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## Why Are Prescription Drug Costs Rising?

By David H. Kreling, David A. Mott, & Joseph B. Wiederholt

**T**his chapter explains why spending on prescription drugs has been one of the fastest-growing health care costs in the last decade, with increases exceeding 10 percent annually in all but two years.

*Between 1993 and 1998, three factors have driven the increases in prescription drug spending: increased drug use (43%), changes in use to newer higher-cost drugs (39%), and price increases by manufacturers for existing drugs (18%). About 31% of Medicare beneficiaries and 23% of non-Medicare beneficiaries had no drug coverage in 1996. Low-income families who aren't eligible for Medicaid are most likely to be without drug coverage.*

The number one issue before state legislatures in 2001 will be access to prescription drug coverage, according to participants at a recent conference sponsored by the National Conference of State Legislatures. In the next 8 years, state and local expenditures for state prescription drug programs outside of Medicare or Medicaid will jump from \$10 to \$24 billion, according to the Health Care Financing Administration. To date, 22 states have already passed prescription drug legislation and the issue is high on the agenda of many Wisconsin legislators. This chapter addresses why states are so interested in prescription drugs and provides answers to questions that policymakers often ask about this issue.

Americans increasingly look to medications to maintain or improve their health. However, increasing concerns have arisen around the rising costs of prescription drugs and the impact these costs have had on health plans, employers, and uninsured or under-insured individuals.

The Kaiser Family Foundation has developed a Chartbook on Prescription Drug Trends that provides information about trends in prescription drug coverage, spending, prices, use, and the structure of the industry. This chapter is a brief overview of the chartbook.

### What Are the Recent Trends in Prescription Drug Spending?

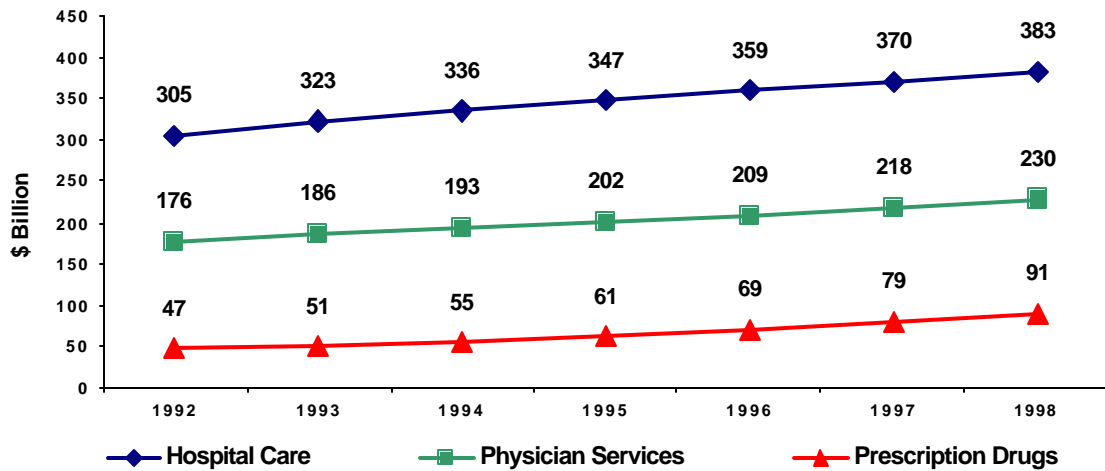
Spending on prescriptions has been one of the fastest-growing components of health care spending in the past decade. This growth has drawn attention to prescription drugs, although they represent only 9% of total personal health care spending.

National spending on prescription drugs totaled \$91 billion in 1998, and is expected to reach \$243 billion in 2008. Although spending on all types of health care continues to increase, drug spending is increasing more quickly.

***Prescription drugs have been one of the fastest growing components of health care spending.***

The \$10 billion annual increase on spending for drugs between 1995 and 1998 is similar to the dollar increases in physician costs and hospital care, although overall spending on these two services are more than double and triple, respectively, the total amount spent on drugs (Figure 1). Between 1995 and 1998, prescription spending grew nearly 50%, while spending on physician services grew by 14% and spending for hospital care grew 10%.

