CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

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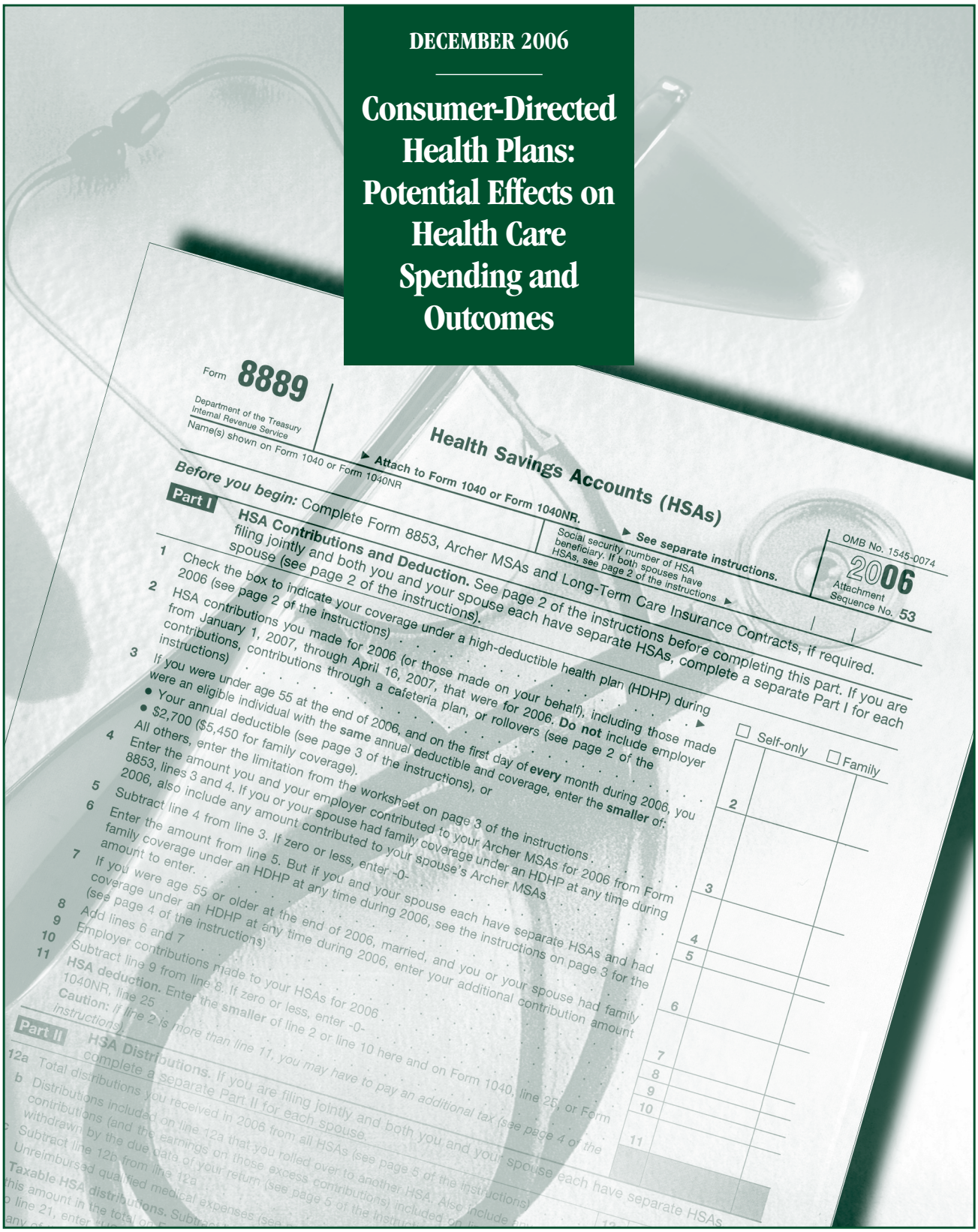
# CBO
STUDY

DECEMBER 2006

# Consumer-Directed Health Plans: Potential Effects on Health Care Spending and Outcomes

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Pub. No. 2585

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December 2006

The Congress of the United States ■ Congressional Budget Office

# Note

Numbers in the text, tables, and figures of this report may not add up to totals because of rounding.

For ease of exposition, most dollar figures have been converted to 2004 dollars.

# Preface

During the past few years, new options for "consumer-directed" health plans have attracted considerable interest and debate and have enrolled several million participants. Such plans generally combine a high-deductible health insurance policy with a tax-sheltered account that enrollees may use to finance their out-of-pocket costs for health care services. The central idea behind such designs is that policyholders will remain insured against catastrophic expenses but will be more careful about their use of services than they would be under a conventional health insurance plan that provides greater coverage of their initial health care costs. Yet at the same time, concerns have been raised that such plans will have only a small impact on total health care spending and could adversely affect individuals who have high levels of health care costs.

This Congressional Budget Office (CBO) study—prepared at the request of the Chairman of the House Budget Committee—examines in detail the potential effects of consumer-directed plan designs, analyzing the impact they might have on the use of health care, the prices and quality of health care services, and the health of enrollees. The report also explores the incentives for enrollment in consumer-directed plans and the potential effect of that enrollment on markets for health insurance. Because the plans' designs are so new, there is little empirical evidence about their effects; thus, much uncertainty about their impact remains to be resolved as more data about them become available. In keeping with CBO's mandate to provide objective, impartial analysis, this report contains no recommendations.

Philip Ellis of CBO's Health and Human Resources Division prepared the study under the supervision of Bruce Vavrichek and James Baumgardner, with contributions from Chapin White. The analysis benefited from comments by Colin Baker, Matthew Goldberg, Larry Ozanne, and Sven Sinclair of CBO; and by Joseph Antos of the American Enterprise Institute, Paul Ginsburg of the Center for Studying Health System Change, and Len Nichols of the New America Foundation. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.)

Leah Mazade edited the study, and Christine Bogusz proofread it. Maureen Costantino designed the cover and prepared the report for publication. Lenny Skutnik printed the initial copies, Linda Schimmel handled the report's distribution, and Simone Thomas produced the electronic version for CBO's Web site (www.cbo.gov).

Donald B. Marron
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December 2006

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# Summary

In the past few years, new health insurance options known as consumer-directed health plans have attracted considerable interest and debate and have enrolled several million participants. Such plans generally combine a high-deductible health insurance policy with a tax-sheltered account that enrollees can use to finance their "out-of-pocket" health care costs (those not covered by the policy). The central idea behind such designs is that policyholders will remain insured against catastrophic expenses—but will also be more careful about using health care services because they will have to pay a much larger share of their initial costs. (Conventional health insurance plans, by contrast, have much lower deductibles and thus cover a larger percentage of enrollees' initial expenses.) Depending on how enrollees in consumer-directed plans responded to those incentives, the end result could be a lower level of spending to achieve the same improvements in health or possibly better health at the same level of spending. Either outcome would represent an increase in the efficiency of the health care sector.

This Congressional Budget Office (CBO) study examines in detail the key features of consumer-directed health plans, analyzing the impact they might have on the use of health care, assessing their potential effects on the prices and quality of health care services, and exploring the incentives for enrollment in consumer-directed plans. Critics of such plans have argued that they will be most attractive to healthy individuals and that they can influence only a small share of the nation's overall spending for health care. Those critics also raise the concern that consumer-directed plans will leave people who have higher health care costs worse off financially and could even result in adverse effects on their health. This study considers those arguments as well, reviewing both the principles involved and the available evidence.

## Key Features of the U.S. Health Insurance System and Consumer-Directed Plans

Two features of the U.S. health care system—rapidly rising costs and the favorable tax treatment of health insurance policies that are purchased through an employer—have shaped the development and design of consumer-directed health plans.

### Rising Health Care Costs

Consumer-directed plans represent the latest step in efforts to restructure health insurance coverage to help control spending for health care services in the United States. In the late 1980s and early 1990s, health care costs grew rapidly; in response, private insurance coverage shifted from "indemnity" policies—which had largely reimbursed enrollees for the costs of whatever services they and their doctors chose to use—toward various forms of managed care. Those forms included:

- Preferred provider organization (PPO) plans, which encourage enrollees to use a particular network of doctors and hospitals by offering lower levels of cost sharing for network services (and which negotiate lower payment rates with those providers in return); and

- More stringently managed plans, such as health maintenance organizations (HMOs), which offer relatively low levels of cost sharing within their network of providers but little or no coverage outside of it and which use various other measures to limit the provision of services.

The spread of managed care plans played a large role in controlling health care costs in the United States during the 1990s: total spending for health care between 1993 and 2000 held nearly constant at about 13.8 percent of the nation's gross domestic product (GDP).

By the end of the 1990s, however, many consumers and providers had come to oppose the restrictions imposed by HMOs, and the plans began to relax those restrictions as enrollment in more loosely managed PPO plans grew. (PPO plans now enroll about 60 percent of individuals who receive health care coverage through their employer.) At the same time, private health care spending also increased: between 2000 and 2004, that spending rose at an average annual rate of 8.4 percent, and health care's overall share of GDP grew to 16 percent. That share is now projected to reach 20 percent by 2015. Not surprisingly, purchasers of health insurance have looked for new ways to help control those costs.

### Favorable Tax Treatment

The other feature of the U.S. health care system that lies behind the development of consumer-directed health plan designs is the tax advantage provided for insurance that is purchased through an employer. Employer-sponsored coverage is the primary source of health insurance in the United States; in 2004, it insured about 165 million lives, or about two-thirds of the people who were not enrolled in Medicare. Like wages and salaries, the costs of providing that coverage are a form of compensation for employees and thus a tax-deductible business expense for employers. But unlike most other forms of compensation, the costs of health insurance are excluded from policyholders' taxable income—and therefore avoid all income and payroll taxes.

For a typical worker, that difference in tax treatment amounts to a subsidy for insured costs of more than 30 percent (which reflects both income taxes and the employer's and employee's portions of payroll taxes). By contrast, out-of-pocket payments for health care have generally not received favorable tax treatment. The result has been to encourage firms to provide more-extensive health insurance policies for their workers—increasing the share of costs that are covered and decreasing the share that employees must pay for services—trends that in turn have driven up total health care spending. Estimates of the response vary by the type of service that is involved—and largely reflect the experience of indemnity insurance plans—but overall, a reduction of 10 percent in the share of costs that enrollees must pay would tend to increase their total spending by 1 percent to 2 percent.

To offset that tendency, consumer-directed plans incorporate a key innovation: the accounts that they include, which can be used to pay some out-of-pocket health care costs with tax-free funds. That new tax advantage goes a long way toward "leveling the playing field" between insured and out-of-pocket costs. The option of combining a tax-free account with a high-deductible health plan first became available in the mid-1990s, when policymakers authorized so-called medical savings accounts for purchase by small employers, self-employed individuals, and Medicare enrollees. But few people enrolled in those plans, in part because the legislation limited the total number of policies that could be purchased and because the authorization to sell new policies was temporary.

### Current Plan Designs

Consumer-directed health plans now come in two basic forms: health savings accounts (HSAs) and health reimbursement arrangements (HRAs). HSAs, which were authorized by legislation enacted in late 2003, may be established by an individual or an employer as long as they are paired with a high-deductible health insurance policy. They have the following key features.

- In 2006, the minimum deductible such a policy must have is $1,050 for individual coverage or $2,100 for family coverage.
- Contributions to the accounts may come from policyholders, their employers, or both; however, they are subject to an overall annual limit—in 2006, generally the lesser of the policy's deductible or $2,700 for individuals or $5,450 for families. The recently passed Tax Relief and Health Care Act of 2006 allows contributions to HSAs to exceed the deductible beginning in 2007.
- Money contributed to the accounts is not subject to income taxes and may avoid payroll taxes; funds withdrawn to pay for health care expenses are never taxed. Elderly and disabled individuals who have an account and who enroll in Medicare may withdraw funds from their account but may not make further contributions to it.
- Policyholders may withdraw funds from their account to pay for items and services that are unrelated to health care, but they incur income taxes on that money and must pay an early-withdrawal penalty of 10 percent if they are under the age of 65.

- Any contributions that an account holder does not use in a particular year may be rolled over indefinitely, and account balances are portable from job to job and into retirement.

Health reimbursement arrangements were formally authorized by the Internal Revenue Service in 2002 and are similar to HSAs in many respects. They typically feature a high-deductible health insurance policy as well as an account that may be used to pay out-of-pocket costs with untaxed funds. However, they impose fewer constraints on the design of the insurance policy and more restrictions on the use of funds in the account. In particular, only employers may establish and contribute to the accounts, and policyholders may withdraw funds only to pay for health care. Moreover, some rollovers of account balances are capped, and employees generally forfeit any balance they have built up if they change jobs. (Flexible spending accounts are similar to HRAs in some respects—and are more commonly held—but the annual contributions are set by employees, come directly out of their salaries, and do not roll over if they remain unspent.)

Because consumer-directed plans have arisen fairly recently, information about enrollment in them and about the specific features of the policies that enrollees have chosen is somewhat limited. The number of individuals who are covered by high-deductible policies that meet the requirements for HSA plans exceeded 1 million in March 2005 and by January 2006 had grown to more than 3 million, but it is not clear how many of those policyholders have established an account as well. Enrollment in HRAs in January 2006 was estimated at 2.9 million. Among all types of consumer-directed plans offered by employers in 2006, deductibles were estimated to average about $1,750 for individuals and $3,500 for families (deductibles for HSAs purchased in the individual insurance market were higher); contributions to the accounts by employers were estimated to average about $750 and $1,350 per year, respectively. Surveys of private employers indicate that more of them intend to offer consumer-directed health plans in the future, and in early 2006, the Department of the Treasury projected (on the basis of prevailing law) that total enrollment in HSAs would reach 14 million by 2010.

### Questions for the Study

The fact that consumer-directed designs are so new also means that little direct evidence is available about their actual effects, and it is unclear how popular they will ultimately become. Nevertheless, their potential impact on health care utilization and spending has evoked interest in many quarters. This study reviews that evidence as well as studies of similar insurance plans in an effort to answer three broad questions.

