Prescription Drug Cost Sharing

A Powerful Policy Lever to Use with Care

RAND RESEARCH AREAS
CHILDREN AND FAMILIES
EDUCATION AND THE ARTS
ENERGY AND ENVIRONMENT
HEALTH AND HEALTH CARE
INFRASTRUCTURE AND TRANSPORTATION
INTERNATIONAL AFFAIRS
LAW AND BUSINESS
NATIONAL SECURITY
POPULATION AND AGING
PUBLIC SAFETY
SCIENCE AND TECHNOLOGY
TERRORISM AND HOMELAND SECURITY

Over the past decade, the cost of prescription drugs has been rising at about 10 percent per year. In an attempt to control costs, many employers and insurers have modified pharmacy benefit designs to steer patients and physicians toward lower-cost drugs and to reduce overall drug spending. A common approach is to assign pharmaceuticals to different tiers—for example, generic, preferred brand drugs, and non-preferred brand drugs; the patient's co-payment depends on the tier to which a drug is assigned.

Although these new cost-sharing arrangements are being widely adopted, little was known initially about how they would affect drug costs and use, overall health care costs, and patient health. A RAND team of economists, led by Dana Goldman and Geoffrey Joyce, explored these issues in a series of studies, examining a wide array of benefit designs offered by many different employers. Many of the studies draw on a unique database assembled by the team, linking health care claims to the benefits of specific plans; the database contains several million person-years of data on beneficiaries enrolled in health plans from more than 40 private employers.

Overall, the analysts found that increased cost sharing does reduce drug use substantially, although differentially, depending on the type of

Key findings:

- **Lowering drug prices by reducing co-payments is a powerful way to improve compliance with drug therapy and manage treatment of chronic illness.**
- **Increasing co-payments in lockstep with rising prices can have a detrimental effect on patient health, and in some cases increases overall health care costs.**
- **What is needed is a more nuanced approach that recognizes the link between the design of drug benefits and population health.**

This Highlight summarizes RAND Health research reported in the following publications:

Goldman DP, Joyce GF, Escarce JJ, Pace JE, Solomon MD, Laouri M, Landsman PB, and Teutsch SM, "Pharmacy Benefits and the Use of Drugs by the Chronically Ill," *Journal of the American Medical Association*, Vol. 291, No. 19, May 18, 2004, pp. 2344–2350.

Goldman DP, Joyce GF, and Karaca-Mandic P, "Varying Pharmacy Benefits with Clinical Status: The Case of Cholesterol-Lowering Therapy," *American Journal of Managed Care*, Vol. 12, No. 1, January 2006, pp. 21–28.

Joyce GF, Escarce JJ, Solomon MD, and Goldman DP, "Employer Drug Benefit Plans and Spending on Prescription Drugs," *Journal of the American Medical Association*, Vol. 288, No. 14, October 9, 2002, pp. 1733–1739.

Joyce GF, Goldman DP, Karaca-Mandic P, and Zheng Y, "Pharmacy Benefit Caps and the Chronically Ill," *Health Affairs*, Vol. 26, No. 5, September/October 2007, pp. 1333–1343.

Joyce GF, Goldman DP, Vogt WB, Sun E, and Jena AB, "Medicare Part D After 2 Years," *American Journal of Managed Care*, Vol. 15, No. 8, August 7, 2009, pp. 536–544.

Solomon MD, Goldman DP, Joyce GF, and Escarce JJ, "Cost Sharing and the Initiation of Drug Therapy for the Chronically Ill," *Archives of Internal Medicine*, Vol. 169, No. 8, April 27, 2009, pp. 740–748.

This product is part of the RAND Corporation research brief series. RAND research briefs present policy-oriented summaries of published, peer-reviewed documents.

