for [inclusion in the] pricing [study].” In addition, for each outlet the prescription drugs are “re-sampled after two years to capture current consumer purchase behaviors and bring new goods and services into the [prescription drug] index.”¹⁰ The CPI-Rx represents change in prices (and mix) for drugs based on the combined transaction prices paid by consumers and insurers. The CPI-Rx does not take into account rebates paid to pharmacy benefit managers (PBMs) or others, unless such rebates are reflected in the price paid to the pharmacy by consumers and insurers.

Beginning in 1995, the CPI-Rx method incorporated an “accelerated item rotation” that takes into account patented brands going off patent followed by generic entry.¹¹ However, the CPI-Rx does not have a similar accelerated item rotation process for prescription drugs being converted from prescription to over-the-counter status or for prescription drugs that have changed in strength or dosage form, such as the introduction of Ambien CR (controlled release) as a replacement for Ambien. In the case of Ambien, the Food and Drug Administration-rated therapeutically equivalent generics showed a decline in price compared to the brand, while the Ambien CR price did not decline over time. While the use of accelerated item rotation for the brand-to-generic switches may be warranted, the incorporation of this method change without a similar accelerated item rotation for changes in dosage form, strength, or other minor manipulations in composition most likely results in an underestimate of the overall inflation rate for prescription drugs.

The CPI-Rx differs from the AARP price indices in several important ways. The CPI-Rx is a measure of *retail* price change for *outpatient prescriptions* used by urban consumers, while the AARP indices are measures of *manufacturer* price change for (outpatient) *prescription drug products* widely used by Medicare Part D enrollees. The CPI-Rx does not include rural U.S. residents, while the AARP indices do. The CPI-Rx also does not include specialty drugs, particularly those that are administered in physicians’ offices. Neither of these measures of prescription drug price change accounts for the effect of rebates, if any; and, except to the extent that rebates are passed through to the consumer

⁹ BLS, Measuring Price Change for Medical Care in the CPI, March 3, 2008. “Thus, each price represents an observed share of total spending, and the probability of any one prescription being selected is proportional to its share in total spending. The more frequently a certain drug shows up in the ‘last 20 list,’ and the more expensive it is, the more likely it is to be selected for the index.”

¹⁰ Ibid..

¹¹ Ibid.. “If a generic is selected, the CPI treats any price difference between the original drug and its selected substitute as a price change, and reflects this change in the index in the month when the procedure was performed.” This method essentially treats generic prices as decreases in brand name drug product prices beginning six months after generic substitutes enter the market.

or insurer in the actual transaction price, the inclusion of rebates is not particularly relevant to the consumer or end payer. While the AARP Rx Watchdog reports price change broken down to the level of specific manufacturers, therapeutic categories, brand versus generic drugs, traditional versus specialty drugs, or specific drug products, the CPI-Rx does not support reporting at the same level of specificity.

Recognition of the differences between the CPI-Rx and the AARP price indices provides a useful comparison. The differences in these two price change measures indicate the impact of manufacturer drug price changes on Medicare Part D enrollees in comparison to the retail price changes for outpatient prescription drugs being purchased by the average urban consumer. The CPI-Rx typically exceeds the rate of general inflation as measured by the CPI-U All Items and the rate of medical care inflation as measured by the CPI-Medical Care. When the CPI-Rx exceeds the rate of general inflation, prescription expenditures of older consumers limited by Social Security income will consume a larger share of that income, leaving less for housing, food, and other goods and services.

NATIONAL HEALTH EXPENDITURES-PRICE INDEX FOR PRESCRIPTION DRUG EXPENDITURES

National health expenditures (NHE) in the United States are tracked and estimated by the Office of the Actuary (Centers for Medicare and Medicaid Services). The NHE are primarily based on provider revenue and government administrative data for health care delivered to the entire U.S. population. The NHE measures annual U.S. expenditures for health care goods and services, including hospitals, physicians, other health providers, prescription drugs, public health activities, program administration, net cost of private insurance, health care research, and other expenditures related to health care.