**Figure 1. National Health Expenditures for Prescription Drugs, Hospital Care, and Physician Services, 1992-1998**

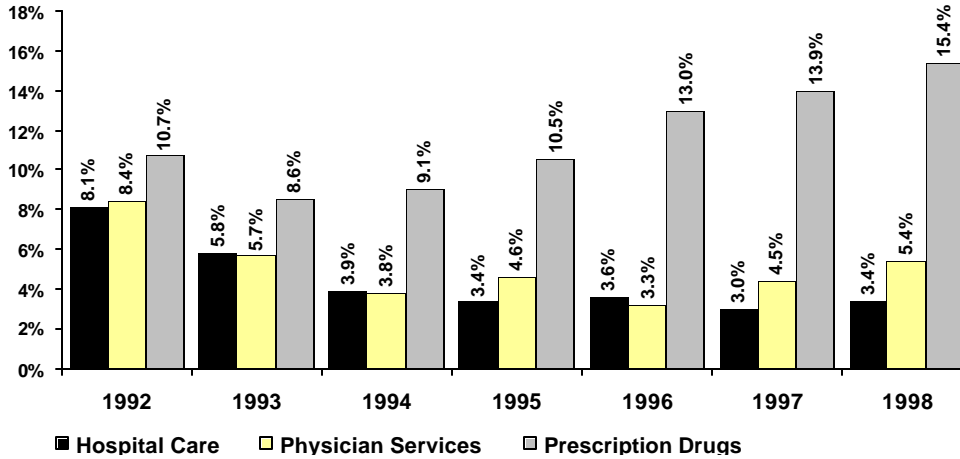


Note: Expenditures for prescription drugs are limited to those purchased from retail outlets such as community or HMO pharmacies, grocery store pharmacies, mail order pharmacies, etc. The value of prescription drugs provided to patients by hospitals as part of a hospital stay, by nursing homes as part of care in a nursing home, or provided by physicians in their offices are not included in prescription drugs but are included in those respective expenditure categories. Consequently, the expenditures for prescription drugs shown here are underestimated and may differ from other estimates (e.g., prescription drug sales by manufacturers estimated by market research firms).

Source: Health Care Financing Administration (HCFA), Office of the Actuary, National Health Statistics Group, HCFA web site: [www.hcfa.gov](http://www.hcfa.gov), 10 January 2000.

The rate of increase in prescription spending has surpassed increases in most other components of personal health care in the past decade, exceeding 10 percent annual increases in all but two years (See Figure 2). In the past five years, the increases in prescription spending have been two to four times the percent increases in other major health care components.

**Figure 2. Annual Percentage Change in Selected National Health Expenditures, 1992-1998**



Note: Percent calculated as percent change from the previous year's amount.

Source: Health Care Financing Administration (HCFA), Office of the Actuary, National Health Statistics Group, HCFA web site: [www.hcfa.gov](http://www.hcfa.gov), 10 January 2000.

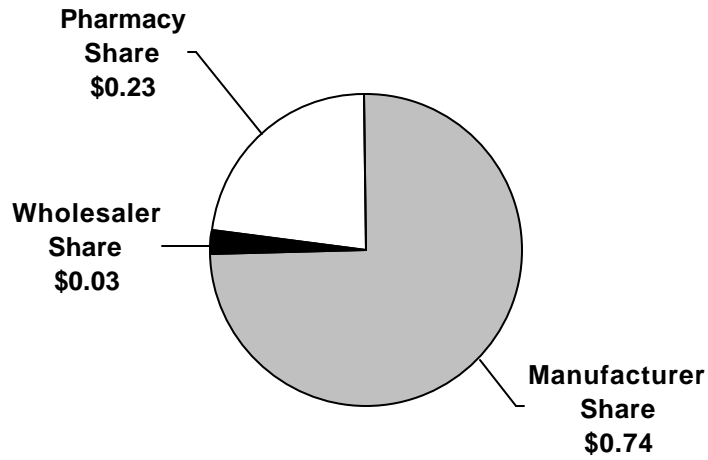
### What Factors Drive Prescription Drug Spending?

Increases in prescription drug spending are affected by three primary factors: price increases, increases in use, and changes in the types of drugs used.

**Price Increases.** The players involved in developing, marketing, and selling prescription drugs include the manufacturer who produces the drug, wholesalers who distribute drugs, pharmacies that dispense the drugs, and ultimately, consumers. Figure 3 shows that when a pharmacy sells a drug, 74 cents of each dollar goes to the manufacturer, the wholesaler gets about 3 cents, and the pharmacy gets the remaining 23 cents.

***Prescription drug spending is driven by price increases, increases in use, and changes in the types of drugs used.***

**Figure 3. Distribution of a Dollar of Revenue from a Retail Prescription, 1998**

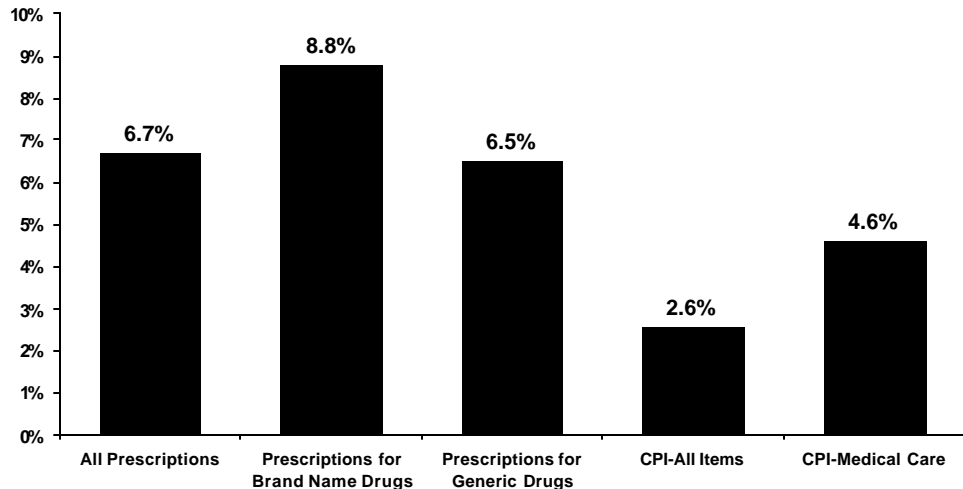


Note: From each dollar of prescription sales, \$0.74 goes to the manufacturer for producing the drug, \$0.03 goes to the wholesaler for distributing the drug, and \$0.23 goes to the pharmacy for dispensing the drug.