Corporate Headquarters
1776 Main Street
P.O. Box 2138
Santa Monica, California
90407-2138
TEL 310.393.0411
FAX 310.393.4818

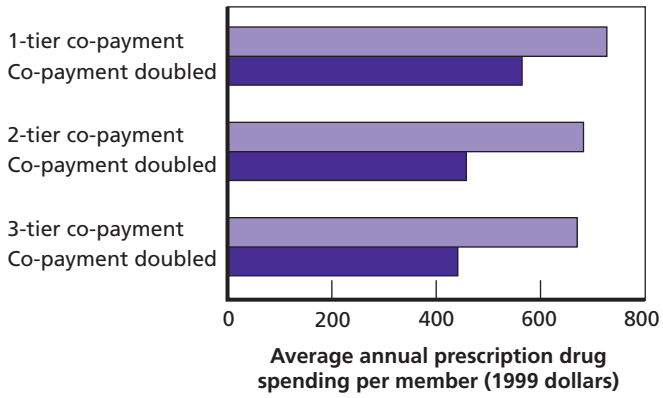
drug. However, they also found considerable evidence that increased cost sharing has detrimental effects on patient health.

How Does Increased Cost Sharing Affect Overall Drug Spending?

An initial study explored how various drug benefit designs affected overall spending on drugs. The analysts found that increasing a patient's co-payment, whatever the benefit design, significantly reduced annual drug spending (see Figure 1). For example, increasing the co-payment for all drugs from $5 to $10 reduced annual average drug spending from $725 to $563 per member, about 22 percent. Doubling co-payments in plans with two or three tiers reduced average annual spending by about one-third.

The cost savings accrued primarily to health plans, not patients. Even though co-payments increased, patients' overall costs remained about the same because patients used fewer prescription drugs. But the share of drug spending borne by patients versus health insurance plans changed dramatically. For example, doubling co-payments in two-tier plans increased the fraction of drug costs that members paid from 18 to 26 percent.

Figure 1
Doubling Co-Payments Decreased Overall Drug Spending



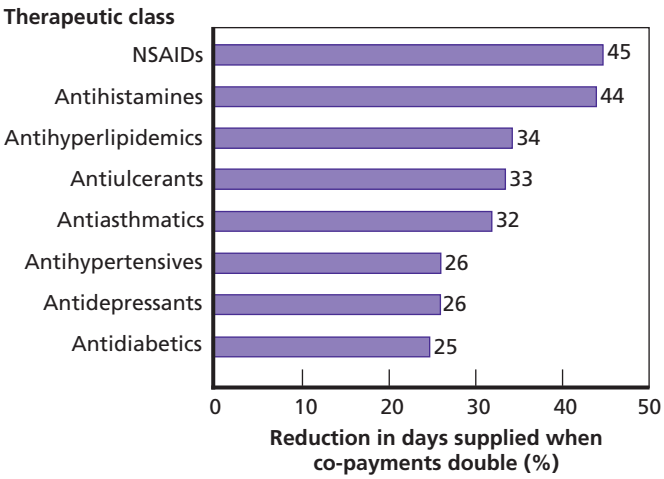
SOURCE: Joyce et al., 2002, Table 5.

Does Cost Sharing Have Similar Effects on All Types of Drugs?

How sensitive consumers are to increased cost sharing may depend on the kind of drug involved. The RAND analysts examined how doubling co-payments affected use of the most common therapeutic classes of drugs. They found that doubling co-payments reduced drug use by 25 to 45 percent across eight common drug classes (see Figure 2).

But patient response to cost sharing depended on the type of drug. The largest reductions were for drugs such as nonsteroidal antiinflammatory drugs (NSAIDs) and antihistamines that have over-the-counter substitutes and treat symptoms rather than the disease itself. The patients most sensitive to price changes were those who were taking long-term medications but were not receiving regular care for their conditions. But even patients receiving routine care for a chronic condition cut their drug use by 8 to 23 percent in response to a doubling of co-payments.

Figure 2
The Effects of Cost Sharing Depend on the Type of Drug



SOURCE: Goldman et al., 2004.

NOTE: NSAID = nonsteroidal antiinflammatory drug, such as ibuprofen.