- First, how do consumer-directed designs affect enrollees' incentives to use health care, and what impact would those incentives have on health care spending if enrollment in consumer-directed plans was representative of the nonelderly population as a whole (that is, if the same mix of healthier and sicker individuals enrolled in those plans)?

- Second, what impact might consumer-directed plans have on the prices of health care services, the availability and use of information about the benefits and quality of the care provided, and the health of their enrollees?

- Third, to what extent is initial enrollment in consumer-directed plans likely to be concentrated among lower-cost, generally healthier individuals, and what would the short- and long-term implications be in that case for insurance markets and overall health care spending?

## Effects of Consumer-Directed Plans on Incentives to Use Health Care

How consumer-directed plans affected their enrollees' use of health care would depend primarily on how those enrollees responded to the two key features of such plans: the high-deductible insurance policy and the tax-free account funds. The decades-old RAND Health Insurance Experiment provides the best available evidence about how a high-deductible design would reduce total spending for a broadly representative set of enrollees. But the effects of switching from a conventional plan to a comparable consumer-directed design may be smaller—in part because some of the savings seen in the RAND experiment have probably been captured by features of current managed care plans.

### Incentives to Limit Spending

Both HSAs and HRAs provide incentives for enrollees to limit their health care spending. The high deductibles and rollovers of unused account balances that those plans feature are designed to encourage enrollees to be more

careful about their use of health care. If enrollees use fewer services (or less expensive ones) before they reach their deductible, they get to keep most if not all of the resulting savings. Compared with deductibles in consumer-directed plans, those in conventional health care plans—the types of private health plans in which most people are currently enrolled—are generally much lower; in 2005, for example, they averaged about $300 for individual coverage and $700 for family coverage under PPO plans. Enrollees in consumer-directed plans must thus consider whether the benefits of the services they receive exceed the total cost of those services—that is, whether the care is cost-effective—over a much larger range of spending. (The greater role envisioned for policyholders in deciding what care to get and where to get it is the primary basis for calling such plans consumer directed.)

At the same time, the provisions for tax-free accounts and for contributions by employers to those accounts make it easier for enrollees to cover their out-of-pocket costs. Indeed, the contributions to the accounts could be set so that consumer-directed plans had the same value *on average* as current conventional health plans—that is, costs would be the same under both designs for covering a representative set of medical claims. (Whether that equivalence is being maintained in practice when employers offer consumer-directed plans is not clear.) Yet those provisions might also encourage enrollees to be less careful about their spending, at least in comparison to a high-deductible health plan by itself, because they would tend to reduce the costs of services to enrollees. The net effect that consumer-directed designs will have on the use of health care thus depends on the strength of those competing pressures—the incentives to limit spending that arise from the high-deductible design versus the inducement to spend tax-free funds and employers' contributions to the accounts.

To analyze those effects, it is most useful to compare consumer-directed and conventional health plans that have equal overall value. Otherwise, some of the difference in spending will simply reflect the difference in the values of the plans. Comparing plans of equal value also creates a trade-off: if both types of plan included annual limits on out-of-pocket costs, enrollees in consumer-directed plans would reach those limits more quickly because they would pay a larger share of their initial costs, whereas enrollees in conventional plans would generally continue to face some cost sharing at higher levels of total spending. That difference could affect the comparison of spending because most health care costs are incurred by a relatively small percentage of individuals who use the most expensive services.

## Results of the RAND Health Insurance Experiment and Other Evidence

A primary source of information about the impact of cost sharing on the use of health care services remains the RAND Health Insurance Experiment, whose findings indicated that shifting from a plan with a conventional indemnity design to one with a high deductible would decrease enrollees' use of services and spending by about 5 percent. That study, which was conducted from 1974 to 1982, randomly assigned many nonelderly individuals and families to different insurance plan designs—including one under which all care was free to participants and one that mimicked a high-deductible plan. The results thus reflect what would happen if enrollment in each design was representative of the nonelderly population. The RAND experiment found that the largest impact on total costs, compared with those under the free-care plan, came from simply introducing a relatively modest deductible or coinsurance payment. But the study also showed that a high-deductible design could reduce spending further—and indicated that part of the likely savings stemmed from avoiding some expensive hospitalizations whose costs would have exceeded the deductible. Moreover, a high-deductible design could reduce total spending even though its enrollees would reach the limit on out-of-pocket costs at a lower level of total spending than would be the case in a conventional plan.

Yet representative enrollment in consumer-directed health plans might have a smaller net effect on enrollees' health care expenditures than the results of the RAND study would suggest—at least in the short run—for several reasons.

- *Tax-Favored Expenditures.* The first reason that the effect might be smaller is that participants in the RAND experiment paid their out-of-pocket costs with after-tax dollars, whereas enrollees in consumer-directed plans (particularly those in HSAs) may use untaxed funds from their account. The tax subsidy that those funds receive lowers the effective prices that enrollees face for their health care services (compared with the prices they would face under a high-deductible plan by itself) and thus reduces their incentive to spend their account funds carefully—because they must balance the benefits of their care against only a portion of

its costs. For a typical worker, the effective subsidy would be as much as 25 percent (reflecting income taxes and the employee's portion of payroll taxes but not the employer's portion). In the longer term, an offsetting pressure would emerge: giving advantageous tax treatment to out-of-pocket spending would encourage enrollees in consumer-directed plans to shift toward policies with even higher deductibles (and lower premiums). Whether the reduction in total spending that resulted from that shift would ultimately be large enough to offset the initial impact of the tax subsidy for out-of-pocket costs is uncertain.

- *Employers' Contributions.* The second reason relates to the way that employers' contributions are treated. The health plans being compared in the RAND experiment were not of equal value. Adding employers' account contributions to the high-deductible plan would bring its value up to the level of the conventional plan's, but it might also reduce the design's impact on the use of services. In the case of HSAs, enrollees would still have a strong financial incentive to treat those funds like cash and thus limit their spending. In the case of HRAs, however, the limitations on the use and portability of balances in the accounts would probably lead some enrollees to treat those funds less like cash and more like a free resource—particularly if they did not expect to exhaust their account. As a result, the impact of a high-deductible policy on enrollees' financial incentives would be muted.

- *Plan Management.* Third, the RAND study showed how a high deductible in an indemnity insurance policy could reduce health care spending, but some of those savings have already been captured by more tightly managed health care plans. The American Academy of Actuaries estimated that a consumer-directed plan would reduce enrollees' health care spending by 2 percent to 5 percent relative to spending under a conventional PPO plan of equal value. The RAND study itself also found that an HMO plan that offered free care to enrollees was about as effective as a high-deductible design in controlling total health care costs. And in other work, CBO estimated that an HMO plan's costs would, on average, be about 10 percent lower than a PPO plan's to deliver a comparable package of benefits. Taken together, those findings imply that representative enrollment in consumer-directed plans might ultimately lower health care spending under the plans by about 5 percent relative to spending under conventionally designed PPO plans—but it might not lower spending relative to HMOs, and could raise it.

The preliminary evidence available about how actual consumer-directed plans affect health care costs is of limited use in resolving those areas of uncertainty—and given the limitations of that evidence, it should be treated cautiously. Some studies have reported large cost savings from consumer-directed plans, but those results may represent reduced costs for the insurer and not the impact on total health care spending for enrollees. Even when the focus is on total expenditures, the savings that are reported may still reflect the impact of reducing the overall value of the coverage (or other factors) and not just the effect of changing its design. In particular, comparisons of expenditures under actual consumer-directed and conventional plans need to account for potential differences between their enrollees that could affect the results (as discussed later). More data about the impact of consumer-directed plans on the use of health care services should become available over time, as experience with them grows.

## Effects of Consumer-Directed Plans on Health Care Prices, Quality, and Outcomes

In addition to affecting the quantity of health care services that are used, consumer-directed plans could have an impact on the prices of those services, on the quality of the care that is delivered, and on the health of their enrollees. Some proponents argue that the heightened focus on the costs and benefits of care under consumer-directed designs will transform the health care system, yielding not only lower prices—either through direct negotiations between enrollees and providers or competitive pressures on providers—but also substantial improvements in quality. A key question, though, is how effective the collective efforts of individual enrollees would be in achieving those objectives relative to the actions of health insurers. Meanwhile, critics charge that consumer-directed plans will discourage enrollees from getting needed care and thus will adversely affect their health—but there appears to be little empirical evidence to support that view.

### Price Competition and Assessment of Quality

Some advocates of consumer-directed plans maintain that enrollees should bargain directly with doctors and hospitals over the prices of the services they receive. Yet even if they took the prices as a given, enrollees in consumer-directed plans would have an incentive to "shop around" for the best value, which might encourage more price competition among providers. Proponents of consumer-directed plans concede that such efforts might not be feasible for some services (such as emergency care) but believe they could play a useful role in less urgent or more discretionary cases. The participants in the RAND experiment who faced substantial cost sharing also had a reason to seek out lower-priced providers. But the study involved only a few thousand enrollees, so it would have been unable to capture any systematic pressure to compare or reduce prices. If such pressures arose, the impact of consumer-directed plans on health care spending might thus be greater than the RAND study's estimates have indicated.

Whether consumer-directed designs could generate savings by reducing prices depends in part on how effective the current efforts of conventional insurers are. Reimbursement of costs by third parties (that is, insurers) weakens the incentives for enrollees to bargain over prices or seek out lower-cost providers. However, those third-party payers have correspondingly strong incentives to do both—so as to control their own costs and remain competitive in the insurance market—and might also be better positioned than individuals would be to negotiate price discounts from doctors and hospitals. As a result, enrollees will probably prefer to contract out those tasks to their health insurance plan. Consistent with that assessment, it appears that nearly all consumer-directed health plans that are currently being offered feature preferred provider networks and plan-negotiated payment rates, so they may not differ substantially from conventional PPO plans on that dimension.

In choosing what care to get and where to get it, individuals consider more than just the costs involved, and both advocates and critics of consumer-directed health plans generally agree that enrollees will need better information about the benefits of different treatments and the quality of different providers. The limited information currently available on both the prices and quality of health care services represents a substantial obstacle to encouraging more cost-effective use of services, regardless of the nature of an insurance plan's design. Broader changes in the health care system that might facilitate the assessment of providers' quality could make it easier for enrollees in consumer-directed plans to evaluate their treatment options (although some enrollees might still find that task difficult). At the same time, such changes would also help conventional health plans determine which treatments to cover, which providers to include in their networks, and how to reward them for delivering better care. It is thus difficult to predict how improved information about the quality of health care services might affect the comparison of total spending under consumer-directed and conventional insurance plans.

### Health Outcomes

A common concern about attempts to control health care costs—whether through higher levels of cost sharing to discourage demand or the efforts of managed care plans to limit the supply of services—is that lower spending might mean worse health for enrollees. On that issue as well, the RAND study remains the best source of empirical evidence. It directly measured participants' health in a number of ways and in general found no statistically significant differences between those who received free care and those who faced cost sharing. The only substantial discrepancy between the two occurred among low-income enrollees who were in the poorest health to begin with; within that subgroup, enrollees who received free care controlled their blood pressure more effectively than those who faced cost sharing, resulting in a small but statistically meaningful difference in their estimated probabilities of dying. That finding has been central to critiques of plans with consumer-directed designs.

The possibility that consumer-directed plans will have adverse effects on the health of their enrollees cannot be ruled out entirely, but for two reasons, that finding from the RAND study may not apply.

- When the RAND researchers compared results only from plans that required cost sharing—which are more relevant than the results from the free-care plan to the comparison of consumer-directed and conventional designs—they found no differences in health for any group.

- They also estimated that most of the gains that free care yielded in the treatment of hypertension could be reaped from a one-time screening exam—the kind of preventive service that consumer-directed plans are permitted to cover before enrollees meet their deductible.

Whether reductions in the use of services have adverse effects on health is also difficult to determine.The RAND analysts found that cost sharing led participants to forgo some treatments that would have had positive medical benefits, but they also concluded that cost sharing discouraged the use of some services that were actually harmful. Recent surveys indicate that enrollees in consumer-directed health plans are more likely than enrollees in conventional plans to avoid or delay getting treatments, which raises the concern that their health could be adversely affected. If the services that were forgone had benefits that did not exceed their costs, however, any adverse impact on health would be relatively small—smaller than the change in their spending for health care.

## The Potential for Favorable Selection and Its Effects on Spending and Insurance Markets

The impact of consumer-directed health plans on enrollees' incentives to use services and on their spending for health care depends to a great degree on who actually chooses to enroll in those plans. If the initial enrollees had lower health care costs to begin with or were healthier than the average person—that is, if consumer-directed plans experienced "favorable selection"—then the change in those enrollees' incentives would be modest, and health care spending might remain largely unaffected. The same would be true if enrollees in consumer-directed plans had previously held high-deductible health insurance policies. Over time, however, favorable selection in consumer-directed plans might have broader effects on insurance markets. If enrollment in such plans became more representative of the population as a result, the reduction in health care spending would be greater (along the lines outlined above). But the extent to which such selection is occurring in the first place is not yet clear.

### Initial Enrollees

A key determinant of enrollment in consumer-directed health plans will be whether individuals would gain or lose financially—compared with their current situation—under those plans. That calculation depends partly on the extent of their existing insurance coverage and partly on their expected health care costs. Those factors will also affect whether employers decide to offer a consumer-directed plan and whether they add it as an option for employees or instead convert all of their coverage to that design.

Among individuals who had conventional coverage through their employer, those whose health care spending was low would generally save money by switching to a comparable consumer-directed plan because they could use their employer's contribution to their account to cover their medical costs and then save any balance that remained. Individuals whose health care spending was moderately high, however, would probably see their out-of-pocket costs increase under a consumer-directed plan because of its higher deductible. Thus, the same features of consumer-directed plans that encourage enrollees to be prudent in their use of services—the high-deductible and control over account funds—also generate pressures for favorable selection in those plans, raising a potential trade-off. For enrollees who had the highest levels of health care spending, the impact of switching plans is not clear. (It would depend on the out-of-pocket limit in each plan and the extent to which enrollees in a consumer-directed plan could use employers' contributions and other untaxed funds to cover their costs.) Even so, if individuals could predict their future health care costs with certainty, the extent of favorable selection in consumer-directed plans might be substantial.