Source: National Association of Chain Drug Stores (NACDS), based on data on file, December 1999.

The average annual percent change in retail prescription drug prices from 1991 to 1998 was 6.7% overall, higher than the average rate of inflation of 2.6%, and the average increase of 4.6% for medical care (Figure 4). Prices for brand name drugs grew an average of 8.8% per year, compared with 6.5% for generic drugs. The year-to-year price change for existing drugs have been relatively small compared to the changes in national expenditures for prescription drugs or average retail price.

**Figure 4. Average Annual Percent Change in Retail Prescription Prices vs. Consumer Price Index, 1991-1998**

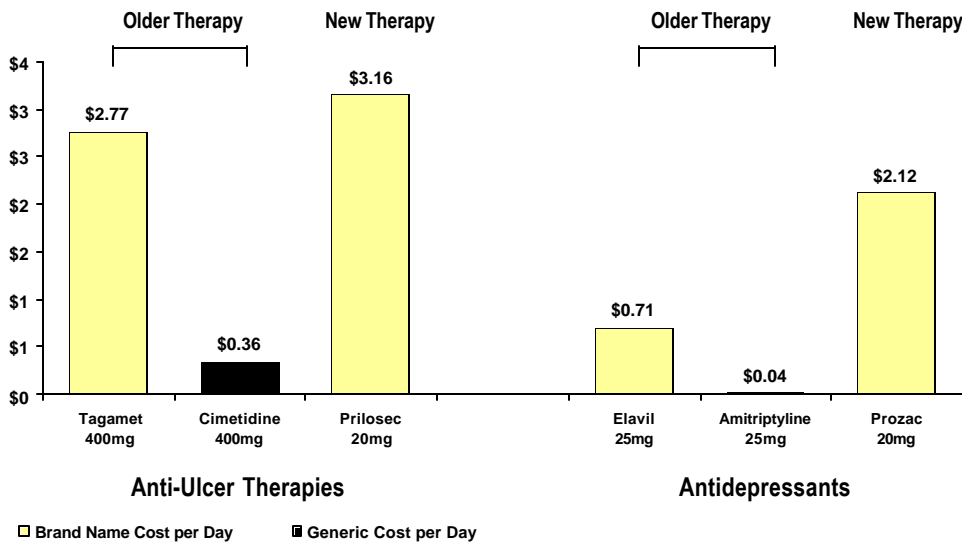


Note: CPI = Consumer Price Index for all urban consumers.

Source: Scott-Levin, Source Prescription Audit; and Bureau of Labor Statistics.

The average retail price for brand name drugs has been about three times that of generic drugs. Sometimes, the cost difference is dramatic. Figure 5 shows that the cost a pharmacy pays for the brand name drug Tagamet, an anti-ulcer drug, is nearly 8 times higher than for the generic version, Cimetidine. Among drugs for depression, the brand name Elavil costs nearly 18 times more than the generic version, Amitriptyline.

**Figure 5. Cost of Old and New Therapies, Anti-Ulcer and Antidepressant Medications, 1999**



Source: Sonderegger Research Center analysis, based on:

Brand name cost estimated as Average Wholesale Price (AWP) listed in Drug Topics' *Red Book* price reference, less 18.3% (based on a DHHS Office of Inspector General report on pharmacy acquisition costs for drugs reimbursed under Medicaid that found the difference between AWP and the prices retail pharmacies pay for brand name drugs was 18.3%, OIG report A-06-96-00030, April 1997).

Generic drug cost based on HCFA Medicaid payment amount (Federal Upper Limit) published on the HCFA web site, www.hcfa.gov, December 1999.

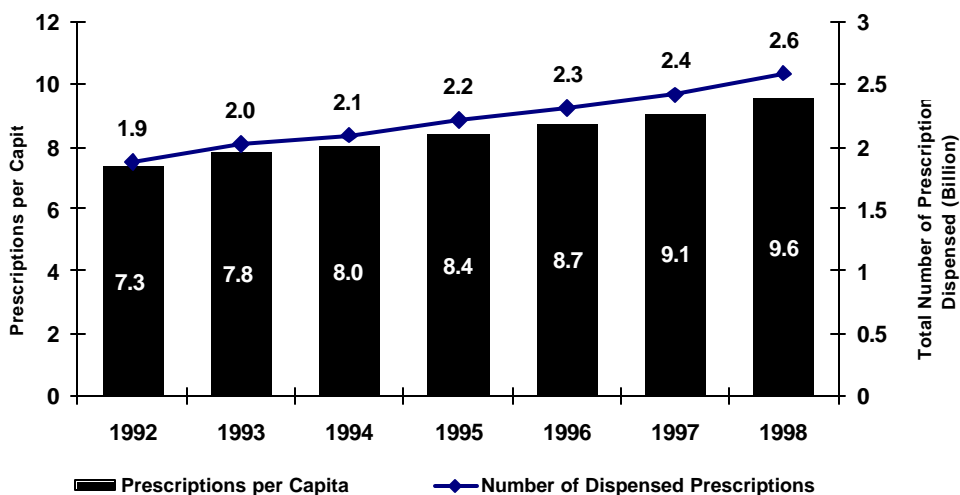
***Brand name drugs cost about three times more than generic drugs.***