Do Across-the-Board Increases in Co-Payments Make Clinical Sense?

Cost sharing does reduce drug use and overall drug spending. But does it make clinical sense to increase cost sharing across all drugs and all patient groups equally? In several analyses, the RAND team examined the link between co-payments and a drug's therapeutic benefit for a specific group of patients.

One study focused on how patient cost sharing affected use of cholesterol-lowering drugs, one of the most commonly prescribed classes of medication in the United States, and a drug that has a proven track record for reducing cardiac events and mortality. The study found that for every $10 increase in co-payments, average compliance fell by 5 percentage points (see Figure 3); lower compliance resulted in greater use of expensive medical services, such as hospitalizations and emergency departments. Use of these services could be significantly reduced by giving high-risk patients a financial incentive to comply with the recommended drug therapy. For example, reducing the co-payment for these drugs to zero would lower hospitalizations by about 80,000 to 90,000 per year and emergency department visits by

30,000 to 35,000; the reductions would generate estimated aggregate savings of more than $1 billion annually.

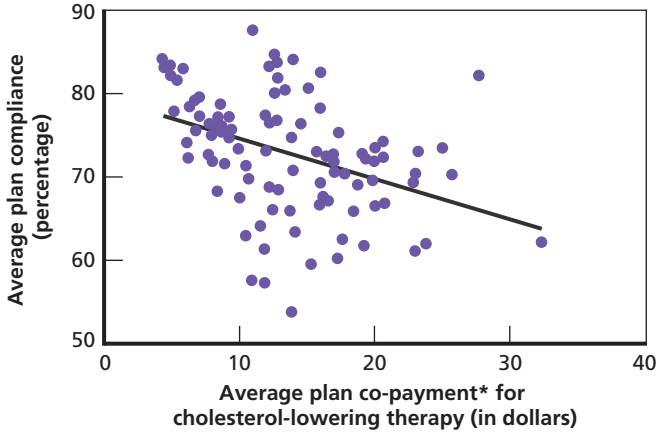
A second study assessed how the level of cost sharing affects drug use among newly diagnosed chronically ill individuals. The team examined data on more than 17,000 retirees with employer-provided drug coverage from 31 different health plans over 1997–2002; they focused on individuals newly diagnosed with hypertension, high cholesterol, and diabetes—common chronic illnesses that, if left untreated, increase the risk for heart attack and stroke. The analysts found that, for all three health conditions, doubling co-payments from $5 to $10 caused greater delays in starting treatment (see Figure 4). Patients without prior experience using prescription drugs were the most likely to delay the start of their drug therapy and were much more price-sensitive.

Results from an analysis of specialty drug use also suggest the desirability of a more targeted approach to cost sharing. The analysts examined spending in 50 different health plans by privately insured patients who had cancer, kidney disease, rheumatoid arthritis, and multiple sclerosis—conditions often treated with specialty drugs, such as injectables and biologic agents. Only a few individuals have these conditions, but the overall cost of these specialty drugs is expected to increase sharply as new drugs with a larger target population enter the market.

Consistent with their earlier work, the RAND team found that the response to cost sharing for drugs depends on the drug. In contrast to overall use reductions of 25 to 45 percent for common drugs, and reductions of 8 to 23 percent for drugs used by chronically ill patients, individuals who use specialty drugs responded to increased cost sharing much less, ranging from about 1 to 21 percent.

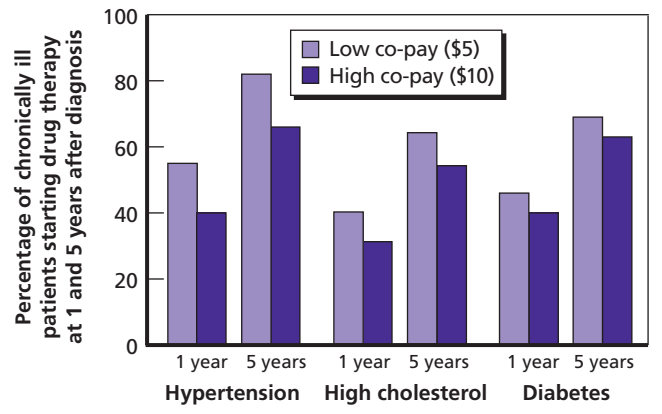
The researchers concluded that it would make more sense for insurers to manage which patients get specialty drugs, ensuring that only patients who will benefit from them get access. Increasing co-payments for all patients, regardless of their clinical need, won't do much to reduce use of specialty drugs—it will just transfer more of the cost burden to patients.