Retail prescription drug expenditures (NHE-Rx) constitute one component of the NHE accounts.¹² The retail prescription drug account encompasses only prescription drugs purchased through outpatient retail settings, such as community (independent and chain) pharmacies, food and drug stores, mass merchant pharmacies, clinic pharmacies, managed care pharmacies, and certain other outpatient pharmacies. Prescription drugs that are obtained and consumed as part of an office visit to a physician, dentist, or other health provider, or as part of a stay in a hospital or other inpatient facility, are not included in the NHE-Rx. Prescription drugs purchased by the military, the Veterans Administration, prisons, educational institutions, the Public Health Service, public health clinics, and certain other entities are included in other sectors of the NHE, but not in the NHE-Rx estimates.

When estimating the annual retail prescription drug expenditure component of the NHE, a price inflation index (NHE-Rx Price Index) is used based on historical data from actual expenditures. This price growth component of the NHE estimate is intended to reflect

¹² M. Hartman, A. Martin, et al., "National Health Spending in 2007: Slower Drug Spending Contributes to Lowest Rate of Overall Growth Since 1998," *Health Affairs*, 28, no. 1 (Jan.-Feb. 2009): 246-61 (10.1377/hlthaff.28.1.246).

changes in retail prices for prescriptions used in the outpatient U.S. market. The NHE prescription price index is based primarily on the CPI-Rx, with certain adjustments. However, factors such as retail professional fees, manufacturer rebate payments, and the brand versus generic mix of prescriptions and other factors are incorporated as separate components of the NHE retail prescription expenditure estimate and thus are not included in the NHE-Rx Price Index. Therefore, even though the NHE-Rx expenditure estimates take rebates into account, the NHE-Rx Price Index does not. Nonetheless, this price index component of the NHE prescription drug expenditure estimate can serve as a useful measure of retail prescription drug price inflation.

The NHE-Rx Price Index differs from the AARP price indices in several important ways. The NHE-Rx Price Index is a measure of *retail* price change for *outpatient prescriptions* in the U.S. market, while the AARP price indices are measures of *manufacturer* price change for (outpatient) *prescription drug products* widely used by Medicare Part D enrollees. Neither of these measures of prescription drug price change accounts for the effect of rebates, if any; and, except to the extent that rebates are passed through to the consumer or insurer in the actual transaction price, the inclusion of rebates is not particularly relevant to the consumer or end payer. The NHE-Rx Price Index does not support reporting of price change broken down to the level of specific manufacturers, therapeutic categories, brand versus generic drugs, traditional versus specialty drugs, or specific drug products.

Recognition of the differences between the NHE-Rx Price Index and the AARP price indices provides a useful comparison. The differences in these two price change measures indicate the impact of manufacturer drug price changes on Medicare Part D enrollees in comparison to the retail price changes for outpatient prescription drugs being purchased by the average consumer. The NHE-Rx Price Index typically exceeds the rate of general inflation as measured by the CPI-U All Items. When the NHE-Rx Price Index exceeds the rate of general inflation, prescription expenditures of older consumers limited by Social Security income will consume a larger share of that income, leaving less for housing, food, and other goods and services.

PBM PRICE COMPONENT OF DRUG EXPENDITURE GROWTH

Another source of prescription drug price growth data comes from the annual reports released by PBMs. PBMs are companies that administer drug benefit programs for employers and health insurance carriers. Unlike consumers, PBMs have the ability to negotiate rebates or other payments from drug manufacturers. They are able to influence these negotiations through formulary development, utilization management, and the large market share they often represent.¹³ One of the largest PBMs is CVS Caremark,¹⁴ which provides prescription benefit management services to more than 2,000 health plans,

¹³ U.S. Government Accountability Office, *Prescription Drugs: An Overview of Approaches to Negotiate Drug Prices Used by Other Countries and U.S. Private Payers and Federal Programs*, January 2007.

¹⁴ CVS Caremark was chosen solely because it provides overall retail prescription price trend data.

including corporations, managed care organizations, insurance companies, unions, and government entities.¹⁵ Express Scripts and Medco round out the top three PBMs.