New approaches in drug treatment typically cost more than older ones. Among antidepressants, the newer drug Prozac — a selective serotonin reuptake inhibitor or SSRI — is almost 3 times more costly than the previous popular treatment, Elavil—a tricyclic antidepressant.

**Trends in Usage.** The increasing number of overall prescriptions dispensed each year is one of the main factors contributing to rising drug spending. Factors that, in turn, increase prescription drug use include population growth, the aging of the population, an increased number of prescribers, and promotion of prescription drugs to stimulate demand.

Americans use, on average, about 10 prescriptions per year (Figure 6). Between 1992 and 1998, the total number of prescriptions dispensed increased 37%, while the average number per person increased 32%. During the same time, the U.S. population grew only 6%.

**Figure 6. Total Prescriptions Dispensed and Prescriptions per Capita, 1992-1998**



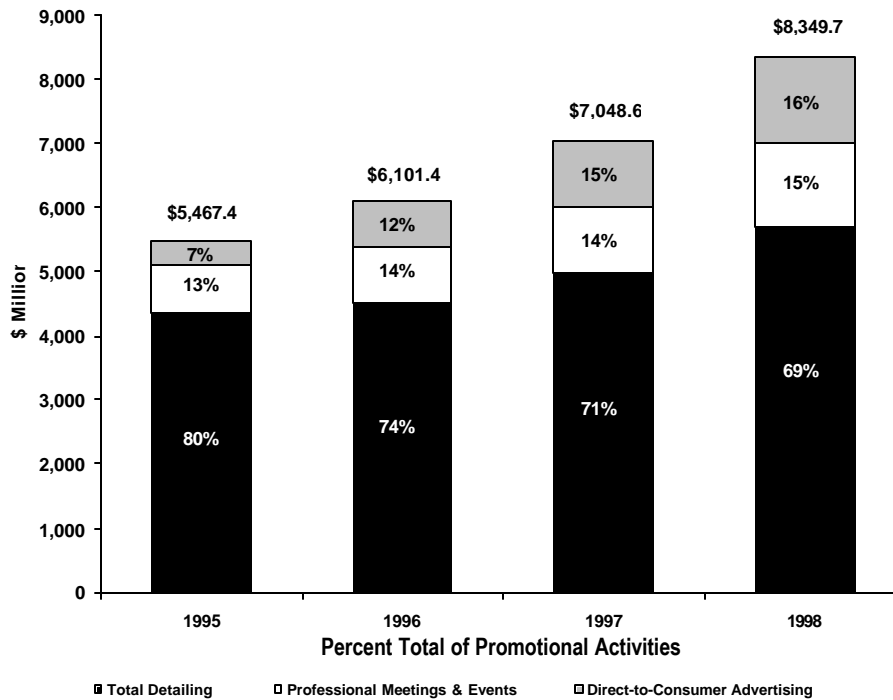
Source: U.S. Census Bureau; and IMS Health, Inc., [National Prescription Audit](#).

The proportion of the U.S. population 45 years old and older grew from 31% to 34% in the past 15 years. The median age in the U.S. in 1998 was 35. Between the ages of 45 and 75, prescription use nearly triples, from an overall average of 4.3 to 11.4 prescriptions per person each year.

Manufacturers promote drugs in several ways, including sales calls to physician offices and hospitals that include free samples; journal advertising; displays and presentations at professional meetings; and, more recently, direct advertising to consumers. In addition, manufacturers often negotiate rebates with insurers and health plans in exchange for incentives to use the manufacturer’s drugs.

The largest part of promotional spending continues to be “detailing,” where a company representative makes personal sales calls and may leave samples. However, direct consumer promotion more than tripled from 1995 to 1998, from almost \$400 million to \$1.3 billion (Figure 7).

**Figure 7. Promotional Spending by Pharmaceutical Manufacturers, 1995-1998**



Notes:

**Detailing** includes expenses for competitive personal selling activity (sales calls) to office-based and hospital-based physicians, including the value of samples.

**Professional Meetings & Events** includes expenses for sponsoring or conducting small and large group meetings, symposia, third-party marketing events, and tele/video conferences.

**Direct-to-Consumer** includes expenditures for magazine, newspaper, radio, and TV advertising targeted toward consumers.

Source: Scott-Levin.

