

## Rising Out-of-pocket Costs in Disease Management Programs

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**Objectives:** To document the rise in copayments for patients in disease management programs and to call attention to the inherent conflicts that exist between these 2 approaches to benefit design.

**Methods:** Data from 2 large health plans were used to compare cost sharing in disease management programs with cost sharing outside of disease management programs.

**Results:** The copayments charged to participants in disease management programs usually do not differ substantially from those charged to other beneficiaries.

**Conclusions:** Cost sharing and disease management result in conflicting approaches to benefit design. Increasing copayments may lead to underuse of recommended services, thereby decreasing the clinical effectiveness and increasing the overall costs of disease management programs. Policymakers and private purchasers should consider the use of targeted benefit designs when implementing disease management programs or redesigning cost-sharing provisions. Current information systems and health services research are sufficiently advanced to permit these benefit designs.

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Two of the most prominent trends in health benefit design have been the rise in cost sharing for patients at the point of service and the proliferation of disease management programs. Increasing copayments reflect a desire by purchasers to shift much of the increasing cost of care to the patient at the point of service. Increased cost sharing will potentially lower premiums and also, in theory, lead to more cost-effective choices by patients. This trend is exemplified by a range of high-deductible benefit packages such as consumer-driven health plans and health savings accounts, as well as by increased cost sharing for pharmaceuticals and physician visits.

Concurrently, beneficiaries are increasingly being enrolled in disease management programs.<sup>1</sup> Most large health plans offer enrollees access to programs designed to improve the clinical outcomes of diabetes mellitus, asthma, and heart failure, with growing emergence of programs for other diseases such as coronary artery disease. These disease management programs often are designed by insurers (including managed care plans) or provided by specialized vendors. In anticipation of more widespread adoption, Medicare has initiated a set of disease management demonstration projects. Disease man-

agement programs are predicated primarily on 2 beliefs: that these targeted interventions can improve health (which is supported by the literature) and that this improved health can reduce aggregate expenditures (which has less support in the literature).<sup>2</sup>

The purposes of this paper are (1) to document the rise in copayments for patients in disease management programs and (2) to call attention to the inherent conflicts that exist between these 2 approaches to benefit design. On the one hand, disease management programs devote considerable resources to improving patient self-management, often by intervening to enhance adherence to certain behavioral modifications and compliance with specific medications. On the other hand, rising copayments create financial barriers that tend to discourage the use of recommended services.<sup>3</sup> If increasing copayments lead to enough underuse of recommended services, they could decrease the clinical effectiveness and increase the overall costs of disease management programs.

Although existing literature indicates that, in general, rising copayments reduce adherence<sup>4-9</sup> and may lead to worse clinical outcomes<sup>5,7,10-13</sup> and, in some targeted cases, worse economic outcomes,<sup>14</sup> we are not aware of any research that examines copayment changes within disease management programs and whether they differ from changes within the overall insured population.

We focused on copayments for prescription pharmaceuticals. Medications are an important component of therapy for the chronic diseases targeted by disease management and have been subject to particularly rapid increases in patient cost sharing. For example, the percentage of workers facing triple-tiered formularies rose from 27% to 63% between 2000 and 2003.<sup>2</sup> In turn, the average copayment for prescription drugs listed on the preferred-formulary level grew 46% and the

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copayment for nonpreferred branded drugs grew more than 70% over this period.<sup>2</sup>

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METHODS

Assessing the level of copayments for enrollees in disease management programs is difficult because no standard source for these data exists. We collected data from 2 large health plans. Plan 1 provided us with longitudinal data from 2001-2003 for participants in its congestive heart failure (CHF) and asthma disease management programs, as well as for its overall population. Plan 2 provided us with 2003 data for participants in its diabetes mellitus disease management program and for other plan members (including mostly members without diabetes, but also including some diabetic members not enrolled in disease management).

The plans were selected based on personal contacts and a willingness to participate. One was a large plan in the Midwest that provided combined data for members in its preferred-provider, point-of-service, and traditional insurance products (which tended to have similar pharmacy benefits). The second plan was a large health plan in the West. Combined, the plans serve more than 5 million members. In each of these plans, the copayments faced by the members were largely driven by the decisions of employers, creating substantial variation within the plans in the copayments faced by members.