Each of the major PBMs publishes an annual drug trend report that describes overall factors influencing the growth in prescription drug expenditures for their clients (employers, unions, or other payers) and the consumers they represent. These reports usually break down total expenditure growth into several factors, such as utilization growth (number of prescriptions per person per year), change in mix of prescriptions (types of prescriptions prescribed and dispensed), price change (based on prices at the manufacturer level), and new drug contribution (accounting for new and innovative drugs entering the market). Each of the top three PBMs reports a manufacturer drug price change factor as one component contributing to growth in drug expenditures each year. These reports, however, do not provide much detail on the method used to calculate this price trend factor, except to say that they are based on manufacturer list prices. Nearly all PBM contracts with public or private payers for providing prescription drugs base the pharmacy's payment on a formula that uses one of the list prices (i.e., average wholesale price or wholesale acquisition cost) reported by manufacturers.¹⁶ "One consequence of these pricing formulas is that increases in manufacturer list prices are passed through to beneficiaries."¹⁷ Although the PBMs may negotiate rebates for certain drugs and they certainly have access to rebate data, they do not incorporate the rebate data into their manufacturer drug price trends.

The PBM price indices have few apparent differences from the AARP price indices. The PBM price indices measure *manufacturer* price change for *outpatient prescriptions* used by consumers covered by their PBM, while the AARP indices are measures of *manufacturer* price change for (outpatient) *prescription drug products* widely used by Medicare Part D enrollees. Neither of these measures of change in prescription drug prices accounts for the effect of rebates, if any; and, except to the extent that rebates are passed through to the consumer or insurer in the actual transaction price, the inclusion of rebates is not particularly relevant to the consumer or end payer. The PBM annual drug trend reports usually report manufacturer drug price trends that are broken down to the level of specific therapeutic categories, brand versus generic drugs, and traditional versus specialty drugs. These reports, however, do not typically report price trends for specific drug manufacturers or specific drug products.

Even though there are few differences between the PBM price trend reports and the AARP price indices, examination of both measures of price change is useful. The primary difference between the AARP reports and the PBM reports on manufacturer price trends is that the type of consumers served and the mix of prescription drugs used by Medicare Part D enrollees versus the average PBM consumer may differ at times. The

¹⁵ CVS Caremark, "Corporate Profile," 2008, <http://phx.corporate-ir.net/phoenix.zhtml?c=99533&p=irol-homeProfile>.

¹⁶ Academy of Managed Care Pharmacy, "AMCP Guide to Pharmaceutical Payment Methods, Comprehensive Edition, Version 1.0," October 2007, p. 10.

¹⁷ U.S. House of Representatives, Committee on Oversight and Government Reform, *Private Medicare Drug Plans: High Expenses and Low Rebates Increase the Costs of Medicare Drug Coverage*, October 2007, p. 15.

manufacturer drug price trends reported by the PBMs are typically quite similar to the rate of inflation found in the AARP price inflation reports for similar sets of drug products (i.e., brand, generic, or specialty drugs). The PBM reports provide an alternative means of estimating the manufacturer drug pricing behaviors, and their overall similarity with the findings in the AARP price indices serves as one means to validate the results.

ANNUAL TRENDS IN MANUFACTURER PRICE CHANGES FOR MOST WIDELY USED PRESCRIPTION DRUGS: AARP TREND IN COMPARISON TO OTHER MEASURES

We provide the AARP price trend for widely used prescription drugs and a comparison to other measures of price change for drugs and other goods and services below.