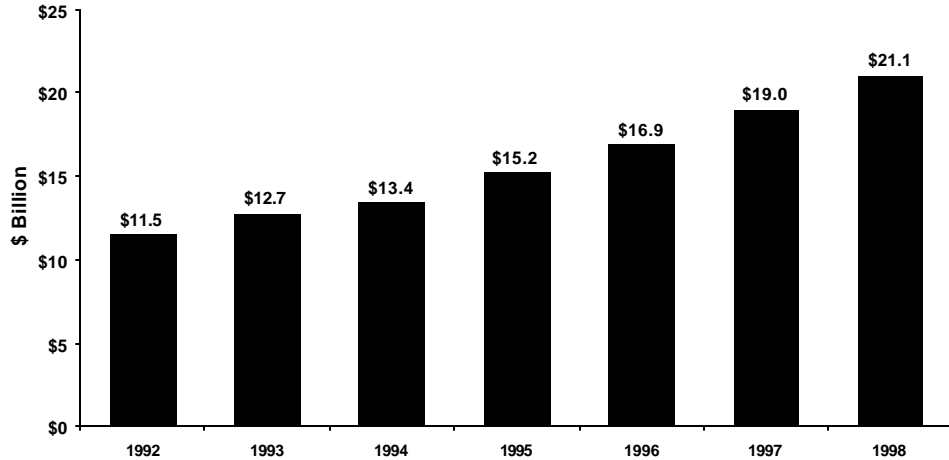
**Changes in Type of Drugs Used.** Because newer drugs are more expensive than older ones, those on the market fewer than 10 years accounted for 75% of the Top 20 drugs by sales. However, these newer drugs comprised only 45% of the Top 20 drugs when ranked by number of prescriptions filled.

New products are available as the result of research by major manufacturers that emphasize research and brand name drugs. Domestic and foreign spending by manufacturers for research and development increased from \$11.5 billion in 1992 to \$21.1 billion in 1998 (see Figure 8). However, research and development as a percentage of sales has remained relatively flat since the mid 1980s. Research and development is a relatively small proportion of total firm sales for both major (11%) and generic drug manufacturers (6%). Among the top 10 major drug companies, research and development spending is less than half of net profit before taxes.

***Historically, drug manufacturers have been the most profitable U.S. industry.***

Drug manufacturers historically have been the top ranking U.S. industry for profits as percent of revenue (Figure 9). In 1999, drug company net profits were nearly 19%, compared with a median of 5% for all Fortune 500 firms.

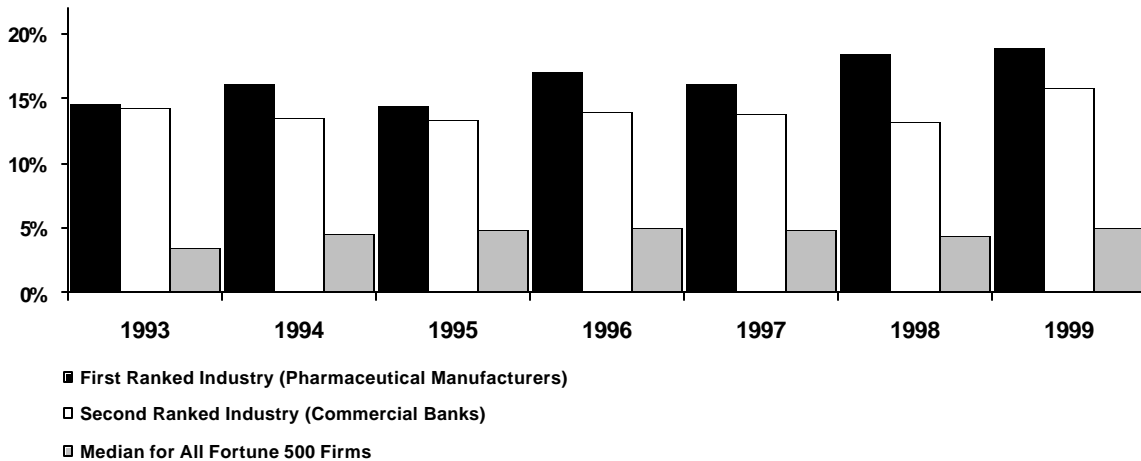
**Figure 8. Research & Development Expenditures for Prescription Drugs by U.S. Pharmaceutical Manufacturers, 1992-1998**



Note: Research and development expenditures for prescription pharmaceuticals only. Includes total expenditures (within the U.S. and abroad) by U.S.-owned research-based pharmaceutical companies (major pharmaceutical firms). Since 1990, foreign expenditures comprised approximately 19% of total research and development expenditures.

Source: Pharmaceutical Research and Manufacturers of America (PhRMA).

**Figure 9. Profitability Among Pharmaceutical Manufacturers Compared to Other Industries, 1993-1999**



Note: Percent shown is the median percent net profit after taxes as a percent of firm revenues for all firms in the industry. The second ranked industry each year was commercial banks.