Both plans had large, well-established disease management programs and provided us with information about copayment rates for the beneficiaries enrolled in selected disease management programs. In both cases, we collected data separately for generic, preferred branded, and nonpreferred branded medications.

For plan 1, the data were based on claims experience, where the copayment for each prescription was measured as the out-of-pocket charge to the beneficiary. The vast majority of beneficiaries had benefit designs that charged a fixed dollar amount per prescription. In the cases where beneficiaries were charged a percentage of the prescription costs, the copayment rate was based on the absolute dollar amount charged to the enrollee. In some cases, beneficiaries were charged a differential copayment if they used mail-order services (or they could receive more days supply if they used mail-order services). We did not distinguish between mail-order and retail copayments, so the copayments reflect the retail/mail-order mix. Because the trend towards mail order was modest and not differentiated by participation in disease management, we do not believe this approach generated serious bias in the findings. To the extent that

use of mail-order pharmacies has increased over time or is greater among disease management participants, any bias that does exist will tend to show lower and slower growth in copayments for patients enrolled in disease management programs.

For plan 2, copayment data were based on information from individual benefit packages. Again, the vast majority of members faced a flat dollar copayment per prescription (which could vary by formulary tier). A small share of the population faced a percentage coinsurance rate (80% or 100%). We assigned these enrollees to the group whose copayment was more than \$10. The copayments were based on retail purchase.

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RESULTS

**Copayment Changes for Disease Management Participants**

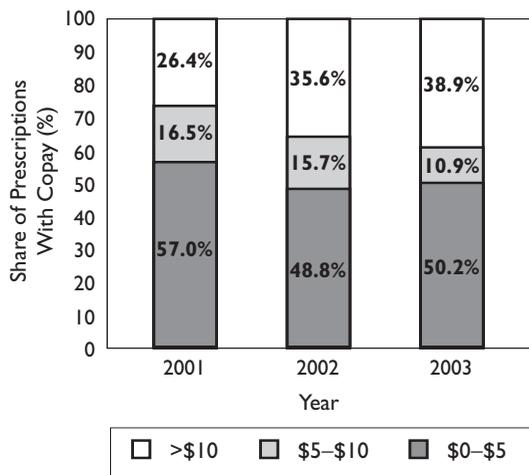
Copayments rose for prescription drugs—independent of formulary tier—for individuals in disease management programs. **Figure 1A** reports the trends in copayments from 2001 through 2003 for preferred branded medications for participants in the CHF and asthma disease management programs in plan 1. The proportion of prescriptions with a copayment of more than \$10 rose steadily from about 25% to about 40%. **Figure 1B** reports similar data from plan 1 for generic medications. In this plan, there was an upward trend for copayments in the \$5 to \$10 range for disease management participants buying generic medications.

**Copayments for Disease Management Participants Versus the Overall Insured Population**

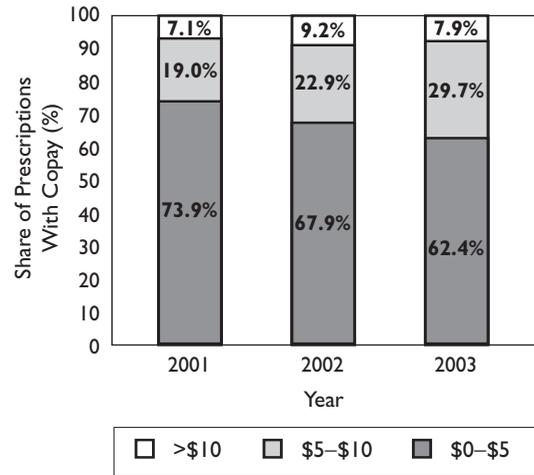
There was no evidence to suggest that individuals enrolled in disease management programs had appreciably lower copayments than those who were not enrolled. In plan 1, trends for the overall population were very similar to those reported for participants in disease management programs. In any given year, the share of prescriptions within any copayment category for participants in disease management programs was within 3 percentage points of the analogous share for individuals not participating in such programs.