Individuals who were choosing a health insurance plan could not be certain about their future health care costs, of course, but the available data indicate a correlation between past and future spending that could inform their decision. That is, people who have low levels of health care costs in one year tend to have similarly low costs the next year; high levels of costs also tend to persist. For example, about 50 percent of the insured nonelderly population had total spending for health care that was below $1,000 in 2003, and their median spending in the following year (2004) was about $300. Conversely, about 35 percent of the insured nonelderly population had total health care costs that were between $1,000 and $5,000 in 2003, and median spending for those individuals in 2004 was about $1,300. Although expected health care spending may differ among individuals for a number of reasons (including their preferences about receiving care and the

practice styles of local providers), as a group, individuals who have lower costs tend to be healthier than those who have higher costs.

Other considerations that would affect whether individuals with employer-based coverage opted to enroll in a consumer-directed or a conventional plan include the following factors.

- *Access to Providers.* People who had more problems with their health would find it easier to pay for out-of-network care (or uncovered services) under a consumer-directed plan than under a conventional plan because they could use the funds in their policy's associated account to do so. However, they would have to balance that gain against the higher out-of-pocket costs that they would face for the care they received within the plan's network.

- *Premium Subsidies.* If an employer did not offer a consumer-directed plan, employees could still purchase an HSA in the individual market. In that case, however, they would forgo any subsidy from their employer for their health insurance premiums; moreover, under current law, their HSA premiums would not receive favorable tax treatment, and any contributions they made to their accounts would still be subject to payroll taxes.

Interest in consumer-directed plans would also vary among individuals who did not have employer-based coverage. Among those who purchased their primary insurance policies in the individual market—about 10 million people in 2004, CBO estimates—about half have deductibles that are high enough to meet the legal requirements for an HSA and thus would find it attractive to convert their coverage (to take advantage of the favorable new tax treatment for out-of-pocket costs). People who are uninsured may find their interest in consumer-directed health plans limited by the same factors that have made them unwilling or unable to purchase coverage previously—even when lower-cost, high-deductible plans were available to them. Preliminary data suggest that about one-third of people who purchase HSAs in the individual market were previously uninsured, and those policies represent about 10 percent of all HSAs held. However, the net effect on the uninsured population of making HSAs available is uncertain, in part because some of those purchasers would probably have obtained other coverage in the absence of an HSA option.

Overall, some degree of favorable selection in consumer-directed plans seems likely—because the financial incentives to choose that design are much clearer for lower-cost, generally healthier individuals—but the available evidence about whether and to what extent such selection is occurring is mixed or ambiguous. For example, some reports have compared the age of enrollees in consumer-directed versus conventional plans. Given the wide variation in health care spending within age groups, however, such data may reveal little about differences in their underlying health. Academic studies of actual consumer-directed plans and surveys of their enrollees have yielded conflicting evidence: the results of some investigations show favorable selection, and the results of others indicate that the health status of enrollees in consumer-directed and in conventional plans is comparable. But the academic studies have limitations, and the respondents to enrollee surveys may themselves not be representative of the population of enrollees in those plans. Consequently, that evidence should be treated cautiously.

### Dynamics of Health Insurance Markets

Over the longer term, a tendency for lower-cost, healthier individuals to enroll in consumer-directed plans would leave more-expensive enrollees in conventional health plans, putting upward pressure on those plans' premiums. By itself, that development would not have a large impact on health care spending, although it would probably leave enrollees in those conventional plans moderately worse off financially. But rising premiums would also reinforce the incentive to switch to consumer-directed plans—which, some analysts argue, could induce a selection spiral that would eventually drive loosely managed conventional plans out of the market. If such a spiral occurred, it would yield the kind of broad enrollment in consumer-directed plans necessary to reduce overall levels of health care spending, but it would probably also mean that individuals who were sicker and who had higher costs would have to pay somewhat more for their care. In part, the increased financial burden would fall on individuals who chose a more expensive treatment for their condition. The extent to which those individuals would be worse off financially would depend on several other factors as well, including how persistent their health care spending was over a long period.

At this point, it is too early to tell whether total enrollment in consumer-directed health plans—and the extent of any favorable selection in those plans—will be large enough to have substantial effects on insurance markets.

If enrollment in the plans grows, employers that offer a choice of plan designs may take steps to counter selection pressures—for example, by restricting the variation in enrollees' premiums or by limiting the firms' contributions to employees' associated accounts. (Employers would have financial incentives to take such steps because favorable selection in consumer-directed plans could raise their costs, at least initially.) The fact that indemnity insurance plans were largely forced out of the market by HMOs and PPOs indicates that selection spirals can occur. At the same time, the continued presence of HMOs—which also tend to attract lower-cost, healthier enrollees—and PPOs in the same markets suggests that some form of coexistence between consumer-directed and conventional plans will also be feasible.

CHAPTER

1

# Introduction and Overview of Consumer-Directed Health Plans

In the past few years, new health insurance options known as consumer-directed health plans have provoked substantial interest and debate. Such plans generally combine a health insurance policy that has a high deductible with a tax-sheltered account that enrollees may use to finance at least a portion of their out-of-pocket costs. By contrast, conventional health plans—the type that most people with private insurance currently have—cover more of their enrollees' initial spending. Advocates of consumer-directed plans see them as a broadly attractive option that both protects policyholders from catastrophic losses and gives them stronger incentives to balance the benefits of health care services against their total costs. Depending on people's responses to those incentives, it is argued, widespread adoption of consumer-directed plans could yield either the same improvements in health that conventional plans provide but at a lower level of health care spending—or better health at the same level of spending. Either outcome would represent an increase in the efficiency of the health sector.

Some observers, however, have raised concerns about consumer-directed health plans. They maintain that such arrangements will be most attractive to healthier individuals, whose health care costs are usually low, and that the plans' design will have little effect on the incentives that face individuals with high health care costs—because their total spending will exceed even a very high deductible. Either way, critics argue, the impact of the plans on total U.S. health care spending would probably be small. At the same time, critics charge that consumer-directed plan designs will leave sicker, higher-cost individuals worse off financially and could have an adverse effect on their health. Advocates of consumer-directed plans see them as giving enrollees greater control over their own health care, but critics caution that many individuals may have difficulty weighing the costs and benefits of their treatment options.

This Congressional Budget Office (CBO) study seeks to examine those propositions. A major challenge, however, in assessing how consumer-directed designs might affect spending for health care or the health of enrollees is that little empirical evidence is available—simply because those types of plans are so new. As a result, this study focuses first on the principles involved in their design and the key differences between the two main types of consumer-directed plans: health reimbursement arrangements and health savings accounts. It then compares those plans with more-conventional policy designs and reviews the available evidence—drawn largely from older studies—about the likely impact that widespread conversion to consumer-directed plans would have on health care spending and health outcomes. The study also considers whether individuals who have low health care costs will be more likely than people who have higher costs to switch their coverage and the implications for health spending and insurance markets in that case. In addition, the study examines other ways in which consumer-directed designs might alter spending for health care and its efficiency, whether by affecting the prices that are paid for services or by focusing more attention on the benefits and quality of care.

Finally, the study reviews the limited data available on the experience of actual consumer-directed plans. Substantial caution is warranted, however, in drawing conclusions based on such preliminary data about the impact of those plans on health care spending or other measures. CBO's analysis does not address other aspects of consumer-directed health plans, such as their effect on tax revenues or the impact that their associated accounts might have on savings for retirement.

## Key Features of the U.S. Health Insurance System

To see how the introduction of consumer-directed plan designs could affect enrollees' incentives and outcomes, it is useful to review the basic role of health insurance and the key features of the U.S. system.

### Factors That Affect the Choice of Health Insurance

Most individuals face some uncertainty about the future state of their health—and in particular run a relatively small risk that they will need very expensive care. To protect themselves against that financial risk, they usually seek health insurance. Typically, they pay a premium for it, either directly or through a reduction in their wages, and thus accept lower but certain net income in exchange for less variability in their well-being.[1] The extent of the coverage they choose will reflect a trade-off between the risk of pecuniary loss that they face (which generally declines as the share of costs paid by their insurance policy increases) and the premium they must pay (which rises as that coverage becomes more comprehensive).

Indeed, individuals might like to be completely insured—that is, share none of the costs for the health services they receive—but the fact that they have coverage gives rise to what economists call moral hazard. That term seeks to capture the phenomenon that in deciding whether to seek treatment or how much care to get, people who are insured are apt to use more of those services than they would if they had to pay the services' full costs. In other words, the presence of insurance protection makes it more likely that the services covered by insurance will be used and that they will be used to a greater extent.

To offset that tendency toward increased use, health insurance policies typically feature some degree of cost sharing by enrollees—in the form of deductibles, coinsurance, or copayments—at least for more routine or discretionary health care services.[2] Even then, some moral hazard will be evident because enrollees will continue to seek care as long as its benefits exceed the portion of the costs that they have to pay. Estimates of the response vary by the type of service that is involved—and largely reflect the experience of older insurance designs—but overall, a reduction of 10 percent in the share of costs that enrollees must pay would tend to increase their total spending by 1 percent to 2 percent. (Enrollees would also take into account such costs as the time involved in getting treatment.) The optimal policy design for any given individual must thus balance the gains in reduced risk from insurance protection against the costs induced by moral hazard.

An additional consideration in the U.S. health care system has long been that insurance purchased through an employer receives favorable treatment under the tax code. Employer-sponsored policies are the primary source of health insurance in the United States, covering about 165 million people (including dependents) in 2004, or about two-thirds of those not enrolled in Medicare. Employers may deduct the costs of providing that coverage as a business expense (just as they deduct employees' wages and other forms of compensation), and thus those payments avoid corporate taxes on profits. But unlike wages, the costs that employers pay for health insurance are excluded from the taxable income of the policyholders. As a result, that portion of employees' compensation avoids individual income and payroll taxes as well.

1. Employers that offer health insurance coverage may nominally pay most or all of its costs, but those costs are ultimately borne by workers as a group through reduced wages. Firms generally compete for workers on the basis of the total compensation that they offer—wages plus fringe benefits—and the preferences of workers largely determine how that compensation is divided between cash and other forms. All else being equal, workers at firms that do not offer subsidized health insurance coverage must be paid higher cash wages (or given other offsetting benefits) compared with similar workers who receive such a subsidy.

2. A deductible is an amount of spending that enrollees must incur before their insurance policy begins to pay for services; coinsurance is the share of charges (for example, 20 percent) that enrollees must pay for the services they receive after the policy's deductible has been met; and a copayment is a fixed dollar amount that enrollees must pay for a given type of service (for example, $50 for any emergency room visit), which does not vary with the service's actual cost.

By contrast, the payments for deductibles and co-insurance that individuals incur themselves—their "out-of-pocket" costs—have generally not received favorable tax treatment.[3]

The cumulative effects of those tax provisions are relatively large. In 2006, the federal government's "tax expenditure" for employer-sponsored health insurance reduced income tax revenues by about $94 billion; in 2004, the total loss in revenues for both federal and state governments, including both income and payroll taxes, was estimated at about $200 billion.[4] For a typical worker, the favorable tax treatment that those sums represent amounts to a subsidy from the government of more than 30 percent toward the costs of health care services that are covered by employer-sponsored insurance.[5] By reducing the price of that insurance, the tax subsidy has effectively encouraged workers to secure richer health insurance policies through their employer, increasing the share of costs that is covered and decreasing the share that is paid out of pocket. At the same time, some observers say, the tax subsidy has helped encourage individuals who are healthier than the average and less likely to incur substantial costs for care to purchase employer-sponsored insurance—which in turn lowers the premium for those policies. (Employment-based policies are purchased in the "group" insurance market; such policies tend to have lower administrative costs per enrollee, compared with policies purchased in the individual insurance market.)

### Recent Trends in the U.S. Health Insurance Sector

Up through the 1980s, private health insurance coverage in the United States typically took the form of an "indemnity" policy, which reimbursed enrollees for their incurred costs, left it to them and their doctors to determine what care to provide—and largely allowed doctors and hospitals to set prices for those services. As health care costs grew rapidly in the late 1980s, however, private insurance coverage began to shift from indemnity policies toward various forms of more managed care.

- One form was preferred provider organization (PPO) plans, which established lists or networks of preferred doctors and hospitals and encouraged enrollees to use those providers by charging more for care received outside the plan's network. Those preferred providers thus gained a higher (or at least more certain) volume of patients and usually accepted lower negotiated payment rates from the health plan in return.

- At the same time, more-stringent forms of managed care, such as health maintenance organizations (HMOs), also grew in prominence. Like PPOs, those plans established networks of providers; unlike PPOs, they offered no coverage for services received outside of those networks (except for emergencies). HMOs also instituted various measures that were aimed at limiting the supply of services, such as requiring another doctor's referral or the plan's prior authorization before some types of specialty care were covered.

- "Point-of-service" (POS) plans emerged as a kind of middle ground. Like PPOs, they allowed enrollees to go outside a plan's network for care (albeit at a higher charge), but like HMOs, they required enrollees to secure referrals for specialty care from a primary care physician within the plan's network.