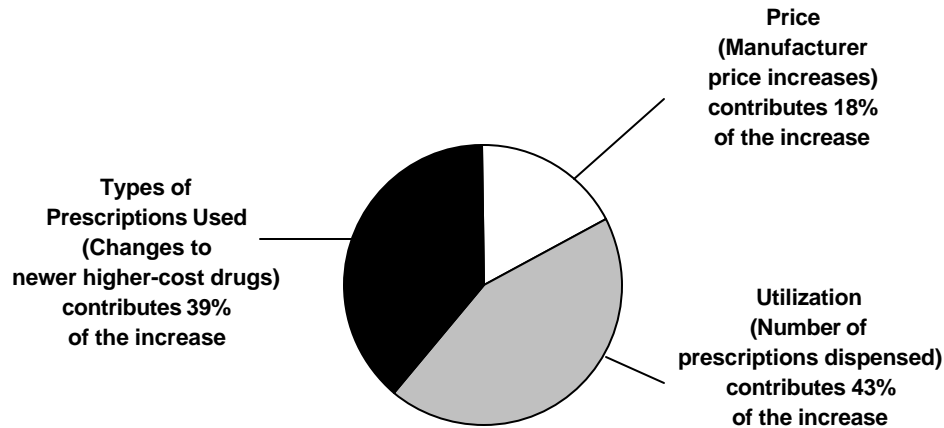
Source: *Fortune*, Fortune 500 Industry Rankings.



## How Can We Explain Increases in Drug Spending?

Price inflation, in the form of price changes by manufacturers for existing drugs, has contributed only 18 percent of the increase in prescription drug spending from 1993 to 1998 (Figure 10). The rest of the increase in spending is the result of increased use (43%), and changes in use to newer, higher-cost drugs (39%).

**Figure 10. The Relative Contributions of Price, Utilization, and Types of Prescription Drugs Used in Rising Prescription Drug Expenditures, 1993-1998**



Note: Between 1993 and 1998 the cumulative percent changes in price, utilization, and types of prescriptions used were 11.4%, 28.1%, and 25.4% respectively.

Source: Sonderegger Research Center analysis, based on data from Health Care Financing Administration (HCFA) and IMS Health, Inc.

The introduction and use of newer, more expensive drugs is influencing the average prescription price paid by both consumers and health plans much more than year-to-year price changes made by companies for existing products.

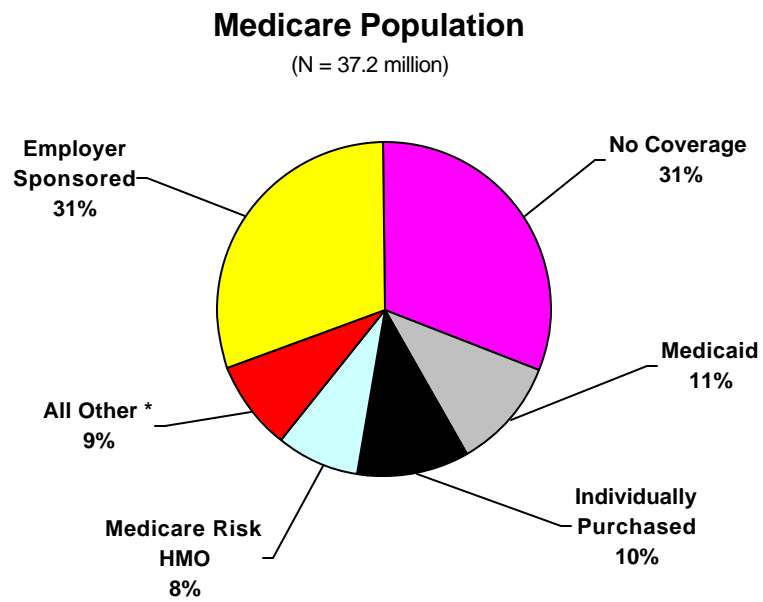
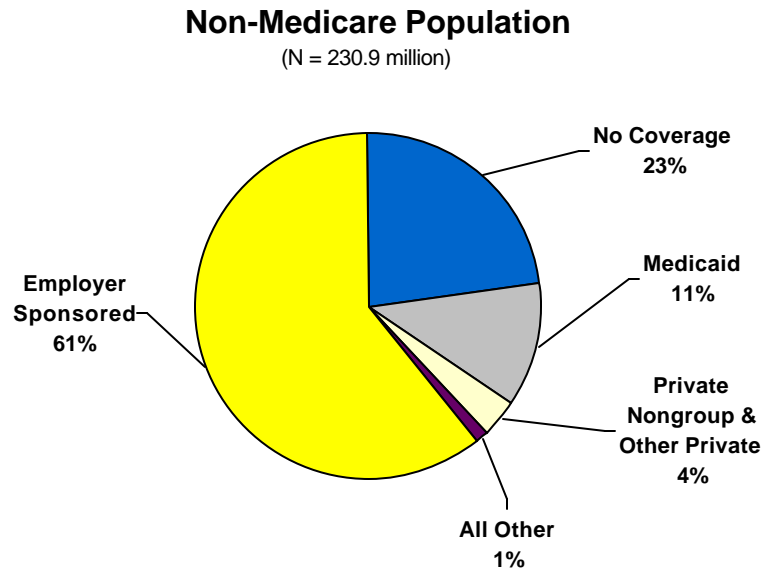
## Who Has Prescription Drug Coverage and How Is It Provided?