Plan 2 provided 2003 data for individuals enrolled in the diabetes mellitus disease management program compared with individuals not enrolled in any disease management program. The distributions in pharmaceutical copayments were very similar (**Figure 2**). Individuals in the diabetes disease management program were slightly less likely to face \$10 copayments and slightly more likely to face \$5 or \$7 copayments for preferred branded medications. Because of the large sample

**Figure 1A.** Trend in Copayment Distributions: Preferred Brand-name Drugs for Disease Management Participants in Plan 1



**Figure 1B.** Trend in Copayment Distributions: Generic Drugs for Disease Management Participants in Plan 1



size, this difference was statistically significant. However, we do not consider this small difference (mean copayments differed by about 25 cents) to be meaningful.

GENERALIZABILITY

This study examined data from only 2 plans. The focus on a few plans is common in the literature; however, like other studies, we cannot be sure of the generalizability of our results. Several factors increase our confidence in the general conclusion that medication copayment rates in disease management programs are rising rapidly and are similar to those outside of disease management. First, the 2 health plans cover a large number of employers, and in many cases the copayment rates and benefit design decisions are made at the employer level; therefore, the sample, although still not representative of all plans, is effectively a sample of many employers. A more accurate interpretation of our sample is probably that, in the areas served by these plans, employers offer the same copayment rates to disease management participants that they offer to other plan members.

Second, we contacted individuals in the disease management and insurance industries to assess whether they felt that copayments differed for participants in disease management programs. Overwhelmingly, the response was that copayments were the same for individuals within and outside of disease management. For example, a partner at a large actuarial firm very familiar with benefit design practices reported that the firm was not aware of any plans that have different copayment

structures for disease management participants versus nonparticipants (D. Mirkin, MD, oral communication, July 2005).

A few exceptions were uncovered in this process. The most notable was the experience of Pitney Bowes, which lowered copayments in 2001 for medications used to treat diabetes mellitus and asthma. Although we are not aware of a peer-reviewed evaluation of this experiment, Pitney Bowes reported in the press that this reduction in copayments reduced spending by 6% for diabetic patients and 15% for asthma patients.<sup>15</sup>

Another example was undertaken by the city of Asheville, North Carolina, which paid diabetic patients for a monthly consultation with a pharmacist and waived copayments for medications, lab tests, and glucose meters. The Asheville program also reported cost savings, and reports suggest several employers may adopt similar programs.<sup>16,17</sup>

Finally, high-deductible plans also typically provide first-dollar coverage for preventive services (eg, immunizations). Medications generally would not be included as a preventive service eligible for first-dollar coverage. However, some high-deductible health plans have added certain classes of medications commonly used by those with chronic diseases to the list of services available for first-dollar coverage. For example, in 2006, Aetna plans to exclude a range of medications such as beta blockers, antihyperlipidemics, and angiotensin-converting enzyme inhibitors from the deductibles faced by enrollees in their high-deductible health plan.<sup>18</sup> As of 2004, at least, Aetna's decision does not seem to be the norm. We are not aware of any such programs in products other than high-deductible plans.

DISCUSSION

In the plans we studied, the drug copayments for beneficiaries in disease management programs are about the same, and are rising just as fast, as those for their other enrollees. If disease management programs are able to increase compliance despite the higher copayments, participants in disease management programs may face higher total out-of-pocket costs. More important, the rise in cost sharing at the point of service appears to have occurred without attention to the clinical value of the services in question. Although there may be merit in greater consumer cost sharing in some instances and disease management in other instances, it does not make economic sense to combine greater cost sharing with disease management.

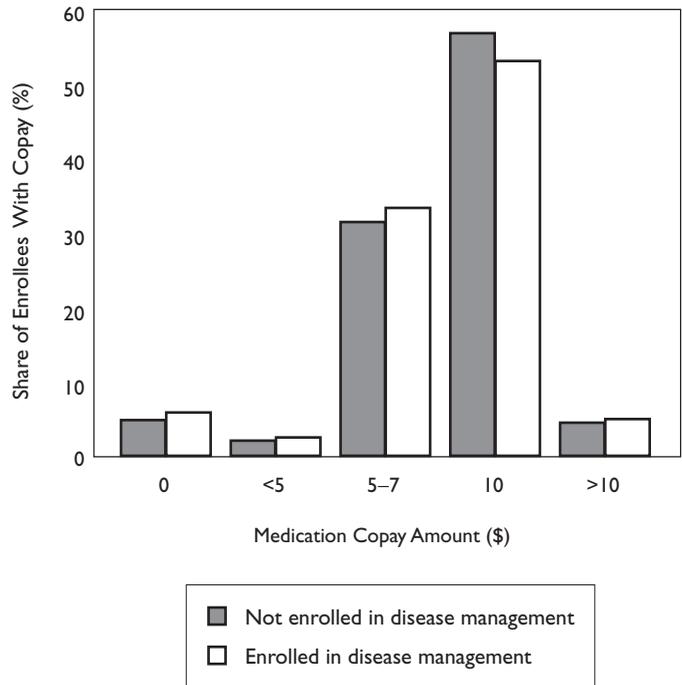
If patients in the groups targeted by disease management face greater cost sharing, their consumption will be farther from the efficient level, and more disease management resources will be needed to move them to the appropriate level of care. Hence, cost sharing and disease management result in conflicting approaches to benefit design, effectively working against each other.