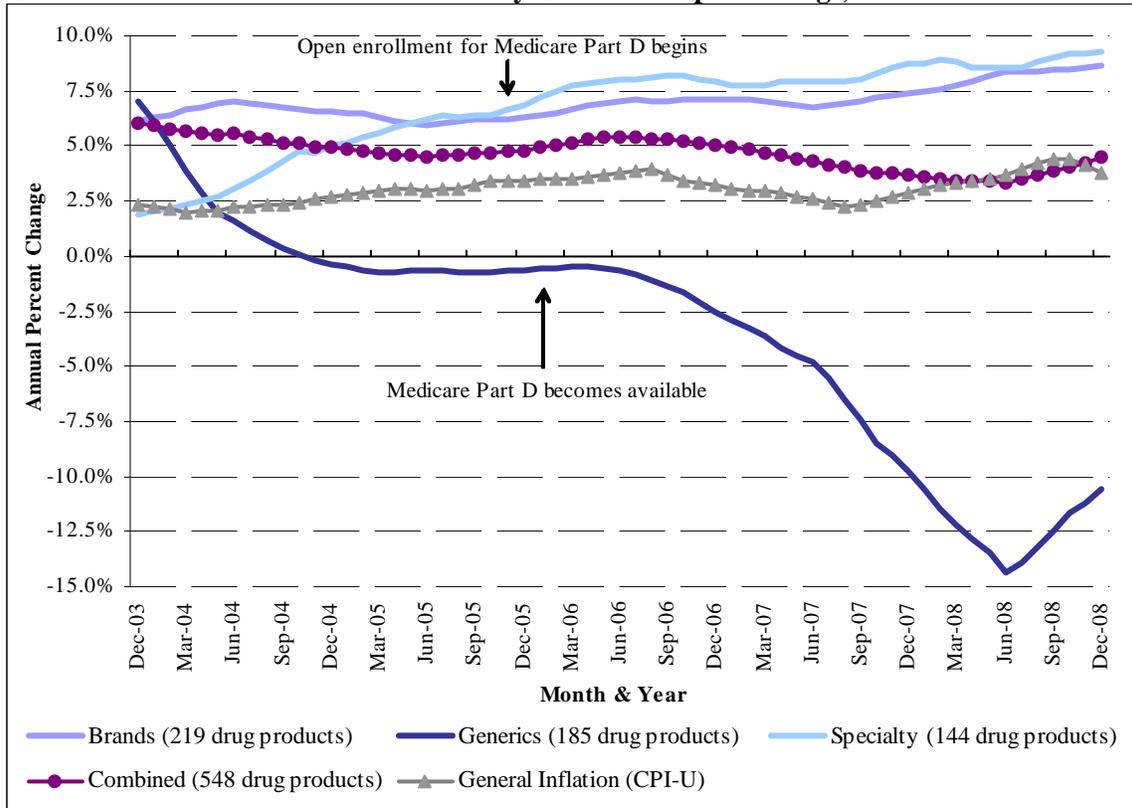
AARP MEASURES OF PRICE CHANGE FOR DRUGS WIDELY USED BY MEDICARE PART D ENROLLEES

The AARP Rx Watchdog reports were designed to track changes in manufacturer prices over time for prescription drugs widely used by Medicare Part D beneficiaries. This report series includes price change measures for (1) brand name drug products; (2) generic drug products; (3) specialty drug products, including both brand and generic versions of specialty drug products; and (4) a combined market basket (brand, generic, and specialty). The Rx Watchdog reports also provide for analyses of other specific price trends, including (1) brand versus generic status of drug products; (2) traditional drug products versus specialty drug products; (3) specific therapeutic categories of drug products; (4) individual drug manufacturers; and (5) individual drug products. The methods and results from each of these price indices have been described in other AARP Public Policy Institute reports.¹⁸

The rates of manufacturer drug price changes for brand, generic, specialty, and combined drug products as measured by the AARP Rx Watchdog reports series are summarized in figure 1.

¹⁸ A more detailed description of the methodology used in these reports is provided in D. Gross, S. Schondelmeyer, and L. Purvis, "Rx Watchdog Report: Trends in Manufacturer Prices of Brand Name Prescription Drugs Used by Medicare Beneficiaries, 2002 to 2007, March 2008, appendix A. This and other AARP Rx Watchdog Reports are available on the AARP website, http://www.aarp.org/research/ppi/health-care/medicare/articles/rx_watchdog.html.

Figure 1: Components of Annual Percent Change in Manufacturer Prices for AARP Combined Market Basket of Most Widely Used Prescription Drugs, 2004 to 2008



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., May 2009).

The annual trends seen for the AARP drug price indices were as follows:

- Brand name drug prices grew 8.7 percent in 2008—the highest rate seen in the period from 2004 through 2008—and more than 2.3 times the rate of general inflation.
- Specialty drug prices grew 9.3 percent in 2008—the highest rate seen in the period from 2004 through 2008—and more than 2.4 times the rate of general inflation.
- Generic drug prices declined 10.6 percent in 2008—they have declined every year from 2005 through 2008—and during the same period the annual rate of general inflation increased from 2.7 to 3.8 percent.

