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**M A N A G E D**

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# Care

## BENEFIT-BASED COPAYMENTS

A rational, outcomes-oriented approach



**E-REPRINT**

**The idea is radical and simple: Those who need medication the most should pay the least. There is evidence that this is cost-effective.**

## Not So Much of a Reach: Let Sick Pay Less for Drugs

**By Martin Sipkoff**  
*Contributing Editor*

**T**he benefit-based copayment model, which places individual consumers with established medical need on the lowest formulary tier, is a simple and humane concept: Keep chronically sick people from needing expensive care by making their medications inexpensive, perhaps even free. The model could become a standard of formulary design or it may be a utopian concept that will never be widespread.

Based on the experience of one large employer, when health plans lower copayments or coinsurance costs, chronically ill people become more compliant with their medication regimen, stay healthier, and use less — significantly less — resources. They don't drive up costs through overutilization and their overall health care costs drop.

The benefit-based model — called value-based cost sharing or value-based rationing by some people — is founded on three well-established medical research outcomes: Medications are beneficial in controlling chronic diseases, increasing copayments decreases compliance, and decreased compliance results in diminished outcomes.

### **Made the mold**

"I've had payers ask me whether we're paying their employees for getting sick," says A. Mark Fendrick, MD, of the University of Michigan,

Ann Arbor. "My answer is 'Do you want them at work or in the hospital?' We believe that some people should indeed get their drugs for free, and for a small class of people, should even be paid to take them." Fendrick and his colleagues developed the benefit-based copayment model, which relies on evidence-based medicine.

PHOTOGRAPH BY LARIME PHOTO INC.



**"We believe that some people** should indeed get their drugs for free, and for a small class of people, should even be paid to take them" says the researcher A. Mark Fendrick, MD, of the University of Michigan.

The essence of the design is that it links the copayment amount to the estimated benefit for each patient in a medical situation, that it encourages compliance, and that it is inherently equitable. "Socioeconomic status is an important predictor of health status and medical care utilization," says Fendrick. "The elderly and the poor are at increased risk for adverse health status changes if copayments become burdensome. The lower copayment for high benefit patients reduces the financial burden for patients who would most benefit from the medication."

Here is how it works: Start with estimates of the benefit that a patient would receive from a specific drug, as determined from the available scientific evidence, relative to the total cost of treatment.

Lower copayments are established for patients who present with clinical attributes similar to individuals for whom a drug has been proved to be beneficial in clinical studies — for example, statin therapy for a patient with a history of two myocardial infarctions and an abnormal low-density lipoprotein level.

Higher, but still moderate, copayments are charged to patients who are less likely to benefit clinically — for example, statin therapy for an individual with one coronary artery disease risk factor and borderline normal cholesterol. A full benefit-to-cost analysis is used to determine the copayment.

It's an effective concept, says Jack Mahoney, MD, medical director at Pitney Bowes in Stamford, Conn., which saved \$1 million in cost offsets in one year by reducing all its diabetes and asthma medications to a 10 percent coinsurance level. The company is now doing health plan vendor interviews. Mahoney says he's looking for a model similar to benefit-based copayment or coinsurance among the plans he's talking to, "but we're not finding it."

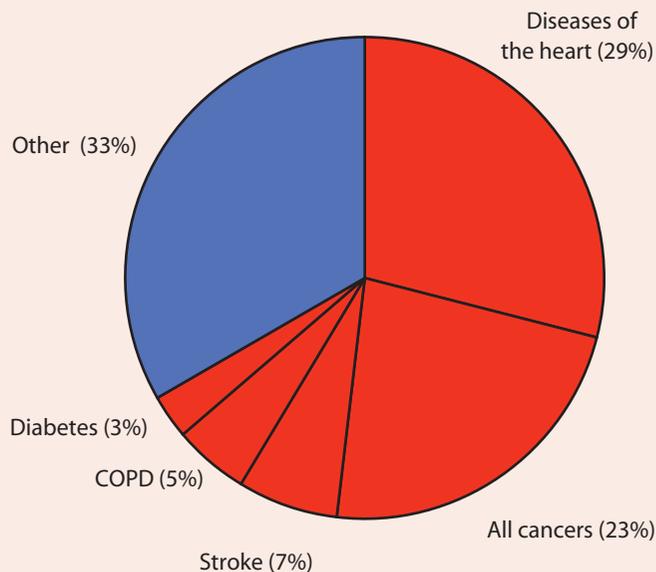
Why not? According to Fendrick, there are three main obstacles to implementation of the concept: First, it's possible only if patients can be readily characterized by potential benefit from a specific drug. Second, patients and doctors must be willing and able to use the system. "Patients especially should be informed of the value of their medications," says Fendrick. Third, technology that allows for adjustment of copayments based on clinical diagnosis must be available. "That may be the biggest obstacle," he says. "The technology to do this is just now emerging."