Optimal benefit design should align the incentives created by both the cost-sharing and the disease management features of the benefit package. Financial incentives could be viewed as another lever for disease management to use.

From a societal perspective, when there are different ways to increase consumption of underutilized but valuable services, efforts should first be targeted to increase consumption in a way that uses the fewest societal resources. For this reason, economic models would suggest that copayment rates for individuals in the high-risk subgroups targeted by disease management should be set to zero. Reducing copayments is a socially efficient way to achieve any given level of utilization instead of maintaining higher copayments and using real resources to increase utilization.

Consider the following hypothetical example. Assume disease management criteria suggest that 100 people “should” take a lipid-lowering agent (or statin), but only 40% do so when faced with a \$20 copayment per prescription. Assume this statin costs \$100 per prescription. In this scenario, the total costs at baseline are \$4000, with the insurer paying \$3200 and the patients paying \$800. If these 100 people are enrolled in a disease management program that costs \$5 per patient (including those who do not adhere) and this program increases use to 60%, the new total cost is

**Figure 2.** Copayment Distributions for Preferred Brand-name Drugs by Disease Management Enrollment Status in Plan 2



\$6500, which reflects \$6000 spent on the statin (60 × \$100) plus \$500 (100 × \$5) spent on the disease management program. Of that, the insurer pays \$4800 for the statin plus the \$500 for the disease management program, which equals \$5300. The payer also will reap some savings as a result of fewer coronary events. The patients collectively pay \$1200 for the medications (and also may reap some financial savings from avoided heart attacks). The extra cost is presumably worth it even if the downstream cost savings do not completely offset the extra drug spending, because of the health benefit. If the health benefit did not justify the cost, then this subpopulation should not have been targeted by disease management.

Now imagine that reducing the copayment to \$0 also increases use to 60%. In this scenario, total costs are \$6000 (60 × 100). The insurer pays the full \$6000, which exceeds the \$5300 paid in the disease management scenario, but the employees pay nothing. The employer could raise the portion of the premium paid by employees (eg, by \$1000) to offset the extra employer payment for care, thus reducing the employer costs to \$5000 (saving \$300 compared with the \$5300 needed by the disease management program with a higher copayment). The employees would save \$200 (the \$1000 extra in premiums is less than the \$1200 drug cost paid at the time of purchase). Note that the savings

associated with reduced downstream costs still accrue in this example. Even with a \$0 copayment, there will still be some underconsumption; therefore, traditional disease management activities could provide value.

Many payers are concerned that lowering copayments will increase employer spending. This concern may reflect distributional issues that arise because the increased premium associated with lower copayments (and disease management) would be spread across all employees, while the consumer contribution is concentrated among those with the targeted condition. Because of risk aversion, economic theory would suggest that, on aggregate, spreading the costs would enhance the welfare of the group, but some employees who are at low risk for falling into the groups that benefit from disease management may object.

Existing theoretical research, recognizing the conflict between greater cost sharing and adherence to recommended therapies, has argued for the adoption of benefit-based copayment designs, which maintain low copayments in clinical situations where consumption of the service has substantial clinical value and failure to utilize the given service could result in substantial harm.<sup>19-21</sup> Perhaps this points to an opportunity to use existing disease management program infrastructure for targeted lowering of copayments for underutilized but valuable medications, hence aligning plan and consumer incentives for value and efficiency.

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