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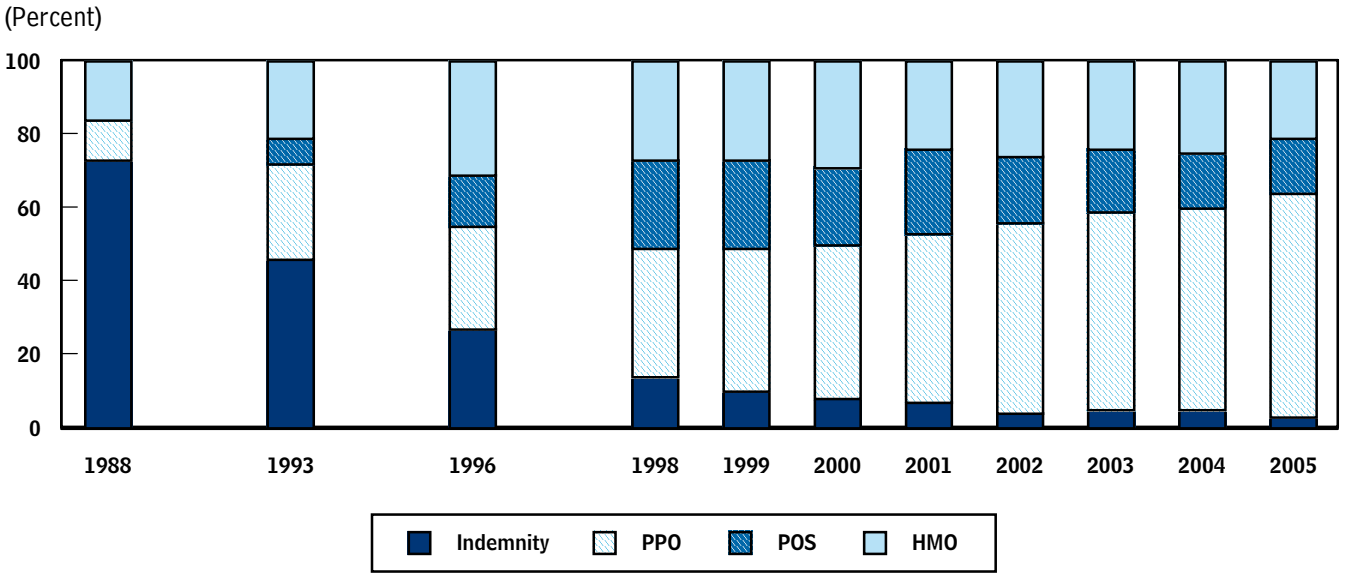
3. One exception is that health care costs in excess of 7.5 percent of taxable income—including both out-of-pocket costs and insurance premiums—are deductible for taxpayers who itemize their deductions. That deduction was claimed by about 9 million filers in 2003 representing 7 percent of all tax returns, with deductible expenses totaling $56 billion (of which $22 billion was claimed by filers under the age of 65). Deductible expenses include some services that are not typically covered by health insurance (for example, nursing home costs).

4. For the impact on federal income taxes, see Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2006–2010*, JCS-2-06 (April 25, 2006). The Department of the Treasury has a higher estimate of the federal income tax loss for 2006—$137 billion; the difference may reflect different assumptions about interactions with other health-care-related tax provisions. For an estimate of the total tax expenditure, see John Sheils and Randall Haught, "The Cost of Tax-Exempt Health Benefits in 2004," *Health Affairs* Web Exclusive (February 25, 2004), available at http://content.healthaffairs.org/cgi/content/full/hlthaff.w4.106v1/DC1.

5. CBO estimates that among tax returns that report earnings from labor, the median marginal tax rate—the rate that applies to the last dollar of earnings in a typical case—is 31.6 percent. That figure reflects effective tax rates of 13.9 percent for federal income taxes, 14.2 percent for federal payroll taxes, and an average of 3.5 percent for state income taxes. Effective tax rates are generally somewhat lower than statutory tax rates because the employer's share of payroll taxes is included in an employee's total compensation. For example, the combined statutory payroll tax rate for employers and employees (15.3 percent, split equally) must be divided by one plus the employer's share (1.0765) to get the effective payroll tax rate (15.3/1.0765 = 14.2). See Congressional Budget Office, *Effective Marginal Tax Rates on Labor Income* (November 2005).

**Figure 1-1.**

## Distribution of Employees by Type of Health Plan, Selected Years from 1988 to 2005




Source: Congressional Budget Office based on Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2005 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2005).

Notes: An indemnity health plan, the typical private health insurance coverage in the United States in the 1980s, reimbursed enrollees for their incurred costs without imposing constraints on the number and type of services that could be used.

PPO = preferred provider organization; POS = point of service; HMO = health maintenance organization.

To varying degrees, those approaches all sought to offset moral hazard. Collectively, their adoption played a large role in controlling the level of U.S. health care costs during the 1990s. Private payments for health care, which include both out-of-pocket costs and insurance premiums and account for just over half of all national health expenditures, grew at the same rate as the overall economy between 1992 and 2000, and total spending for health care as a share of gross domestic product (GDP) also remained constant at about 13.8 percent between 1993 and 2000.[6] Over that same seven-year period, the share of workers enrolled in some kind of managed care plan rose from 54 percent to 92 percent, and the share enrolled in an unmanaged indemnity plan (which had been 73 percent in 1988) fell correspondingly, from 46 percent to 8 percent (see Figure 1-1).[7]

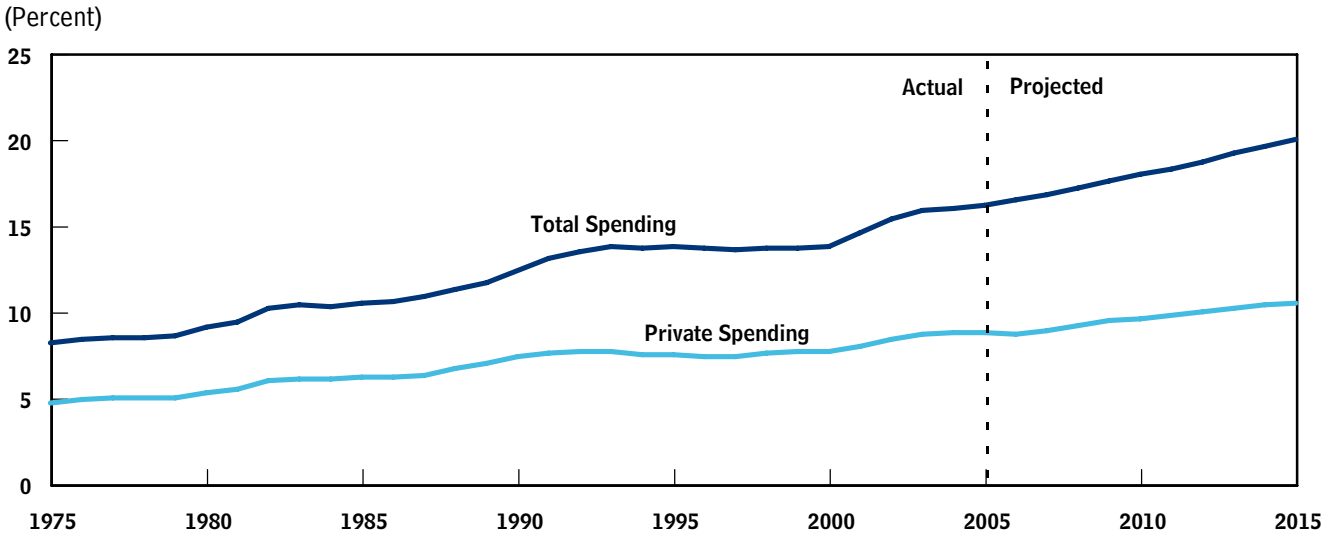
By the end of the 1990s, however, the increasing objections of enrollees and providers to the constraints of managed care led health plans to adopt less aggressive forms of management and produced shifts in enrollment toward more loosely managed plans. In particular, enrollment in PPO plans has grown rapidly since 2000, and such plans now cover about 60 percent of people who get their health insurance coverage through their employer. At the same time, the share of workers enrolled in HMO plans has declined from a peak of about 30 percent to about 20 percent; between 2000 and 2005, the share of

6. See Christine Borger and others, "Health Spending Projections Through 2015: Changes on the Horizon," *Health Affairs* Web Exclusive (February 22, 2006), available at http://content.healthaffairs.org/cgi/content/full/25/2/w61; and underlying data on national health expenditures, available at www.cms.hhs.gov/NationalHealthExpendData. Because of a recent change in the methodology used to estimate spending for construction and equipment purchases, current estimates of the share of GDP attributable to health care spending in a given year are higher than prior estimates (for example, by 0.5 percentage points for 2003).

7. See Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2006 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2006).

**Figure 1-2.**

## U.S. Health Care Spending as a Share of Gross Domestic Product




Source: Congressional Budget Office based on National Health Expenditure data compiled by the Department of Health and Human Services.

Note: In addition to out-of-pocket payments by consumers and insurance premiums, private spending includes revenues received by providers for which no direct patient care services are rendered—primarily philanthropy. Those revenues account for about 1 percent of GDP.

employees in HMO and POS plans combined fell from 50 percent to 36 percent.

Accompanying those shifts in health plan enrollment, health care costs have grown rapidly in recent years, with total expenditures rising at an average annual rate of 8.4 percent between 2000 and 2004. As a result, by 2004, health care's share of GDP had risen to 16 percent (in part reflecting slower economic growth overall); it is projected to reach 20 percent by 2015 (see Figure 1-2). Private health care costs have increased at about the same rate as total expenditures. Those payments accounted for 7.7 percent of GDP in 2000 but grew at an average annual rate of 8 percent between 2000 and 2004—bringing their share of GDP to 8.8 percent.[8] That share is projected to reach 10.5 percent by 2015. In the light of those trends, it is not surprising that purchasers of health insurance have looked for new approaches that might help control health care spending—including consumer-directed plans. (Although employers serve as the purchasers of most private insurance, their employees would also have an interest in limiting health insurance premiums.)

Another factor that has stimulated interest in consumer-directed designs is the declining proportion of health care costs paid out of pocket and the correlation between that decline and the rise in spending for personal health care services—including hospitalizations, visits to physicians, and other types of care.[9] Out-of-pocket payments accounted for 33 percent of all personal health care expenditures in 1975 and 57 percent of private spending for personal health care services, but by 2004, those shares had fallen to 15 percent and 29 percent, respectively (see Figure 1-3). By 2015, they are projected to shrink a little more, to 13 percent and 26 percent.

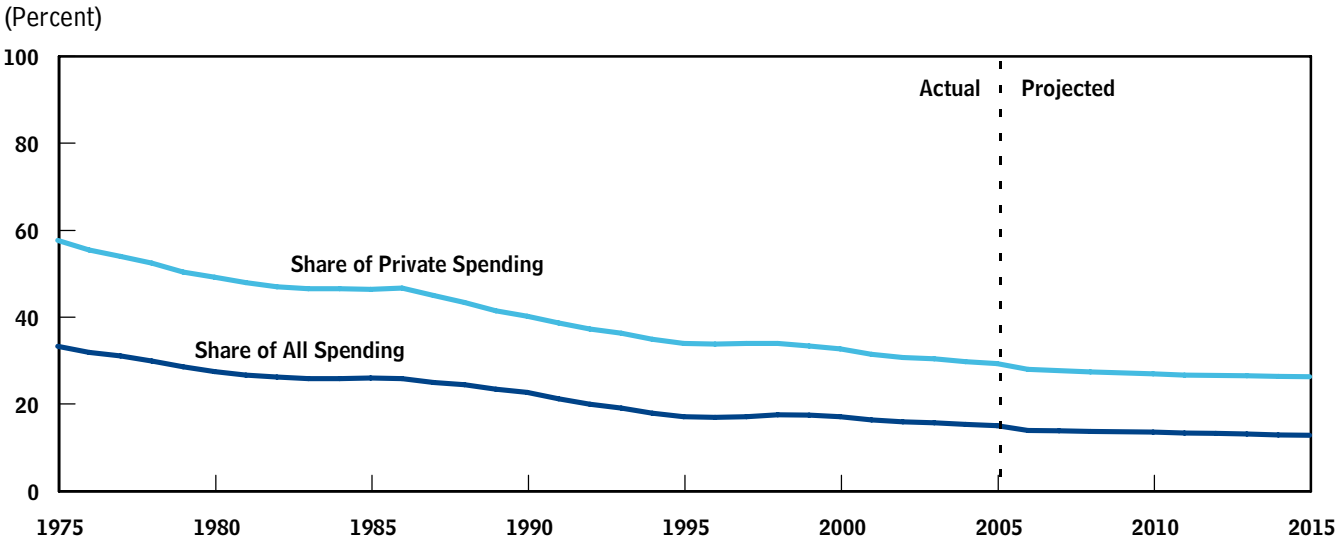
A declining share of costs paid out of pocket has undoubtedly contributed to the growth of health care spending, but other factors complicate that relationship. Indeed, the reverse is also likely to be true, at least to

8. In addition to out-of-pocket payments by consumers and insurance premiums, private payments include revenues received by providers for which no direct patient care services are rendered—primarily philanthropy. Those revenues currently account for about 1 percent of GDP.

9. Spending for personal health care accounts for about 85 percent of total health expenditures; it excludes administrative costs for health insurance, public and private spending for medical research and construction of facilities, and government spending for public health agencies such as the Centers for Disease Control and Prevention and state health departments.

**Figure 1-3.**

## Share of Personal Health Care Spending Paid Out of Pocket




Source: Congressional Budget Office based on National Health Expenditure data compiled by the Department of Health and Human Services.

Notes: Spending on personal health care excludes administrative costs for health insurance, public and private spending for medical research and construction of facilities, and government spending for public health agencies, such as the Centers for Disease Control and Prevention and state health departments.

Private spending on personal health care consists of out-of-pocket payments and insured costs; other payments (such as philanthropy) are excluded.

some extent: rising health care costs (as a share of income) have probably led individuals to seek more-extensive insurance to keep the variability of their out-of-pocket expenses from increasing. In addition, some of the past decline in cost sharing can be attributed to the spread of HMOs, because those plans have typically imposed relatively low copayments for care. But those plans have sought to use other methods besides cost sharing to limit health care spending, and on balance, the decline in the share of costs paid out of pocket that was associated with the growth in HMO enrollment may not have fueled increases in health care spending. Even so, concerns about reinstating managed care methods of controlling costs have stimulated interest in using consumer-directed designs as an alternative.