There is another problem: To some people, the idea seems somehow unfair. "It's extremely hard to keep this concept apolitical," Fendrick warns. "The concern

## Chronic diseases account for more than two-thirds of deaths

The Centers for Disease Control and Prevention's National Center for Chronic Disease Prevention and Health Promotion published a report titled "The Burden of Chronic Diseases and Their Risk Factors: National and State Perspectives 2004," in which the CDC reports that in 2001, the latest year for which complete data are available, more than two thirds of the deaths in the United States resulted from 1 of 5 chronic diseases: heart disease, cancers, stroke, chronic obstructive pulmonary diseases, and diabetes.

### The burden of chronic diseases as causes of death



SOURCE: THE BURDEN OF CHRONIC DISEASES AS CAUSES OF DEATH, UNITED STATES

among payers is that it will appear to benefit some employees unfairly at the cost of others."

"It's a very hard sell," agrees Arthur N. Leibowitz, MD, executive vice president and chief medical officer of Health Advocate, a patient advocacy company in Blue Bell, Pa. He was chief medical officer at Aetna for four years in the late 1990s. "You'll have people saying 'Are you telling me I've got to get sicker to get free drugs?' We see it all the time when people are denied a gastric bypass because they don't weigh enough."

The benefit-based copayment system is flexible enough to allow rewards through copayment levels to reward or penalize certain health behaviors.

"The beauty of the system is its ability to reflect the values of a particular health plan or employer," says Fendrick. "For example, patients with diabetes who successfully engage in an exercise program and lose weight could see their copayments lowered even

further. Disincentives for not following recommended lifestyle changes, e.g. smoking cessation, could lead to copayment increases.”

### Public support?

But the idea that other employees will rebel if sicker coworkers are paying less for medications may be overblown, says Rick Mayes, PhD, an assistant professor of public policy at the University of Richmond who has studied public perceptions of health care accessibility, including universal coverage. He says the benefit-based copayment model is an idea that could receive public support.

“Need versus merit is a longstanding argument in institutions throughout our society, affirmative action for example,” says Mayes. “But there is something viscerally correct about the idea when it comes to health care, something morally satisfying to people in the idea that sicker people be accommodated first.”

Mahoney says that Pitney Bowes “saw no negative reaction” by employees to the change it made in benefit design. “The whole idea made sense intuitively,” he says. “We didn’t allow ourselves to get caught up in some moralistic argument. People simply can’t be productive if they are ill.”

The idea that accessible medicine for sick people is good for payers and patients is the basis of all value-based rationing, an idea examined in depth by J.D.



**Companies seem interested** in the benefits-based copayment idea, judging from the mail received by Pitney Bowes’s Jack Mahoney, MD, after word got out that his company saved \$1 million in one year after introducing a program that focused on asthma and diabetes.

Kleinke, a medical economist and executive director of the Omnimedix Institute, a research organization in Portland, Ore.

In an article in the January/February edition of *Health Affairs* titled “Access Versus Excess: Value-Based Cost Sharing for Prescription Drugs,” Kleinke observes that “pharmacy benefit plans are not structured along an axis of overall value but are structured along the axis of price. A smaller copayment for a preferred drug has nothing to do with its clinical superiority or overall cost-effectiveness.... This is indeed an inefficient, wasteful, and silly system, but it is the one we have.... An obvious approach would be to structure and manage a drug benefit — for both commercial and public health insurance programs — around value rather than price.”

He adds that Fendrick’s work, outlined in a September 2001 article in the *American Journal of Managed Care* titled “A Benefit-Based Copay for Prescription Drugs: Patient Contribution Based on Total Ben-

efits, Not Drug Acquisition Cost” is “a detailed blueprint for using value rather than price... but it has been largely ignored.”