- The AARP combined drug price index grew 4.5 percent in 2008— a slightly smaller increase than in 2004 through 2006, but still 1.2 times the rate of general inflation. The slowed rate of continued growth in drug prices was due entirely to the substantial decrease in generic drug prices (-10.6 percent), while the prices of brand name (8.7 percent) and specialty (9.3 percent) drug products continued dramatic growth at more than twice the rate of general inflation.

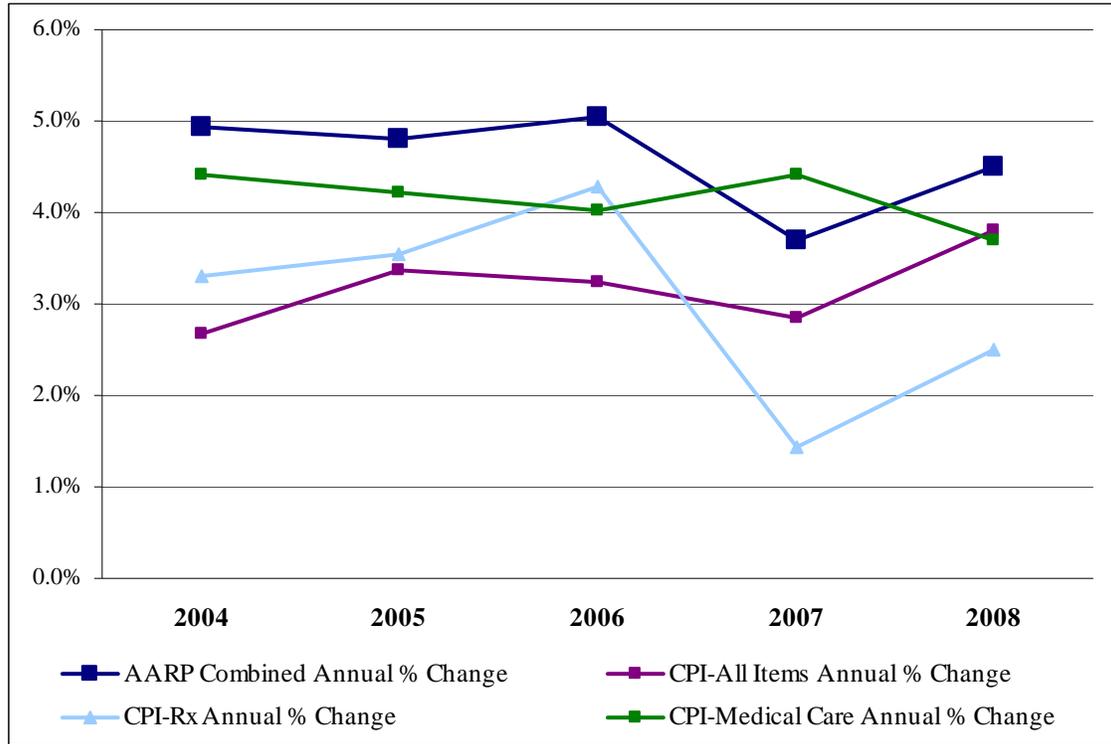
CONSUMER PRICE INDEX MEASURES OF INFLATION

We compared the AARP combined manufacturer drug price index to several measures of inflation from the Consumer Price Index: (1) general inflation measured as the CPI-U All Items, (2) overall medical care inflation measured as the CPI-Medical Care, and (3) retail prescription drug inflation measured as the CPI-Rx (see figure 2). These comparisons show the relative impact of manufacturer drug price changes on the typical consumer compared to price changes in other sets of goods and services.

In comparison to other measures of inflation:

- The AARP combined manufacturer drug price index increased more rapidly than the CPI-U All Items in each of the years 2004 through 2008. The AARP combined index of manufacturer drug prices increased 1.2 times faster than the general rate of inflation for 2008. The CPI-U index grew at a slower rate than the AARP drug price indices largely because the CPI-U includes a representative market basket of all other goods and services purchased by the average urban consumer in addition to prescription drugs. This difference in rate of change reflects the fact that prescription drug prices, on average, rose faster than the prices of other goods and services
- The AARP combined manufacturer drug price index increased more rapidly than the CPI-Medical Care in four of the past five years from 2004 through 2008, but in 2007 the CPI-Medical Care increased more rapidly than the AARP combined manufacturer drug price index. CPI-Medical Care reflects price changes for all medical goods and services being purchased by the average urban consumer—not just prescription drugs. Thus, much like CPI-U, any differences between CPI-Medical Care and the AARP index are likely due to prescription drug prices growing at a different rate (usually faster) than other items in the CPI-Medical Care.
- The AARP combined manufacturer drug price index increased more rapidly than the CPI-Rx in each of the years 2004 through 2008. The AARP combined index of manufacturer drug prices increased 1.8 times faster than the rate of inflation for urban retail prescription drug prices in 2008. The differences between the AARP index and CPI-Rx are most likely related to certain aspects of the previously mentioned CPI-Rx methodology that could result in an underestimation of the overall inflation rate for prescription drugs.

Figure 2: Comparison of Average Annual Change in Manufacturer Prices for Most Widely Used Prescription Drugs to Alternate Measures of Inflation, 2004 to 2008



Note: All calculations based on rolling averages. 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., May 2009) and the Bureau of Labor Statistics, Inflation & Prices, All Urban Consumers (Current Series) Database, 2009.

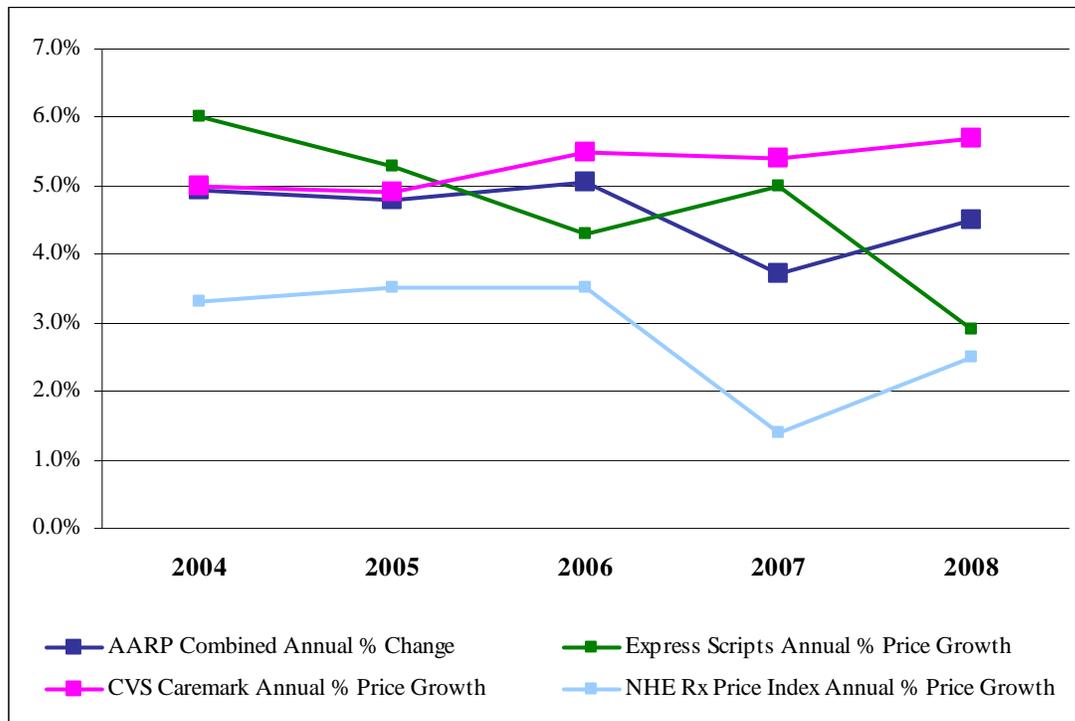
The AARP combined manufacturer drug price index usually shows a higher rate of inflation than do the CPI-All Items, the CPI-Medical Care, and the CPI-Rx. However, in 2007 the CPI-Medical Care inflation rate accelerated while the AARP combined manufacturer drug price index slowed modestly, due solely to lower prices for generic drugs. Even the CPI-Rx showed a dramatic deceleration in price growth, again due primarily to lower generic prices and to a number of major brand drug products that had first generic market entry. Among the major brand name drug products with first generic entry between 2006 and 2008 were Flonase, Pravachol, Zocor, Proscar, Zolof, Toprol XL, Ditropan XL, Wellbutrin XL, Norvasc, Fosamax, Protonix, and Ambien.¹⁹

¹⁹ Medi-Span Price-Chek PC (Indianapolis, IN: Wolters Kluwer Health Inc., May 2009) and the Bureau of Labor Statistics, Inflation & Prices, All Urban Consumers (Current Series) Database, 2009.