More than three-quarters, or 77 percent, of Americans who aren't covered by Medicare had prescription drug coverage in 1996, mostly through their employers (61%), followed by Medicaid (11%); those without prescription coverage (23% or over 53 million people) typically have no health insurance at all (Figure 11). Low-income families who aren't eligible for Medicaid (between 100% and 200% of the Federal Poverty Level) are most likely to be without drug coverage.

Of Medicare beneficiaries, 31% or 11.5 million seniors had no drug coverage in 1996. Because Medicare does not cover outpatient prescriptions, coverage came through employers (31%), Medicaid (11%), individual plans (10%), Medicare risk HMOs (8%), or other sources (9%) as shown in Figure 11. Only 53% of Medicare patients had drug coverage the entire year. People with Medicare who are just above the poverty level, very old, and living in rural areas are most likely to have no drug coverage.

***Low-income families who aren't eligible for Medicaid are most likely to be without drug coverage.***

**Figure 11. Insurance Coverage for Prescription Drugs, 1996**



\* All other within the Medicare population includes persons who switched coverage at some time during the year, totalling 7.3% of beneficiaries.

Source: U.S. Department of Health and Human Services; and Paisal, J.A., and Chulis, G.S., *Health Affairs*, March/April, 2000.

## What Are the Primary Sources of Prescription Drug Coverage?

Most Americans get their prescription drug coverage through employers. About two-thirds have employment-based health care coverage, and prescription drug coverage is now common for employees of both small and large firms who have health care coverage. Insured workers with drug coverage increased from 91% in 1988 to 99% in 1999.

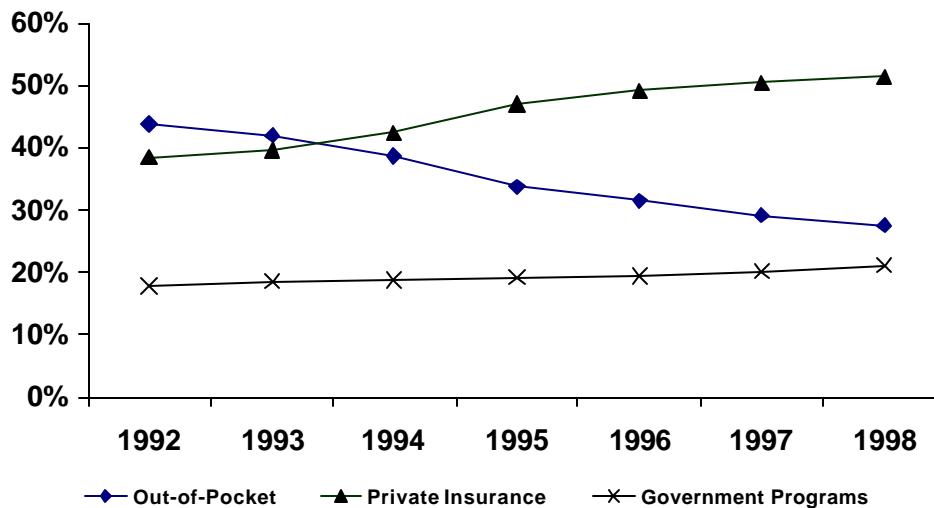
Medicaid is the largest source of public coverage for prescription drugs, covering 11% of Americans in 1996. The Medicaid program in every state provides prescription drug coverage. The Medicaid program may also cover some low-income elderly in the Medicare program.

***Most Americans get prescription drug coverage through employers.***

## How Much Do Consumers Pay?

Since 1992, the proportion of drug costs paid by consumers has decreased from 44% to 28% of total spending, while the share paid by private insurers increased from 38% to 51% (see Figure 12). The share of prescription drug payments by government programs has increased slightly, from 18% to 21%.

**Figure 12. Percent of Total National Prescription Drug Expenditures by Consumer, Private Insurers, and Government, 1992-1998**



### Notes:

Out-of-pocket expenditures - all direct spending by consumers for prescription drugs, such as copayments, coinsurance amounts, deductibles, and amounts not covered by an insurer. Does not include out-of-pocket premiums for health insurance.

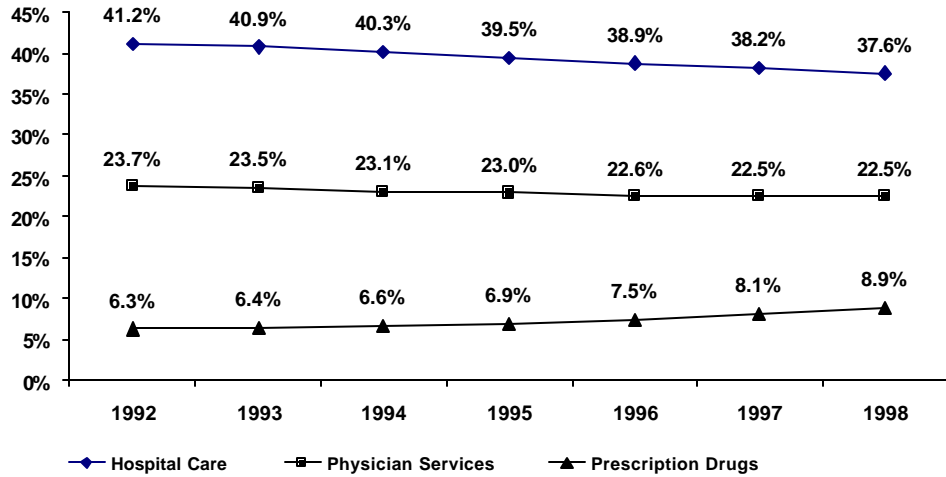
Government Programs - Federal, State, and local spending for prescription drugs. Government includes Medicaid, Medicare, Department of Defense, Veterans Administration, Indian Health Service, state and local hospitals, and public assistance programs.