## Designs of Consumer-Directed Health Plans

Although a wide variety of health plan designs might be considered "consumer-directed," that term has come to mean a plan with two key attributes: a high-deductible health insurance policy and an account that can be used to pay out-of-pocket health care costs with funds that have not been taxed. The two main types of consumer-directed designs that have arisen are health reimbursement arrangements (HRAs) and health savings accounts (HSAs). (In each case, the high-deductible health plan and its associated account are formally distinct. However, this study will follow common practice and, unless otherwise indicated, use HRA and HSA to mean both the account and the insurance policy that goes with it.)

Those two plan types have many other features in common but differ along several important dimensions, including:

- Whether they are available to those purchasing coverage in the individual insurance market or are limited to the employer-based group coverage market;
- Whether individuals may contribute directly to their account;

- Whether unused funds in the accounts are portable from job to job; and
- Whether funds may be withdrawn and spent only to cover health care costs.

In addition to HRAs and HSAs, two related options have received favorable treatment under the tax code: flexible spending accounts (FSAs), which are offered by some employers; and medical savings account (MSA) health plans—the forerunners of consumer-directed plans—which became available in the mid-1990s, on a limited basis, to employees of small firms and to self-employed individuals.[10] (Table 1-1 compares those four options.) Medicare beneficiaries may also be offered a plan that has an MSA design, but the requirements in that case are different, and to date, no insurers have stepped forward to offer an MSA in Medicare (see the later discussion).

### Health Reimbursement Arrangements

Health reimbursement arrangements may be offered only by employers. They may be provided in conjunction with any type of health insurance plan—that is, there is no requirement that they be linked to a high-deductible plan; however, such a linkage is typical. Thus, this study focuses on HRAs with high-deductible policies. The other key feature of an HRA is a notional account that employers establish and that workers (or, in some cases, retirees) can use to pay for their out-of-pocket health care costs. For example, an employer might offer a health insurance plan that had an annual deductible of $2,000—but then also credit $1,000 a year to each employee's account. Employees would draw on the account to pay their first $1,000 in health care costs; if they had exhausted their account's balance but had not yet met the annual deductible, they would have to cover their health care costs out of their own pocket until they did. If they did not spend all of their employer's contribution, at least a portion of the remaining funds could "roll over" and be available to cover future medical bills.

A principal attraction of paying for health care costs through an HRA is that those expenditures are tax deductible for the employer but—unlike cash compensation—are not counted as income for the policyholder. The expenditures are thus exempt from corporate taxes and from individual income and payroll taxes, receiving the same favorable tax treatment as health insurance premiums made by or through an employer. Employers have no limit on the amounts they may contribute to HRAs, although they must generally make the same contributions for all comparable enrollees. Funds credited to the account are not treated as an expense by employers until the money is actually used to pay for health care, and account balances generally do not accumulate interest—features that are consistent with the view that those balances are notional until they are spent.

Several restrictions apply to contributions to and withdrawals from HRAs. Contributions may come only from an employer; individuals may not make additional deposits. As a result, once enrollees exhaust the balance in their account, the remaining out-of-pocket payments they make do not receive favorable tax treatment. In addition, balances in the accounts have limited portability—that is, they may not be "cashed out" when an employee leaves the firm, although they may be carried over into retirement (as determined by the employer). A related restriction is that enrollees may withdraw funds only to pay for health care, not to purchase other types of items and services. In addition, according to a recent report, employers generally limit the total balance that employees can build up in the account.[11]

HRAs have grown in popularity over the past few years, after the Internal Revenue Service (IRS) clarified their status and the rules governing them through regulations issued in 2002. On the basis of data from the insurance industry, the Government Accountability Office (GAO) reported in a recent study that by January 2006, the total number of enrollees and dependents covered by HRAs had reached 2.9 million.[12] A separate study, using data from a survey of employers that was conducted by the Henry J. Kaiser Family Foundation in 2005, found that about "2 percent of all firms offering health benefits

10. For another description of those options, see the Internal Revenue Service's Publication 969, "Health Savings Accounts and Other Tax-Favored Health Plans."

11. Bob Lyke, Chris Peterson, and Neela Ranade, *Health Savings Accounts*, CRS Report for Congress RL32467 (Congressional Research Service, updated March 23, 2005), p. 13, available at www.law.umaryland.edu/marshall/crsreports/crsdocuments/RL3246703232005.pdf. Some employers may allow former workers to use their remaining HRA account balances to cover health care costs after they leave the firm.

12. Government Accountability Office, *Consumer-Directed Health Plans: Small But Growing Enrollment Fueled by Rising Cost of Health Care Coverage*, GAO-06-514 (April 2006).

**Table 1-1.**

## Types and Characteristics of Consumer-Directed Health Plans

| | Health Reimbursement Arrangement | Health Savings Account | Flexible Spending Account | Archer Medical Savings Account |
|---|---|---|---|---|
| Eligibility | Depends on employer | Anyone not enrolled in Medicare | Depends on employer | Self-employed individuals and employees of small firms |
| Requirements for Associated Health Plan | None | Minimum deductible (2006): $1,050/$2,100; maximum OOP limit (2006): $5,250/$10,500 | None | Deductibles (2006): minimum, $1,800/$3,650; maximum, $2,700/$5,450; maximum OOP limits (2006): $3,650/$6,650 |
| Contribution Sources and Annual Limits[a] | Employer only | Employer or individual; combined maximum is the lesser of the deductible or $2,700/ $5,450 in 2006[b] | Individual specifies salary reduction at the beginning of the year (the employer may set an upper limit) | In any year, the employer or employee may contribute—but not both; contributions are capped at 65%/75% of the deductible |
| Tax Treatment of Contributions | Employer's contribution: free of all income and payroll taxes and deducted as a business expense as OOP costs are incurred; individual's contribution: not applicable | Employer's contribution: free of all income and payroll taxes and deducted as a business expense; individual's contribution: may be taken as an above-the-line income tax deduction | Employer's contribution: permitted but unusual; individual's contribution: free of all income and payroll taxes | Same as that for HSAs |
| Limits on and Tax Treatment of Withdrawals | Funds may be used for any health care costs tax-free but may not be used for other purposes | Funds may be used for any health care costs tax-free; funds used for other purposes are taxed as income (and assessed an early-withdrawal penalty) | Funds may be used for any health care costs tax-free but may not be used for other purposes | Similar to those for HSAs |
| Annual Rollover and Portability | Unused funds may be rolled over but generally are not portable | Unused funds may be rolled over and are portable | At the end of the year (plus a grace period), unused funds are forfeited | Unused funds may be rolled over and belong to the enrollee |
| Year Authorized | 2002 | 2003 | 1978 | 1996 |
| Most Recent Estimate of Enrollment | In January 2006, 2.9 million policyholders and dependents | In January 2006, 3.2 million policyholders and dependents[c] | In 2004, about 10 million to 12 million accounts (estimates vary widely) | In 2001, about 130,000 households maintained such a policy |

Source: Congressional Budget Office.

Notes: When two numbers are separated by a slash, the first is for an individual policy, the second for a family policy.

HSA = health savings account; OOP = out of pocket.

a. In general, contributions from employers are subject to nondiscrimination rules.

b. As a result of the recently passed Tax Relief and Health Care Act of 2006, contributions from employers may exceed plans' deductibles beginning in 2007.

c. The figure reflects enrollment in HSA-compatible plans, which meet the requirements of an HSA and were marketed as such—although policyholders may not have established an associated account.

reported offering . . . an HRA [design]. In firms that offer this type of arrangement, about 25 percent of employees on average participate in the plan."[13] That study estimated that in the first half of 2005, about 1.6 million employees had HRAs, a figure that does not include spouses and dependents covered by those policies.

According to the most recent survey of employers by Kaiser, which was conducted in 2006, HRA enrollees currently face average annual deductibles of about $1,450 for single coverage and about $3,000 for family coverage, and contributions by employers average about $800 and $1,600, respectively.[14] Limits on enrollees' annual out-of-pocket costs average about $2,700 for single coverage and $5,200 for family coverage—meaning that policies typically include a range of spending above the deductible in which enrollees face some cost sharing. About one-quarter of firms that did not offer an HRA option in 2006 said that they were either very or somewhat likely to do so in 2007.

### Health Savings Accounts

The other main type of consumer-directed health plan is called a health savings account, which has also become available only in the past few years. The option to establish that type of plan was created as part of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (the Medicare Modernization Act). The law permits individuals and families to contribute to an HSA if they purchase and maintain a qualifying high-deductible health insurance policy. With minor exceptions, the high-deductible policy must be the only form of health insurance that enrollees hold; that is, the law does not permit them to purchase a supplemental policy that would cover their costs until the deductible was reached.

As with an HRA, funds contributed to an HSA are untaxed dollars that may be used to pay medical expenses that are not covered by insurance. Specifically, individuals who contribute directly to such an account are eligible for a limited "above the line" deduction on their income tax returns, whereas individuals who contribute through their employer have those funds excluded from their taxable income.[15] In many ways, the account that is linked to an HSA is like an individual retirement account (IRA), but the rules governing withdrawals differ. Funds may be withdrawn from HSAs to pay for allowable medical costs at any time without penalty—and in that case, those funds are never taxed. By contrast, IRA funds are generally subject to income taxation when they are deposited or withdrawn. HSA balances, like those of IRAs, may also be invested and may accumulate interest or capital gains tax-free. In general, little is known about the investment options available to HSA enrollees, but two of the HSA plans that are currently available to federal workers provide fixed rates of interest for smaller account balances and various options for investing in the stock market for larger balances.

In addition, HSAs include the following key features.

- Health savings accounts may be offered by employers—but unlike HRAs, HSAs are also available for purchase in the individual insurance market. HSAs that are purchased and funded through an employer still have a financial advantage, however: contributions from employers and employees avoid all income and payroll taxes, whereas purchasers of HSAs in the individual market receive only the income tax deduction for their contributions.[16] In addition, premium payments for an employment-based HSA avoid income and payroll taxes, whereas premium payments for individually purchased policies (except policies purchased by people who are self-employed) are not tax favored.

13. Gary Claxton and others, "What High-Deductible Plans Look Like: Findings from a National Survey of Employers, 2005," *Health Affairs* Web Exclusive (September 14, 2005), available at http://content.healthaffairs.org/cgi/content/full/hlthaff.w5.434/DC1. For the overall results of the survey on which that study was based, see Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2005 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2005).

14. See Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2006 Annual Survey.* The average deductibles for 2006 that Kaiser reported were somewhat lower than those for 2005, although the differences were not statistically significant. For family deductibles, that difference could partly reflect a change in the survey's methodology. In addition, a substantial minority of HRA enrollees "work in firms who report that the deductible is not included in the out-of-pocket maximum," but it is not clear whether the out-of-pocket limits were adjusted to include the deductible in those cases. The 2006 survey did not report the share of employees who chose an HRA when it was offered.

15. An "above the line" deduction is one that is available to all tax filers, regardless of whether they itemize other deductions or take the standard deduction.

16. Even if their employer does not contribute to their HSA, employees might be able to contribute funds to their account through a salary-reduction mechanism, which would allow them to avoid payroll taxes on those funds as well.

- Another difference between HRAs and HSAs is that funds from HSAs may be withdrawn and used for purposes other than health care. Such withdrawals are subject to income taxation, however, and to an early-withdrawal penalty of 10 percent for people under the age of 65. Correspondingly, contributions to HSAs by employers are treated as a business expense at the time of the contribution—because at that point the funds come under the employee's control (a concept known as "constructive receipt").

- Both HSA and HRA policyholders may accumulate funds in their accounts, but balances in HSAs roll over from year to year without restriction, and HSA participants retain any unused balances if they change jobs—that is, the funds are portable. If at some point an individual is no longer enrolled in a qualifying high-deductible health plan, he or she may not make additional HSA contributions but may use any remaining balances to pay for qualified medical expenses and still avoid taxation of that money.[17] A similar restriction is that Medicare enrollees may not contribute to HSAs, although they may use any existing balances to cover their out-of-pocket medical expenses without owing income tax on those withdrawals.

- Contributions to HSAs may be made "just in time" for the medical expenses they are to cover or even after incurring those expenses, so individuals do not need to save in advance to get favorable tax treatment but instead can channel funds through their HSA on an as-needed basis (subject to an annual limit on contributions). However, those who did not contribute the maximum amount each year would be forgoing an opportunity to save for future medical costs—and to have interest and investment gains accumulate on those savings—on a tax-favored basis. Individuals over the age of 54 are allowed to make additional "catch-up" contributions (above the standard limits).

Compared with HRAs, HSAs are subject to fewer restrictions on the use of their funds but have much more specific requirements regarding contributions and policy designs.

- In 2006, the annual deductible for a qualifying HSA policy must be at least $1,050 for single coverage or $2,100 for family coverage, and the maximum annual amount to be paid out of pocket may be no greater than $5,250 or $10,500, respectively. Each year, those limits rise at the rate of general inflation (as measured by the consumer price index).[18]

- The statute that established HSAs specifies one set of exceptions to the requirement that a qualifying plan must have a high deductible: it allows—but does not require—those policies to cover certain preventive-care benefits (such as screening tests, annual physicals, prenatal and well-child care, and immunizations) before the deductible has been met. At the same time, the IRS has affirmed that health plans that cover the costs of prescription drugs before a person has satisfied the general deductible will not qualify as HSAs.[19]

- Both policyholders and their employers may contribute to HSAs, but total annual contributions have not been allowed to exceed the lesser of the policy's deductible or the limits specified in law. In 2006, the statutory limits on contributions are $2,700 for a single policy or $5,450 for a family policy (and those limits are also indexed to general inflation).[20] With the recent passage of the Tax Relief and Health Care Act of 2006, contributions to HSAs may exceed a plan's deductible beginning in 2007.

As is the case with HRAs, information on HSAs' enrollment and on the specific features of the policies that have been purchased is limited. A census of insurers con-

17. Individuals who have an employer-sponsored HSA and then change jobs and who want to continue contributing to their account would have to either obtain a qualified high-deductible plan through their new employer or purchase one on the individual insurance market—because unlike the funds in the account, the insurance policy itself is not portable.