That’s in spite of the fact that his idea is not really all that radical, says Leibowitz. “It has its roots in the same philosophical approach as pay-for-performance,” he says. “Purchasers know they’re paying for a lot of stuff that does not in the end support value. It’s what we all really want, not to place obstacles in

## Current tier structures adversely affect compliance for people with chronic conditions

In an extensive study of drug cost and compliance, Harris Interactive, a research company in Rochester, N.Y., found that chronically ill people in tiered drug benefit plans are more likely to report having difficulty paying for their medications and frequently engage in noncompliant behaviors to reduce out-of-pocket costs, including delaying or deciding not to get a prescription filled, or taking smaller doses than prescribed, including

splitting pills without the doctor’s permission.

In a September 2003 report titled “The Impact of Tiered Copays: A Survey of Patients and Pharmacists,” Harris interviewed 2,711 adults with at least one chronic or recurring health problem and with a benefit that covers drugs. They also found that people in tiered plans are more likely to have visited a hospital emergency room in the past year and make visits to the doctor be-

yond regular checkups. They are also more likely to report missing days from work, contacting their health plans, and contacting their health benefit manager. In addition, 37 percent of those who reported a noncompliant behavior experienced health problems as a result of doing so. Extrapolating, that works out to roughly 14 percent of all chronically ill adults with drug coverage, or 15.6 million people, based on U.S. census data.

the way of people who really need the care.”

That was what Mahoney and his colleagues at Pitney Bowes wanted: a benefit structure that improved access for the people who needed help the most and reduced aggregate costs. And they came to the idea by looking hard at where the money was going. “Our annual health care cost per employee was escalating at 13 percent a year,” he says. “We wanted to get ahead of the curve, to intervene proactively.”

### Risk factors

So in 2000 they commissioned Medical Scientists in Boston to do a predictive modeling study of their health care costs, a statistical technique used to forecast risk by studying claims data. They found that normal health care costs per year among their workers ranged from \$100 to \$700 per employee.

If an employee was diagnosed with diabetes, his or her costs could jump to \$10,000 a year. But, surprisingly, they found that it was not the presence of a chronic condition that was the single biggest risk factor. It was chronically ill patients not filling their prescriptions.

“For all chronic diseases — diabetes, asthma, hypertension, depression, heart disease — the single greatest risk factor across the board was inadequate possession of medications,” says Mahoney. “And if we increased cost to the employee, it decreased possession.” For example, the highest cost risk factor was in diabetes and asthma patients who filled their monthly prescriptions for antidiabetic medications or inhalers only nine times a year or less.

So Mahoney proposed reducing all asthma, diabetes, and hypertension medication coinsurance rates to 10 percent. This attempt to reduce risk had its hazards, however.

First, there was no guarantee that lower cost would improve refill rates. Second, according to other Pitney Bowes officials, just implementing the reduced coinsurance rates would cost at least \$1 million a year in lost coinsurance and in rebates that the company would lose from drug companies by not placing competitors’ drugs in a higher bracket.

Nonetheless, Pitney Bowes started seeing a positive overall cost benefit by late 2002, says Mahoney. Claims data showed a higher refill rate and a shift to more expensive but more convenient combination drugs. For example, more people began taking an inhaled asthma combination drug that had been third-tier at 50 percent coinsurance, at a cost to patients of \$62.50 a month, because it combined two cheaper generic drugs. Now the combination drug cost only \$12.50 a month and people were switching to it, probably because of the convenience of use.

But data also showed that the company was spending significantly less on expensive asthma rescue medications. And savings came from fewer emergency-room visits, which dropped 35 percent for diabetes patients and 20 percent for asthma patients between the end of 2001 and the end of October 2003. There also were fewer hospital admissions and visits to physicians.

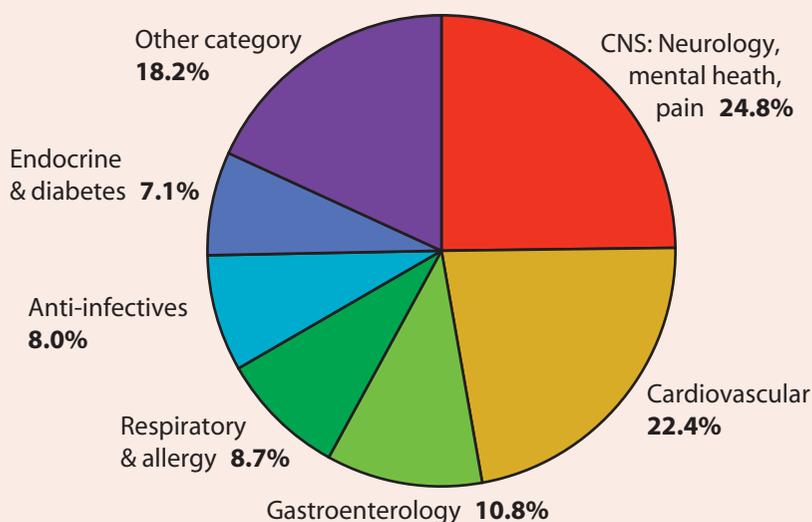
Results related to lowering the charge for hypertension drugs remain elusive, says Ma-