Private Insurance - payments made by private insurers for prescription drugs for covered beneficiaries.

Source: Health Care Financing Administration (HCFA), Office of the Actuary.

Expenditures for prescription drugs is still just 9% of total personal health care expenditures, but the proportion for drugs has been rising steadily as shown in Figure 13.

**Figure 13. Prescription Drugs, Hospital Care, and Physician Services as a Percent of Personal Health Care Expenditures, 1992-1998**



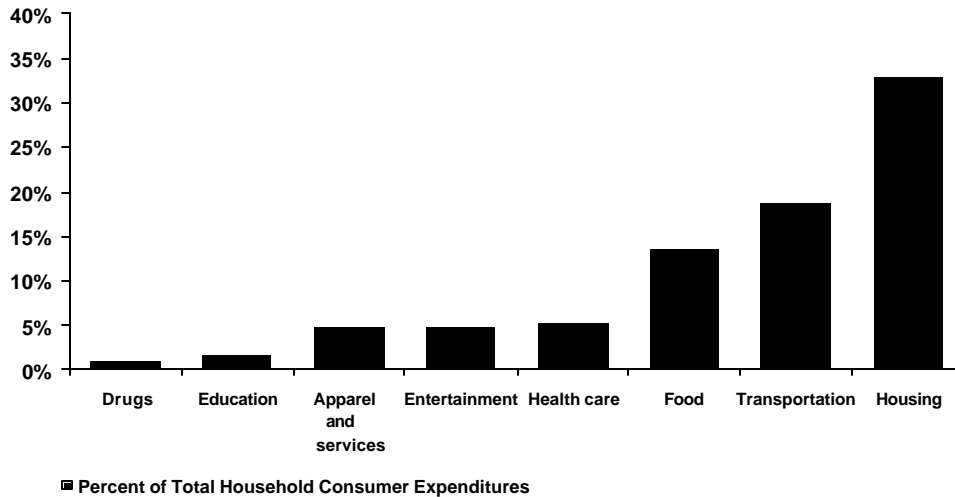
Note: Expenditures for prescription drugs are limited to those purchased from retail outlets such as community or HMO pharmacies, grocery store pharmacies, mail order pharmacies, etc.

Source: Health Care Financing Administration (HCFA), Office of the Actuary.

Compared with spending on other household goods and services, drugs play a small role at about 1% for the average American (see Figure 14). However, older Americans spend more on prescriptions, both in dollars and as a proportion of their household budget. People 65 and older spend 2.7% of their total household budget on prescription drugs.

***On average, 1% of spending on household goods and services is for prescription drugs.***

**Figure 14. Percentage of Consumer Expenditures  
for Selected Categories of Household Goods Purchased,  
1998**



Note. Percents are based on total household expenditures for all goods and services.

Source: Bureau of Labor Statistics (BLS), Consumer Expenditure Surveys, 1998.

## Conclusion

Increased expenditures for prescription drugs are a complex phenomenon. Many factors contribute to the growth, including treatment advances from research and development, promotion of products in traditional and new ways, an aging population with more needs for prescription drugs, and increased insurance coverage for prescriptions. These factors and others contribute to the changes in price, utilization, and types of drugs used that drive expenditures for prescription drugs.

*Adapted with permission from “Prescription Drug Trends: A Chartbook,” an analysis by the Kaiser Family Foundation authored by David H. Kreling, David A. Mott, and Joseph B. Wiederholt of Sonderegger Research Center of the University of Wisconsin-Madison and Janet Lundy and Larry Levitt of the Kaiser Family Foundation. The full report can be obtained from the Kaiser Family Foundation web site at [www.kff.org](http://www.kff.org) or by requesting Publication #3019 from the Kaiser Family Foundation Publication Request Line at 1-800-656-4533.*

This chapter was presented at the seminar by Professor David A. Mott who received his B.S. degree in pharmacy from the University of Wisconsin. He received his M.S. and Ph.D. degrees in pharmacy administration from the University of Wisconsin. Before joining the Wisconsin faculty in 1998, he was a faculty member at the Ohio State University College of Pharmacy. His research interests include pharmacy labor economics, the role of prescription drug insurance in drug therapy decision making, and employer-employee decision making regarding health insurance. Dr. Mott is also a licensed pharmacist in Wisconsin.