OTHER MEASURES OF DRUG PRICE INFLATION

We also compared the AARP combined manufacturer drug price index to several other measures of drug price inflation: (1) the NHE-Rx Price Index, (2) the CVS Caremark drug price inflation measure, and (3) the Express Scripts drug price inflation measure (see figure 3). These comparisons show the relationships among several similar measures of manufacturer drug price inflation for various populations covered by drug insurance. As figure 3 shows, the AARP average annual change in manufacturer drug prices has consistently exceeded the price growth seen in the NHE-Rx Price Index. The PBM drug price inflation measures (CVS Caremark and Express Scripts) have also routinely exceeded the price growth shown in the NHE-Rx Price Index.

Figure 3: Comparison of Average Annual Change in Manufacturer Prices for Most Widely Used Prescription Drugs to Alternate Measures of Prescription Drug Price Growth, 2004 to 2008



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., May 2009), Caremark (Annual Trends Rx Reports, 2005-2009), Express Scripts (Annual Drug Trend Report, 2004-2008), and National Health Expenditure data (Spending Projections, 2004-2008).²⁰

²⁰ P. Ginsburg et al., “Tracking Health Care Costs: Continued Stability but at High Rates in 2005,” *Health Affairs*, 25: w486–w495; J.A. Poisal et al., “Health Spending Projections Through 2016: Modest Changes Obscure Part D’s Impact,” *Health Affairs*, 26, no. 2: w242–w253; S. Keehan et al., “Health Spending Projections Through 2017: The Baby-Boom Generation is Coming to Medicare,” *Health Affairs*, 27 no. 2: w145–w155; and A. Sisko et al., “Health Spending Projections Through 2018: Recession Effects Add Uncertainty to the Outlook,” *Health Affairs*, 28, no. 2: w346–w357.

In comparison to other measures of prescription drug price inflation:

- The AARP combined manufacturer drug price index increased at a similar rate to the PBM drug price measures in 2004 through 2007, and in 2008 the AARP combined manufacturer drug price index increased at a rate (4.5 percent) that fell between the CVS Caremark price growth rate (5.7 percent) and the Express Scripts price growth rate (2.9 percent).
- The AARP combined manufacturer drug price index increased at a similar rate to the drug price measures of the PBMs, with all of these measures increasing at 4 percent or more in 2004, 2005, and 2006.
- The AARP combined manufacturer drug price index and the PBM drug price measures all increased more rapidly than the NHE-Rx Price Index in all five years from 2004 through 2008.
- The AARP combined manufacturer drug price index increased 1.8 times faster than the NHE-Rx Price Index in 2008, and the CVS Caremark and Express Scripts drug price measures increased 2.3 and 1.2 times faster, respectively, than the NHE-Rx Price Index in 2008.

CONCLUSION

There are various measures of general and drug price inflation that can provide useful comparative information about changes in drug prices over time. Most of the drug price indices have shown a slightly lower rate of growth in 2007 and 2008 than in 2004 through 2006. Variations among the indices are most likely related to differences in what is being measured and in methodology—that is, how the calculations are performed.

The AARP combined drug index showed rates of price growth similar to those of other measures of drug price change over the past five years; however, only the AARP reports showed the role of continued dramatic growth in brand name (8.7 percent) and specialty (9.3 percent) drug prices versus the substantial decline (-10.6 percent) in generic drug prices. The slowed rate of continued growth in drug prices overall was due entirely to the substantial decrease in generic drug prices, while the prices of brand name and specialty drug products continued growth at more than twice the rate of general inflation.

The price measures used in the AARP Public Policy Institute's Rx Watchdog reports offer a uniquely comprehensive perspective not provided by other drug price change measures. Nevertheless, the choice of a price change measure is not so much a matter of which measure is better or worse, but rather of what question is being asked and what the index actually measures.