## Treating chronic disease contributes to high cost of health care

Here are the drug-spending trends reported by the pharmacy benefit management company Medco in its annual Drug Trend Report, published May 2004 ([www.drugtrend.com](http://www.drugtrend.com)).

### Top therapeutic categories contributing to 2003 drug spending

*% contribution of each therapeutic category to total plan cost, 2003*



SOURCE: THE BURDEN OF CHRONIC DISEASES AS CAUSES OF DEATH, UNITED STATES

honey. "We haven't seen a cost effect yet. It's a silent condition and takes years to measure outcomes," he says.

Such impressive results notwithstanding, Mahoney says the new design is not a panacea. "This sort of the thing has to be approached cautiously," says Mahoney. "Not every medication should be low cost."

Indeed, caution is the word at health plans in relation to benefit-based copayments. Many plan officials say patient education initiatives for such a complex design, the technology necessary to implement it, and a lack of employer interest make the idea currently untenable.

## Humana and Cigna

At least two plans, however, find themselves moving toward a benefit-based model: Humana and Cigna have or are developing tiered benefit designs based on the established medical value of drugs, with the lowest copayments for drugs that have established the greatest effectiveness.

That idea is a significant step short of individual patient-information based cost-sharing, but its emphasis on value-based copayment is an interesting market development, says Fendrick.

Cigna is developing a product it now calls "tiered clinical utility," says John Poniatowski, RPh, MS, assistant vice president for clinical pharmacy at Cigna Pharmacy Management.

The four-tier product, which the company expects to roll out in mid-2005, will place life-saving drugs that prevent immediate or near-term death in the lowest tier, drugs like antiviral HIV agents, transplant antirejection drugs, and asthma rescue drugs.

The second tier will include what Poniatowski calls "life-maintaining drugs," such as beta blockers, blood pressure medications, statins, asthma medications, and most diabetes drugs — drugs that affect long-term health and mitigate risk factors.

The third tier will include life-enhancing drugs, such as antihistamines and heartburn medications. The highest tier will be for lifestyle drugs, such as those that treat erectile dysfunction.

"This is similar to Fendrick's work in that it bases costs on medical value," says Poniatowski, "but of course it's not individually based, not a patient-based model. We're thinking about that, but it's still very much in the development stage. The design, particularly at the member level, would be extremely complex to administer."

Humana, which does not use the word formulary in its benefit design, currently has a four-tier product called RxImpact that is indifferent to generic or brand classification but is based solely on proven effectiveness.

It places covered prescription drugs into tiers (but calling them "groups") according to clinical use. Instead of a copayment, a patient who purchases or refills one of the covered drugs receives an allowance that reduces the purchase cost by \$5 to \$40, depending on the drug's tier.

If the cost of the covered drug is less than its allowance, the patient pays nothing for the prescription and the excess allowance is rolled into what Humana calls a personal care account.

Employers can choose how much of an allowance they want to attach to each group, but generally the greatest allowance is for drugs in Group A, which includes brand and generic drugs for asthma, bacterial infections, juvenile diabetes, depression, HIV and prevention of pregnancy.

"These are medications that have demonstrated that they produce positive health outcomes within the year they are administered," says William Fleming, PharmD, Humana's vice president for pharmacy and clinical integration.

Group B includes brand and generic drugs that control illnesses and chronic conditions, such as cancer, heart disease, and multiple sclerosis, but in a 1- to 2-year period.

Group C includes drugs that may reduce symptoms and improve day-to-day functioning for people with conditions such as allergies, arthritis, and chronic pain.

Group D includes drugs that may improve the well-being of people with conditions such as obesity, erectile dysfunction, and tobacco addiction.

## Focus on cost

Fleming says that RxImpact also is not benefit-based copayment, and he says that although his company is interested in the concept, employers "tend not to think of the role of health plans as improving the health of their employees. They are focused primarily on cost, especially today as cost rises, so benefit-based copayments seems to them like a radical idea."