18. For 2007, the minimum deductible will be $1,100 for single coverage and $2,200 for family coverage, and the limit on out-of-pocket costs will not be allowed to exceed $5,500 for single policies and $11,000 for family policies. For plans that have a network of health care providers but also cover services received outside that network, the limits on out-of-pocket costs apply only to services from providers within the network.

19. See Internal Revenue Service, "Revenue Ruling 2004-38," *Internal Revenue Bulletin 2004-15* (April 12, 2004), p. 717. As a transition measure, the IRS allowed plans that provided drug coverage below the general deductible to qualify as HSAs during 2004 and 2005.

20. For 2007, the respective contribution limits will be $2,850 and $5,650.

ducted by an industry trade group tracked sales of high-deductible policies that had been marketed as "HSA compatible" (which means the policies have a qualifying deductible) but was unable to determine how many of those policyholders established an associated account.[21] According to the trade group, the total number of enrollees in HSA-compatible plans surpassed 1 million in March 2005 and had grown to 3.2 million by January 2006.[22] Of that total, about 0.9 million people were covered by individually purchased (nongroup) policies; about 1.4 million, by employment-based group policies; and about 0.9 million, by policies that could not be allocated between the two markets. Insurers also provided information about their best-selling HSA-compatible plans in the nongroup market: the average deductible was about $2,400 for single policies and $4,800 for family policies, and out-of-pocket limits averaged about $3,400 and $6,800, respectively.

Other sources have provided differing estimates about the establishment and use of the accounts associated with HSAs. The recent GAO report cited insurance industry officials as estimating that 50 percent to 60 percent of all enrollees in HSA-compatible plans had opened and contributed to such an account.[23] That figure would indicate that roughly 900,000 accounts had been established as of January 2006 (under the assumption that there were about two covered enrollees per account). But a more recent report from a market-research firm indicated that the total number of HSA accounts would reach about 3.6 million by the end of 2006—up from 1.1 million at the end of 2005.[24] If that estimate is correct, it indicates that the total number of HSA enrollees and the share of enrollees who have established an account have both increased sharply over the past year. The latter report also estimated that HSA accounts would hold about $5 billion in combined deposits by the end of 2006, for an average account balance of about $1,400. Another area of uncertainty concerns the share of individual contributions to HSAs that are being made through salary reduction (which avoids both income and payroll taxes).[25]

Additional information about HSAs offered in the employment-based group market is available from the Henry J. Kaiser Family Foundation surveys of employers mentioned earlier.[26]

- According to the 2005 Kaiser survey, about 2 percent of firms that offered health benefits offered an HSA-compatible plan, and about 15 percent of workers participated when an HSA was offered. The "take-up," or participation, rate was higher in smaller firms and lower in larger firms.
- In 2006, the overall share of firms that offered an HSA increased to 6 percent, and the share of firms with more than 1,000 workers that offered such plans grew from 4 percent to 12 percent.
- Enrollees in employment-based HSAs currently face an average deductible of about $2,000 for single coverage and about $4,000 for family coverage; average contributions by employers are about $700 and $1,150, respectively.
- Thirty percent of workers who have single coverage and 16 percent of workers who have family coverage are in plans whose deductibles are close to the mini-

21. See AHIP Center for Policy and Research, *January 2006 Census Shows 3.2 Million People Covered by HSA Plans* (Washington, D.C.: America's Health Insurance Plans, March 9, 2006), available at www.ahipresearch.org/pdfs/HSAHDHPReportJanuary2006.pdf.

22. AHIP Center for Policy and Research, *January 2006 Census Shows 3.2 Million People Covered by HSA Plans*. Those figures include spouses and dependents covered by the policies. The Government Accountability Office (*Consumer-Directed Health Plans*, p. 12) cited a different survey of insurers that reported a lower total number of enrollees and dependents in HSA-compatible plans—2 million as of January 2006.

23. Government Accountability Office, *Consumer-Directed Health Plans*, p. 17.

24. Ann Carrns, "Banks Pile Into Health Savings Accounts," *Wall Street Journal* (November 14, 2006).

25. Another recent report from GAO estimated, on the basis of IRS data for 2004, that about 55 percent of enrollees in HSA-eligible plans reported tax-deductible account contributions. But those figures did not include contributions that individuals made through their employer (through salary reduction), which are excluded from taxable income. About half of those who made contributions to HSAs in 2004 also reported that they made withdrawals from their account. See Government Accountability Office, *Consumer-Directed Health Plans: Early Experience with Health Savings Accounts and Eligible Health Plans*, GAO-06-798 (August 2006).

26. Claxton and others, "What High-Deductible Plans Look Like"; and Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2005 Annual Survey* and *2006 Annual Survey.*

mum statutory levels. As for the limits on annual out-of-pocket costs, they currently average about $3,200 for single policies and $6,000 for family policies.[27]

Looking ahead, the most recent Kaiser survey also found that among firms that did not offer an HSA in 2006, 4 percent reported that they were very likely to do so in 2007, and 19 percent said they were somewhat likely to do so.[28] Among larger firms (which account for about half of all workers), about 10 percent indicated that they were very likely to start offering an HSA. Enrollment in employer-sponsored HSAs thus seems likely to grow. In early 2006, the Department of the Treasury projected (on the basis of prevailing law) that total enrollment in HSAs would reach 14 million by 2010.

### Flexible Spending Accounts

Flexible spending accounts share several of the characteristics of consumer-directed health plans but also have some unique features that highlight some of the issues that surround those plans. FSAs, like HRAs, are offered only through employers. They are typically used to supplement a conventional health insurance policy and allow individuals to pay for a wide variety of health care services with pretax dollars. (In this case, however, the term "flexible spending account" refers only to the account and not to the accompanying insurance policy.)

For employees who choose to establish an FSA, the contributions to it usually come directly from their salary; the law allows contributions by employers, but such arrangements appear to be rare. Although each enrollee may choose his or her level of annual contributions, the amount must be specified at the beginning of each calendar year and (with certain exceptions) may not subsequently be increased or decreased. The IRS does not limit the level of the contributions, but employers generally specify a maximum annual amount that employees may deposit.[29]

FSA funds, like those contributed to consumer-directed health plans, are not subject to income or payroll taxes when they are deposited or when they are withdrawn to pay for health care services. Funds in FSAs may be used to cover out-of-pocket costs under an enrollee's health plan and to pay for services that are not normally covered by health insurance, such as laser vision correction surgery or certain types of dental care. As is the case with HRAs, however, withdrawals from FSAs are allowed only for qualified medical expenditures.

An important difference between FSAs and the other types of accounts discussed earlier is that any balance remaining in an FSA at the end of the year is ultimately forfeited to the employer.[30] That provision—when combined with the requirement that consumers must specify their contribution at the beginning of the year—leads account holders to contribute only enough to cover medical costs that they are quite likely to incur. Account holders may also feel compelled to spend any remaining balance at the end of the year, given that they must "use it or lose it." To mitigate those pressures, the Treasury Department recently established a "grace period" during which balances that remain in FSAs at the end of a calendar year may be used to pay for health care services provided through March 15th of the following year (at which time any remaining balances would be forfeited).[31]

27. The census of insurers by the AHIP Center for Policy and Research also reported average deductibles and out-of-pocket limits for their best-selling policies in the employment-based group market, and the results were similar to those of the Kaiser surveys. On average, the AHIP survey also found that HSAs offered by smaller employers had slightly higher deductibles and out-of-pocket limits than HSAs offered by larger employers.

28. Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2006 Annual Survey.*

29. See Chris L. Peterson and Bob Lyke, *Health Care Flexible Spending Accounts*, CRS Report for Congress RL32656 (Congressional Research Service, updated February 7, 2005), p. 7, available at www.law.umaryland.edu/marshall/crsreports/crsdocuments/RL3265602072005.pdf.

30. The recently passed Tax Relief and Health Care Act of 2006 gives individuals one opportunity to move certain unused FSA funds into an HSA before 2012.

31. Allowing such a grace period is very similar to permitting a limited rollover of unused FSA balances, because enrollees who ended a given calendar year with funds in their FSA could reduce their contribution for the next calendar year accordingly. Specifically, they could reduce their new contributions by the amount of their end-of-year balance or by their expected out-of-pocket medical costs through March 15th—whichever was less. Then, during the grace period, they could cover their incurred costs by using their leftover balance instead of tapping into their new contributions.

Some information is available about eligibility for health care FSAs, but reliable figures on actual enrollment are lacking. According to some recent press reports, anywhere from 7 million to 18 million workers have such accounts.[32] The best available data come from an annual survey of employers conducted by Mercer Human Resource Consulting. According to the 2004 survey, among employers that had 10 to 499 workers, 24 percent offered FSAs, and 38 percent of eligible workers actually participated.[33] Among larger firms (500 or more employees), 81 percent offered a health care FSA in 2004, and an average of 20 percent of eligible employees participated. The Mercer survey also indicated that annual contributions to FSAs averaged about $1,300 per participant; smaller firms saw slightly larger average contributions.

Converting those figures into estimates of FSA enrollment that are comparable to other published reports presents several challenges. The results of the Mercer survey suggest that about 60 million workers are employed by private-sector firms that offer an FSA and that roughly 10 million of those workers have such an account.[34] Those figures include neither spouses and dependent children nor government employees with FSAs; thus, the total number of people covered by such accounts is probably much larger. At the same time, published figures for FSA enrollment sometimes include the number of individuals in so-called premium conversion plans, which allow employees to pay their share of their insurance premiums on the same tax-favored basis that is given to employers' payments. That option was created by the same section of the tax code that authorized FSAs, but strictly speaking, FSA funds may not be used to pay health insurance premiums.[35]

32. Stephanie Armor, "Workers Forfeit Millions in Health Spending Accounts," *USA Today* (December 20, 2004); and Tom Herman, "A Setback for a Popular Health Benefit," *Wall Street Journal* (January 5, 2005).

33. Mercer Human Resource Consulting, *National Survey of Employer-Sponsored Health Plans* (New York: Mercer Human Resource Consulting, 2005); and Herman, "A Setback for a Popular Health Benefit."

34. The Medical Expenditure Panel Survey, conducted by the Department of Health and Human Services' Agency for Healthcare Research and Quality, collects data on employers' offers of FSAs. It yields figures similar to those from the Mercer survey but does not track the number of accounts that are established.

## Medical Savings Accounts

Starting in 1996, legislation was enacted to permit sales of two types of health insurance policies that incorporated medical savings accounts, the precursors to HSAs. One type, which came to be known as Archer MSAs, was available only to self-employed individuals and employees of small businesses. The other type was an option established for enrollees in Medicare. Although specific features of the two types of plans differed, the approach in both cases combined a high-deductible health insurance policy with a tax-favored account that belonged to the enrollee and whose contributions could be used to cover out-of-pocket health care costs. At least initially, each type of MSA was subject to specific limits on its total enrollment, and the law's authorizations to sell new policies were temporary. Both of those factors probably contributed to low levels of enrollment in MSAs.

**Archer MSAs.** Although Archer MSAs were similar to HSAs in many respects, they were subject to several additional restrictions.

- For contributions to and withdrawals from the MSA to receive tax-favored treatment, the deductible on the accompanying health plan had to fall between specified minimum and maximum levels.
- Contributions to MSAs, like those to HSAs, could come from policyholders or their employers—but both could not contribute in the same year, and annual contributions were limited to 65 percent of the deductible for single coverage and 75 percent of the deductible for family coverage.
- Unlike HSAs, Archer MSAs were not available for purchase in the individual insurance market or by larger employers.
- The authorization for employers to establish a new Archer MSA option was temporary, and after several extensions, it expired at the end of 2005. However, the Tax Relief and Health Care Act of 2006 extended that deadline through 2007.

35. See the Internal Revenue Service's Publication 969, "Health Savings Accounts and Other Tax-Favored Health Plans," p. 13.

- Total enrollment in MSAs was generally capped at 750,000 taxpayers; the total number of households that had Archer MSAs in 2001 was estimated, on the basis of Treasury Department data, to be about 130,000.[36]

Although the option of selling new Archer MSAs expired, existing enrollees were allowed to retain their policies. They would probably find it advantageous, however, to switch to an HSA, and balances in Archer MSAs may be rolled over into HSAs with no penalty.

**Medicare MSAs.** Medicare enrollees are barred from participating in HSAs or Archer MSAs, but insurers may offer them a plan with an MSA design through Medicare. Although no insurers have chosen to offer a Medicare MSA, a new demonstration project may soon allow Medicare enrollees to select an HSA-like plan.

Under a Medicare MSA, the insurer would provide a high-deductible policy that covered Medicare's benefits. The difference between the average cost of providing that policy and the standard Medicare payment rate for private health insurance plans in the enrollee's geographic area would then be deposited in the enrollee's medical savings account.[37] (Enrollees would not be allowed to make additional contributions.) Funds that were withdrawn to pay for medical expenses would not be taxed; funds that were withdrawn and used for nonmedical purposes (a practice permitted under the option) would be taxed as income but would not incur an additional penalty—provided that the withdrawals did not reduce the balance in the account below 60 percent of the plan's deductible.

The Medicare MSA program was initially a temporary demonstration project with a time limit on sales of new policies and a cap on total enrollment. Whether as a result of those restrictions or because the option was not considered likely to be attractive to Medicare enrollees, no private insurers have offered a Medicare MSA plan.[38] The legislation that created HSAs in 2003 also removed the restrictions on enrollment in Medicare MSAs, but it is unclear whether private insurers will now offer such plans or whether beneficiaries will participate in them if given the chance to do so.

Recently, the Department of Health and Human Services announced that it would undertake a demonstration project to allow insurers to offer Medicare beneficiaries health plans that have certain HSA-type features. For example, plans could offer partial coverage of health care costs once a specified deductible was met (Medicare MSAs are required to provide full coverage above the deductible) and provide coverage below the deductible for certain preventive services. The rules under this option regarding payments to insurers and deposits to accounts would be the same as those for Medicare MSAs.