Figure 3
As Co-Payments Rise, Compliance with Drug Therapy Falls



SOURCE: Goldman et al., 2006. Used with permission.
*Average co-payment for each plan year is for a 30-day supply of cholesterol-lowering therapy.

Figure 4
As Co-Payments Rise, Chronically Ill Patients Delay Starting Treatment



SOURCE: Solomon et al., 2009.

Do Benefit Caps Affect Drug Use?

RAND analyses of the effects of co-payments provide clear evidence that patients—even the chronically ill—adjust their drug use in response to cost sharing. But altering the level of co-payment is only one type of cost-sharing arrangement. Another type is a cap on benefits, in which the amount of coverage for prescription drugs is capped at a specific amount per year. The RAND team assessed how benefit caps affected drug use among the chronically ill. For this analysis, the team used data on medical and pharmacy claims from 2003 to 2005 for more than 60,000 retirees, age 65 and older; the retirees had employer-sponsored drug coverage under a number of different plans with different cap levels.

The researchers found that patients who reach their benefit caps are more likely to stop taking their medications. And only a minority of patients who stopped taking their drugs resumed use in the first three months after their coverage returned. The adverse effects of this disruption in drug therapy are likely to be greater among low-income patients, who have high rates of chronic health problems.

What About the Medicare Part D Donut Hole?

Most recently, the RAND team analyzed the broad effects of Medicare Part D, which was introduced in January 2006. Their assessment suggests that the program exceeded expec-

tations in its first two years, extending pharmacy coverage to most seniors while reducing their overall spending on drugs.

Coverage under the program is comparable to other, non-Medicare drug plans in terms of access to drugs and out-of-pocket costs. The team estimated that, during its first year, Medicare Part D resulted in a 16 percent drop in out-of-pocket spending among seniors for prescription medication and a 7 percent increase in the number of prescriptions filled. The poor and disabled have especially benefited from the program.

Despite this success, Medicare Part D has some remaining issues. Total drug expenditures in Part D programs are capped—in 2009, the cap is $2,700. Seniors who reach that point must pay 100 percent of subsequent drug costs until they reach $4,350, when the program's catastrophic coverage kicks in. The gap between the expenditure cap and the threshold for catastrophic coverage is known as the "donut hole."

About 3 million seniors reached the so-called "donut hole" during 2007. About 20 percent of them stopped taking their medications, skipped doses, or switched to a different medication, a response consistent with the studies summarized above.

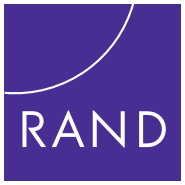
How Can Prescription Drug Cost Sharing Be Improved?

The research summarized above demonstrates that prescription drug prices are one of the most powerful policy levers available for improving compliance and managing treatment of chronic illness. But historical trends that have increased co-payments in lockstep with rising prices do many patients a disservice, and in some cases they increase overall health care costs. The challenge for the health care system is to develop better plan designs that recognize the importance of co-payments to population health. ■

Abstracts of all RAND Health publications and full text of many research documents can be found on the RAND Health Web site at www.rand.org/health. This research highlight was written by Mary Vaiana. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

RAND Offices
Santa Monica, CA • Washington, DC • Pittsburgh, PA • New Orleans, LA/Jackson, MS • Boston, MA • Doha, QA • Cambridge, UK • Brussels, BE

RB-9474 (2009)



HEALTH