That's probably true. Mahoney, for example, says that since his company's efforts received some recent press attention, "My desk is piled high with letters asking about the idea. I get phone calls nearly every day. But how many companies are willing to take the risk



**"It's important to remember** that no one is being asked to pay more for drugs under these designs, just that those who would benefit more pay less," says Glen Stettin, MD, vice president for clinical products at Medco.

## CDC reports complications of untreated and undertreated diabetes

Left untreated or undertreated, diabetes causes significant and expensive medical complications. Here, according to the Centers for Disease Control and Prevention, are some of the comorbidities associated with diabetes. A benefit-based pharmacy plan might be a better approach to care.

### **Heart disease and stroke:**

Heart disease is the leading cause of diabetes-related deaths. Adults with diabetes have heart disease death rates about 2 to 4 times as high as adults without diabetes. About 65 percent of deaths among people with diabetes are due to heart disease and stroke.

**High blood pressure:** About 73 percent of adults with diabetes have blood pressure greater than or equal to 130/80 mm Hg or use prescription medications for hypertension.

**Blindness:** Diabetic retinopa-

thy causes 12,000 to 24,000 new cases of blindness each year.

**Kidney disease:** Diabetes is the leading cause of end-stage renal disease, accounting for 44 percent of new cases. In 2001, a total of 142,963 people with end-stage renal disease due to diabetes were living on chronic dialysis or with a kidney transplant.

### **Nervous system disease:**

About 60 percent to 70 percent of people with diabetes have mild to severe forms of nervous system damage, which causes impaired sensation or pain in the feet or hands, slowed digestion of food, carpal tunnel syndrome, and other nerve problems. Severe forms are a major contributing cause of lower-extremity amputations.

**Amputations:** More than 60 percent of nontraumatic lower-limb amputations occur in people with diabetes. In 2000-2001,

about 82,000 nontraumatic lower-limb amputations were performed annually on people with diabetes.

**Dental disease:** Almost one third of people with diabetes have severe periodontal diseases with loss of attachment of the gums to the teeth measuring 5 millimeters or more.

### **Complications of pregnancy:**

Poorly controlled diabetes before conception and during the first trimester of pregnancy can cause major birth defects in 5 percent to 10 percent of pregnancies and spontaneous abortions in 15 percent to 20 percent of pregnancies.

**Other complications:** Uncontrolled diabetes often leads to biochemical imbalances that can cause acute life-threatening events, such as diabetic ketoacidosis and hyperosmolar (nonketotic) coma.

of implementing what we've done. I don't know. They show interest without a lot of apparent follow-up."

In 2000, Medco, the large pharmacy benefit manager, found itself involved in an interesting pilot project with a large employer involving 35,000 covered lives, says Glen Stettin, MD, vice president for clinical products. The PBM was asked to develop a formulary that was based on value, with tiers related solely to what the medication was being used for. "The client's goal was to eliminate barriers for compliance," says Stettin.

In the pilot, if a patient's physician verified that proton pump inhibitors were critical to his or her health because of the presence of erosive esophagitis, the patient's out-of-pocket costs were lower. If the same PPI was being prescribed because of heartburn, the plan's usual costs applied. If a diabetes patient exhibited high cholesterol, his or her statins cost less than a patient with high cholesterol and no other heart risk factors.

This was a virtually pure benefit-based copayment model, although Medco called it a value-based copayment design. The pilot project ended after a year because the Medco client consolidated health plans it

offered. As a result, no outcomes data were gathered, but Stettin says "anecdotal results were positive."

What is most interesting about the pilot is how it collected the data necessary to determine how much a patient would pay. The simplicity is surprising: When patients presented a prescription, Medco sent them a letter saying that their out-of-pocket costs could be reduced if their physician would inform the PBM about the purpose of the medication. Physicians were willing to do so, although some did complain that the practice discriminated unfairly against the patients who failed to qualify for the lower copayment.

"All that was before we had the technology to use claims data to determine eligibility," says Stettin. "Our ability to integrate the necessary data has grown significantly. Today, it would be much easier to do." Medco has had no clients requesting value-based copayments, however.

With regard to the issue of fairness, Stettin makes the following point: "It's important to remember that no one is being asked to pay more for drugs under these designs, just that those who would benefit more pay less." **MC**