36. Alexandra Minicozzi, "Medical Savings Accounts: What Story Do the Data Tell?" *Health Affairs* (January/February 2006).

37. The payment to the insurer would be adjusted to reflect the expected health care costs of any enrollees; that is, the payment would be larger for enrollees who were expected to have higher costs and lower for enrollees who were expected to incur fewer costs.

38. For further analysis, see Medicare Payment Advisory Commission, *Medical Savings Accounts and the Medicare Program* (November 2000), available at http://permanent.access.gpo.gov/lps21043/nov2000medsav.pdf.

CHAPTER

2

# Effects of Consumer-Directed Health Plan Designs on Incentives to Use Care

One of the key concepts behind consumer-directed health plans is that—in the face of a higher annual deductible—enrollees will have stronger incentives to consider the costs of the care they seek and to balance those costs against the health benefits they expect to receive. If a broad cross section of individuals switched to consumer-directed plans, the nature and extent of the change in their incentives would strongly depend on the form of their previous insurance. For example, the new tax-favored treatment for out-of-pocket costs might lead enrollees who had previously held a high-deductible health insurance policy by itself to increase their health care spending, at least initially. Moreover, the relative incentives to limit spending would depend on whether the consumer-directed plan was a health reimbursement arrangement or a health savings account, because of the different rules that govern the linked accounts.

After comparing the incentives created by different high-deductible plans, this chapter focuses primarily on the contrast between consumer-directed and conventional health plan designs—the type of coverage that most individuals get through an employer. Conventional designs typically feature much lower deductibles, but they also tend to have broader ranges of spending over which enrollees pay some portion of their health care costs. A comparison of the incentives to use health care services that are inherent in those two designs—both overall and with regard to the use of preventive care, prescription drugs, and very expensive services, such as hospitalizations—helps clarify the potential effects of consumer-directed plans on health care spending.

In addition to considering how enrollees' cost sharing affects their spending, this analysis also accounts for efforts by health plans to manage care. To the extent that insurers who offer conventional plan designs already take steps to discourage the use of care that is not cost-effective, then the scope for further reductions in spending or improvements in efficiency from enrolling a broadly representative group of people in consumer-directed plans will be smaller. In other words, if more-prudent management of care by an enrollee in a consumer-directed plan primarily substitutes for management by the health plan, the net effect on health care spending may be limited. (Subsequent chapters consider whether consumer-directed designs might have broader, transformative effects on health care prices or delivery and whether enrollment in such plans is likely to be representative of the population or concentrated among those with lower health care costs.)

## Comparing Consumer-Directed Designs with a Simple High-Deductible Plan

For an enrollee in a health savings account, the incentives to weigh the costs and benefits of using health care are similar to—but generally not quite as strong as—those that would exist under a comparably structured high-deductible health insurance policy alone. For expenditures below the deductible, an individual who decided to use HSA funds to pay for care would initially be liable for the full costs of those services—just as someone with a high-deductible policy and no such account would be. The difference is that the tax subsidy for using HSA funds makes it less costly on a net basis to purchase health care than to buy other items. In other words, when HSA funds are used, the relative price of health care is reduced in proportion to the enrollee's marginal tax rate (the rate that applies to the last dollar of income).

For a typical worker who faces a marginal tax rate of 25 percent (including federal and state income taxes and

the employee's share of payroll taxes), deciding to pay for $100 worth of medical care by using HSA funds implies giving up $75 worth of other goods and services.[1] More precisely, those are the financial incentives that face someone who is deciding whether to cover that expense by making a deposit to her HSA through her employer. Given those incentives, that individual would presumably purchase that care if she judged its expected benefits to be worth more than $75. If, instead, she was considering whether to use funds that had already been contributed to her HSA—and if those funds were subject to the 10 percent penalty on early account withdrawals—then she would face a trade-off between buying $100 in medical services and $65 in other goods.[2] By contrast, an enrollee who had only a high-deductible policy and who decided to buy $100 worth of health care would give up $100 in other purchases—so the expected benefits of the care would have to exceed that larger amount for the enrollee to opt for it.

HSA enrollees could face stronger incentives to limit their health care spending if their insurance policy's deductible was above the limit on contributions to their health savings account. Between those two points, enrollees would have to cover the full costs of their care by using either previously accumulated balances in their accounts or after-tax dollars—and in the latter case, their net costs for health care services would be the same as those for people who had only a high-deductible policy. Whether HSA enrollees in that situation would have an account balance on which to draw would depend on their contributions and withdrawals in prior years, which would vary both among individuals and over time; currently, little is known about the distribution of balances in health savings accounts. Nevertheless, the available information on deductibles for HSAs indicates that on average, they are below the limits on annual contributions.[3] Thus, it appears that most HSA enrollees could cover all of their health care costs up to their deductible with tax-favored funds. (Starting in 2007, contributions to HSAs may exceed the policy deductible.)

For some enrollees, the incentives to limit spending under a health reimbursement arrangement could be comparable to the incentives under a simple high-deductible policy; for other enrollees, those incentives would be weaker under an HRA. HRA enrollees who were trying to decide whether to purchase an additional health care service and who had already exhausted the balance in their account but not yet met their health plan's deductible would have to pay for that service with after-tax dollars—and thus would face clear financial incentives. But enrollees who were trying to decide whether to use the funds in their account might find it more difficult to determine the economic cost of that additional service, for several reasons. The fact that HRA funds may be used only for health care and are generally not portable from job to job would tend to make some enrollees treat them less like cash and more like a "free" resource. Unused funds in an HRA may be rolled over from one year to the next; enrollees thus have an incentive to limit their expenditures—so that they can use those funds to cover future health care costs instead of paying cash. But those rollovers may be limited, either on an annual basis or overall, which weakens the inducement for enrollees to build up their account balances.

Even if an HRA's design included unlimited rollovers, the financial incentives for enrollees to limit their spending below the deductible would depend on several other factors, including their expectations about their future health care costs and contributions by their employer, the

1. If HSA enrollees' employers allowed them to contribute to the account through a reduction in salary, those funds would avoid both income and payroll taxes. (Such an arrangement would be similar to the current system for deposits to flexible spending accounts but would have to allow the amount of the contribution to be adjusted at the enrollee's discretion.) If, instead, enrollees contributed directly to the account, the funds would avoid income taxes but not payroll taxes—in which case, the typical tax rate would be about 17 percent. The share of individual contributions made in each manner is not known.

2. Enrollees also have the option of leaving the funds in their account, an approach whose attractiveness depends partly on the future tax rates they expect to face. Note also that unlike the tax subsidy for employment-based health insurance premiums, the tax subsidy for paying out-of-pocket costs from an HSA does not include the employer's portion of payroll taxes. That portion of the tax savings that result when an individual makes a deposit to an HSA accrues to the employer (at least initially) and will not affect the individual's decision about whether or not to use health care.

3. The 2006 survey of employers by the Kaiser Family Foundation and Health Research and Educational Trust (*Employer Health Benefits: 2006 Annual Survey,* Washington, D.C., Henry J. Kaiser Family Foundation, September 2006) found that 6 percent of individual HSA policies had deductibles of $3,000 or more and that 38 percent of family policies had deductibles of $5,000 or more. The respective contribution limits for 2006 are $2,700 and $5,450, making it difficult to determine exactly what share of HSAs have deductibles that exceed the contribution limits.

current balance in their account, and how long they expected to remain at that firm. (Enrollees will also vary in the extent to which they are forward-looking and in the predictability of their health care costs.)

- If enrollees expected their future costs for health care to be less than their employer's cumulative contributions to their HRA, they would anticipate leaving the firm with a positive HRA balance—which they would have to forfeit. In that case, any additional health care spending they incurred now would simply reduce the amount they would ultimately expect to forfeit. Under those circumstances, an individual would be likely to use care as long as it provided some expected medical benefits—because from the individual's perspective, the care is free. That incentive is particularly clear for someone who expects to leave his or her job soon and has an ample HRA balance; the pressures to "use or lose" those funds resemble those that operate under a flexible spending account.

- If, instead, enrollees expected that their health care costs in the future would exceed their employer's contributions—or in the face of uncertainty about their future needs for health care, they wanted to maintain a higher balance as a form of self-insurance—then they would have a stronger incentive to forgo current medical services whose benefits were limited. HRA enrollees may spend the money they retain in their account only to cover health care costs, not on other kinds of items and services. In practice, however, that distinction is not meaningful: keeping up the balance in their account by forgoing a treatment now will reduce—on a dollar-for-dollar basis—the level of future out-of-pocket health care costs that they will have to cover from their after-tax income. In turn, that will leave them with more after-tax funds available for other purchases. In that case, the incentives to limit health care spending are essentially the same as those associated with a simple high-deductible policy, and enrollees will treat their HRA balances as being equivalent to cash.

The incentives that would face HSA and HRA enrollees in plans with similar designs could also differ depending on the level and predictability of their health care spending. For people who expected their costs for health care to be low, the tax advantages of HRAs and HSAs would be similar, but HSAs would provide a stronger inducement to limit the use of health care services because enrollees would always get to keep the resulting savings and thus would tend to treat the funds in their accounts like cash. But for enrollees who expected their health care costs to be higher, the incentives to limit the use of care under an HRA might be modestly stronger than those under an HSA. Employers typically contribute amounts to HRAs that are much smaller than the overall limits on contributions to HSAs, so (other factors being held constant) individuals with higher health care costs would be more likely to spend after-tax dollars for their care if they were enrolled in an HRA than if they were enrolled in an HSA. For such enrollees in HRAs, then, the limited portability of those funds and their tax-favored status would have less effect on the use of care—because those enrollees would anticipate that eventually they would need the funds to pay for highly valued health care services. However, to the extent that individuals were uncertain about their future costs for health care, the incentives they faced would reflect an average of the possible outcomes. In that case, it becomes more difficult to determine whether the net costs of their care would be higher under an HRA or an HSA.

Another challenge that arises in comparing consumer-directed plans and a simple high-deductible policy with the same design is that those designs might evolve over time. In particular, making some out-of-pocket spending tax-free might encourage enrollees to move toward health plans that had higher cost-sharing requirements, at least to some degree—because enrollees could reduce their policy premiums while using the new tax subsidy to limit their risk of bearing higher costs. Indeed, if other factors were held constant, making all health insurance cost sharing tax-free should eventually yield increases in cost sharing that would be large enough to offset the effects of the new tax subsidy (see Box 2-1). The end result would be somewhat lower total health expenditures—although how long it would take to reach that new equilibrium and what the ultimate magnitude of the impact on health care spending would be are unclear.

Determining how that finding applies to an analysis of consumer-directed health plans is also a complex matter. Although those plans allow enrollees to pay some out-of-pocket costs with untaxed funds, they do not provide favorable tax treatment for all out-of-pocket spending. For health reimbursement arrangements, any ripple effect on levels of cost sharing would probably be small because tax-favored contributions under those plans are generally less than their deductibles. For health savings accounts,

**Box 2-1.**

## Could Tax-Free Out-of-Pocket Costs Reduce Health Care Spending?

Currently, the premiums that are paid for employer-sponsored health insurance policies receive favorable treatment under the tax code. Those costs are deductible for employers as a business expense, and (unlike other forms of compensation) they are not included in the taxable income of employees. By contrast, employees must generally finance the portion of their health care costs that is not covered by insurance—the cost-sharing amounts that they must pay "out-of-pocket"—by using after-tax dollars. That difference makes insured costs less expensive than out-of-pocket costs on a net basis and thus encourages employees to seek more-comprehensive insurance coverage; more-comprehensive coverage in turn increases total spending for health care. From time to time, economists and others have proposed that lawmakers repeal the tax advantage given to employer-sponsored insurance—so that health insurance premiums are taxed as income to employees.

What would happen if, instead, out-of-pocket costs were given the same favorable tax treatment that insured costs receive? That is, what if people could also pay their out-of-pocket costs with funds that had been excluded from their taxable income? The initial effect would probably be to further increase health care spending by lowering the effective price that people paid for their health care services. But two recent studies have shown that if all health insurance cost sharing was made tax-free, that change would eventually yield increases in cost sharing that would be large enough to offset the initial effect—so that health care spending ultimately would be reduced.[1] In other words, people would change their insurance coverage over time so that they were paying a larger share of their health care costs out of pocket, even after taking into account the new tax advantage that would apply to that spending.

Such a result may seem surprising, but it can be illustrated through a simplified case in which individuals choose insurance policies that specify only a coinsurance rate (the percentage of the cost of each health care service that policyholders must pay). That choice requires a trade-off to be made: the lower the coinsurance rate that an individual selects, the less risk he or she will have of incurring high medical bills but the higher will be the policy premium. (The premium will be higher both because the policy will cover a larger share of total health care costs and because that more-comprehensive coverage will lead policyholders to use somewhat more health care.) In general, when individuals are deciding which policy to purchase, they will move to a lower coinsurance rate until the benefits of reducing their risk (by decreasing the variability in their out-of-pocket costs) just equals the costs of paying a higher policy premium.

Now consider the effects of favorable tax treatment for health care costs. Providing a tax subsidy only for costs covered by insurance (as is done now) encourages people to choose a policy that has a lower coinsurance rate, other things being equal, because the subsidy reduces the net cost of the policy premium. But if people could also pay all of their out-of-pocket costs with tax-free funds, they could achieve the same net coinsurance rate with a cheaper policy—that is, one with a higher gross rate—and pocket the savings in premiums.[2] A numerical example helps clarify that case. Suppose that an individual's initial optimum point (when only their premiums are paid with untaxed funds) is a policy with a coinsurance rate of 30 percent and that their marginal tax rate is 25 percent. If all out-of-pocket costs were made tax-free, that person could switch to a policy with a gross coinsurance rate of 40 percent and face the same risk

1. See William Jack and Louise Sheiner, "Welfare-Improving Health Expenditure Subsidies," *American Economic Review*, vol. 87, no. 1 (March 1997), pp. 206–221; and John F. Cogan, R. Glenn Hubbard, and Daniel P. Kessler, *Healthy, Wealthy, and Wise: Five Steps to a Better Health Care System* (Washington, D.C.: AEI Press, 2005).

2. Two well-founded assumptions underlie that analysis: first, that employers offer health insurance policies that reflect the collective preferences of their employees; and second, that employees will reap the savings from moving to a policy that has a lower total premium—either directly, through lower payments, or indirectly, through higher wages.

**Box 2-1.**

## Continued

that they did before—that is, their coinsurance rate net of taxes would still be 30 percent.[3] Because that insurance policy would be correspondingly cheaper, enrollees would prefer it.

How would those changes affect health care spending? If all enrollees did was to change their insurance policies so that they faced the same net coinsurance rate that they faced before, there would be no impact (the only effect would be a reduction in tax revenues). But if that policy was used as a starting point, a small increase in the *net* coinsurance rate would yield larger savings in premiums than it would have before—because it would involve a larger increase in the policy's *gross* coinsurance rate.[4] To continue the example, enrollees could now increase their net coinsurance rate from 30 percent to 33 percent by choosing a policy with a gross coinsurance rate of 44 percent. By contrast, if out-of-pocket spending did not receive favorable tax treatment, then the same change in the risk that enrollees faced would involve a smaller increase in their policy's coinsurance rate (from 30 percent to 33 percent) and smaller savings in premiums. Because the premium savings that accompany a given increase in risk are larger when out-of-pocket costs are tax-free, enrollees could be expected to move in the direction of higher net coinsurance—at least to some extent. In turn, the higher net coinsurance rate would reduce their total health care spending, all other factors being equal.

Several caveats about that result also need to be considered, however. First, although the direction of the effect is clear—spending for health care services covered by insurance would eventually decline—the effect's magnitude is uncertain. Second, it might take a considerable amount of time for the designs of insurance policies to adjust to the new incentives that would arise if out-of-pocket spending was made tax-free; until those adjustments occurred, total health care spending would probably increase because of the new tax subsidy for out-of-pocket spending. Third, the reasoning outlined above applies only to health care services that are covered by insurance and not to other health-related items and services. In the case of the latter, individuals already pay the full cost, so there is no scope to increase the coinsurance rate. Extending favorable tax treatment to the funds used to pay for those other items and services would tend to increase spending for them because it would create a new tax subsidy but no offsetting reduction in coverage.

3. Under the original insurance policy, the individual would pay $30 for a health care service whose overall cost was $100. With the new insurance policy, the individual would initially owe $40 for that same service but would save 25 percent of that amount (or $10) through lower taxes—so his or her net cost would also be $30.

4. The extent of the premium savings would also depend on how enrollees' use of care responded to the higher net coinsurance rate they would face.

the impact on cost-sharing levels might be greater because more spending can be tax-free. In particular, HSA enrollees who had a deductible that fell below the cap on annual contributions would have an incentive to raise that deductible—because the increase in their out-of-pocket costs could still be covered by using untaxed funds. HSA enrollees would have less of an incentive to increase their deductible above the annual cap on contributions, however, and under current law, that cap is slated to grow more slowly than average medical costs. Moreover, HSA funds can be used to pay for services that are not typically covered by insurance (such as infertility treatments or chiropractic care). Because there is no scope to raise the level of cost sharing for such services, the tax subsidy will only tend to increase spending for them.

## Comparing Consumer-Directed Plans with a Conventional Insurance Plan

To illustrate the difference in enrollees' incentives under HRAs and HSAs, on the one hand, and a health insurance policy with a conventional design, on the other, it is

most useful to present an example of plans that provide a similar level of coverage overall. Conventional designs—the type of coverage that most individuals currently receive through an employer—have lower deductibles but obviously lack an account to which employers can contribute tax-free funds to offset enrollees' out-of-pocket costs.[4] Despite those differences, it is possible to specify conventional and consumer-directed designs that—for a fixed set of medical claims—have the same expected costs for providing coverage. In other words, the costs for an employer or insurer to cover those claims (including the costs of funding the accounts associated with the consumer-directed designs) would be the same under each plan. Such comparable plans are said to have the same actuarial value or to be actuarially equivalent.

### Three Illustrative Plans

A recent study by the American Academy of Actuaries provided the basis for developing a set of actuarially equivalent plans with the following benefit parameters:[5]

- A conventional policy that has a deductible of $350, followed by coinsurance of 10 percent until a yearly limit of $1,350 on out-of-pocket costs is reached (after which all health care costs are covered by the plan).
- An HRA policy that has a deductible of $2,000, followed by coinsurance of 20 percent on the next $5,000 in spending and a contribution of $800 by the employer to the associated account. The annual out-of-pocket limit for this plan is $3,000, but because $800 of those costs could be paid from the account, the enrollee would pay a maximum of $2,200 per year out of pocket.
- An HSA that also has a deductible of $2,000, followed by coinsurance of 20 percent on the next $5,000 in spending, an annual out-of-pocket limit of $3,000, and a contribution by the employer of $600 (yielding a maximum net liability of $2,400 per year).

Taking a set of medical claims as a given in designing the illustrative plans has several implications for an analysis of them. First, total premiums would be the same for all three policies. And with total health care spending and total covered costs held constant, average out-of-pocket costs for enrollees—net of account withdrawals and the expected value of any remaining balances—would also be the same.[6] It may seem surprising that the comparison does not yet account for any behavioral response by enrollees to a change in the design of their plan, which could affect both their premiums and their out-of-pocket costs. But structuring the three plans in this way allows the effects of the enrollees' response to be clearly identified. By contrast, with plans that varied in actuarial value, some of the difference in total spending and out-of-pocket costs under them would stem from the difference in the plans' values.

Before analyzing the incentives created by the plans' designs, two aspects of their features merit further discussion. One question that may arise about this example is why the contribution to the HSA is smaller than the one to the HRA, even though the high-deductible health insurance policies attached to them are the same. The reason is that some of the contribution to the HRA will never be used and will revert to the employer—and thus will never become a cost to it or to the insurer.[7] Although some HRA funds will be used in future years, some will be forfeited, as a result of enrollees' leaving the firm or the

4. This analysis focuses on employment-based health insurance because that is the predominant form of private coverage.

5. See American Academy of Actuaries, *The Impact of Consumer-Driven Health Plans on Health Care Costs: A Closer Look at Plans with Health Reimbursement Accounts* (January 2004), available at www.actuary.org/pdf/health/cdhp_jan04.pdf. Although the study did not explicitly analyze an HSA plan, the Congressional Budget Office imputed the parameters of an actuarially equivalent HSA by using the data that the study provided.

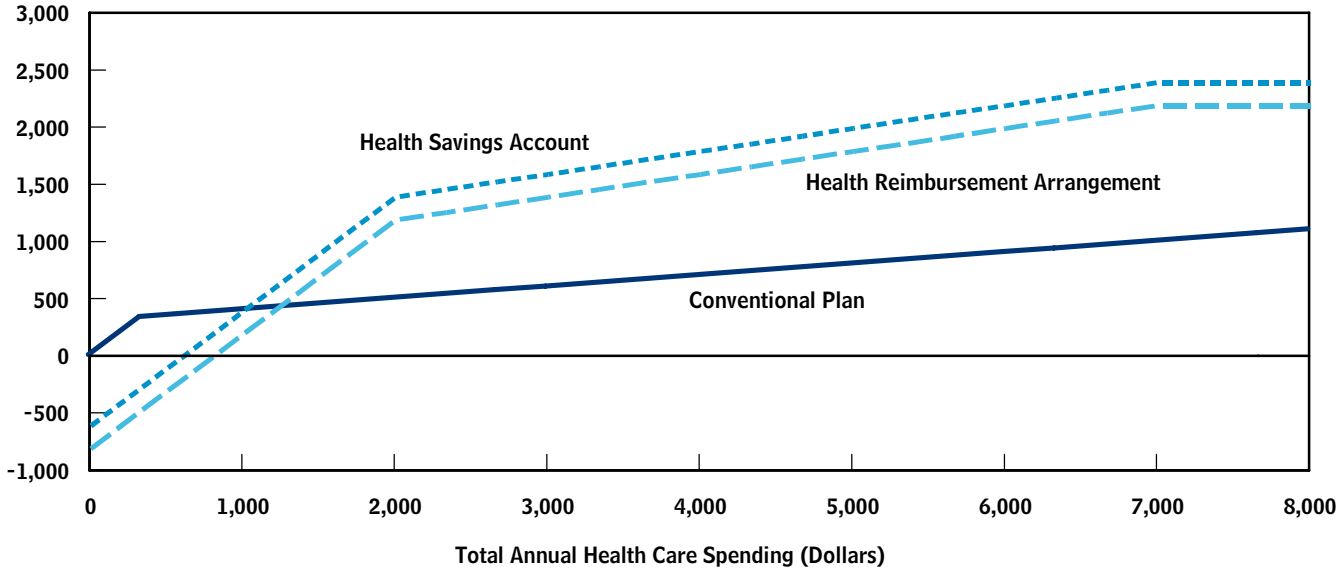
6. According to the Academy of Actuaries' study, average estimated medical costs for individual enrollees would be about $2,600. For the conventional plan, average covered costs would be about $2,100, and average out-of-pocket costs (excluding policy premiums) would be about $500. Costs for providing the catastrophic portion of the coverage under the consumer-directed designs would be about $1,500; the remaining expenditures of about $1,100 would come from the contributions to enrollees' accounts or would be paid out of pocket.

7. Actual withdrawals from HRAs under this design, the Academy of Actuaries' analysis indicates, would average about $500 in the first year, leaving an average balance of about $300. For the HRA plan to be actuarially equivalent to the other two plans, the present value of future spending of those funds would have to be about $100. (The present value is a single number that expresses a flow of future and current funds in terms of an equivalent lump sum received or paid today.) If larger withdrawals occurred in the future, employers' costs for the HRA plan presented here would be slightly higher over time than those for the other two plans, meaning that the employer's contribution to the account to maintain actuarial equivalency should be somewhat smaller than $800.

**Figure 2-1.**

## Comparison of Enrollees' Annual Out-of-Pocket Costs Under Illustrative Plans of Equal Actuarial Value

(Dollars paid out of pocket)




Source: Congressional Budget Office based on American Academy of Actuaries, *The Impact of Consumer-Driven Health Plans on Health Care Costs: A Closer Look at Plans with Health Reimbursement Accounts* (January 2004), available at www.actuary.org/pdf/health/cdhp_jan04.pdf.

Notes: Although the American Academy of Actuaries' study did not explicitly analyze an HSA plan, CBO imputed the parameters of an HSA by using the data that the study provided.

Negative out-of-pocket costs in the figure reflect balances in accounts that may be carried over to succeeding years. Enrollees might consider account balances under an HRA less valuable than those under an HSA because HRA balances are forfeited if enrollees change jobs.

The figure does not reflect the favorable tax treatment of contributions to HRAs and HSAs.

employer's deciding to limit the total amount that may build up in the account. Thus, employers would be contributing slightly more to HRAs than to comparable HSAs, but the HRA funds would be less valuable to enrollees (and less costly to employers) because of the added restrictions on their use. In particular, enrollees in HRAs whose health care costs were generally low might value the balance in their account at less that its nominal level because they might not expect to use all of it.

The second noteworthy aspect of the illustrative plans is that the higher limits on out-of-pocket costs in the consumer-directed plans are not an inherent feature of those designs. Other features of each plan's design could be changed to equalize their out-of-pocket limits on a net basis. (That is, the limits would be equal after factoring in the use of account contributions.) For example, the conventional plan's deductible could be lowered and the coinsurance rate in the consumer-directed plans increased, and the out-of-pocket limits could then be adjusted to maintain the plans' actuarial values. Those changes would yield an increase in the out-of-pocket limit in the conventional plan and a reduction in that limit in the consumer-directed plans. Indeed, it would probably be feasible to revise the two designs so that their actuarial value was the same but the conventional plan had a higher net limit on out-of-pocket costs.

### Comparing Overall Incentives

Those caveats notwithstanding, a comparison of the designs of the three plans highlights the differing financial incentives that enrollees face when they decide whether and to what extent to use health care services (see Figure 2-1). In the example, enrollees in the HSA or

HRA—to the extent that they treat the funds in their accounts as cash—are obliged to balance the expected benefits of that care against its full costs for the first $2,000 in health care services that they use each year (that is, up to the limit of the plan's deductible). The design of the conventional plan encourages that kind of careful consideration only for the first $350 worth of care; between that point and the limit on out-of-pocket costs, the conventional plan enrollee's decision in financial terms is whether the likely benefits of the services exceed 10 percent of their full cost—the share of the costs that the enrollee must pay. (The slopes of the lines in Figure 2-1 reflect an enrollee's initial costs for additional services—not including the tax advantage given to account funds in the consumer-directed plans—with a 45-degree angle representing full liability. The effects of those tax advantages are considered below.)

How might enrollees respond to the incentives they would face under consumer-directed plans? They would have several options, at least in principle. They could seek to obtain the same services but at lower prices—possibly from a different provider. (The effects that consumer-directed plans' designs might have on the average prices paid for care are discussed in Chapter 4.) They could seek a lower-cost treatment for their condition. Or they could simply choose not to use some services. Whether those options were available as a practical matter would depend in large part on the disease or condition in question, its severity in an individual case, and the range of treatments that exist. Which option enrollees chose—and whether they decided to reduce their spending at all—would also depend crucially on their assessment of the benefits of the treatments involved.

Although the three plans differ in their coverage of initial health care costs, Figure 2-1 also shows that once enrollees reach a level of spending that corresponds to the HRA and HSA deductible, there is a large range of spending under all three designs in which they will pay only a small portion of their costs. However, the higher deductibles in the consumer-directed plans mean that their limits on out-of-pocket costs will be reached at a lower level of total health care spending (and that would be true even if all three plans had the same net limit on annual out-of-pocket costs). Thus, over some range of spending, enrollees in conventional plans will generally be financing a small portion of their own care, but enrollees in HSAs or HRAs will have reached the out-of-pocket limit and become insensitive to the costs of those health care services.

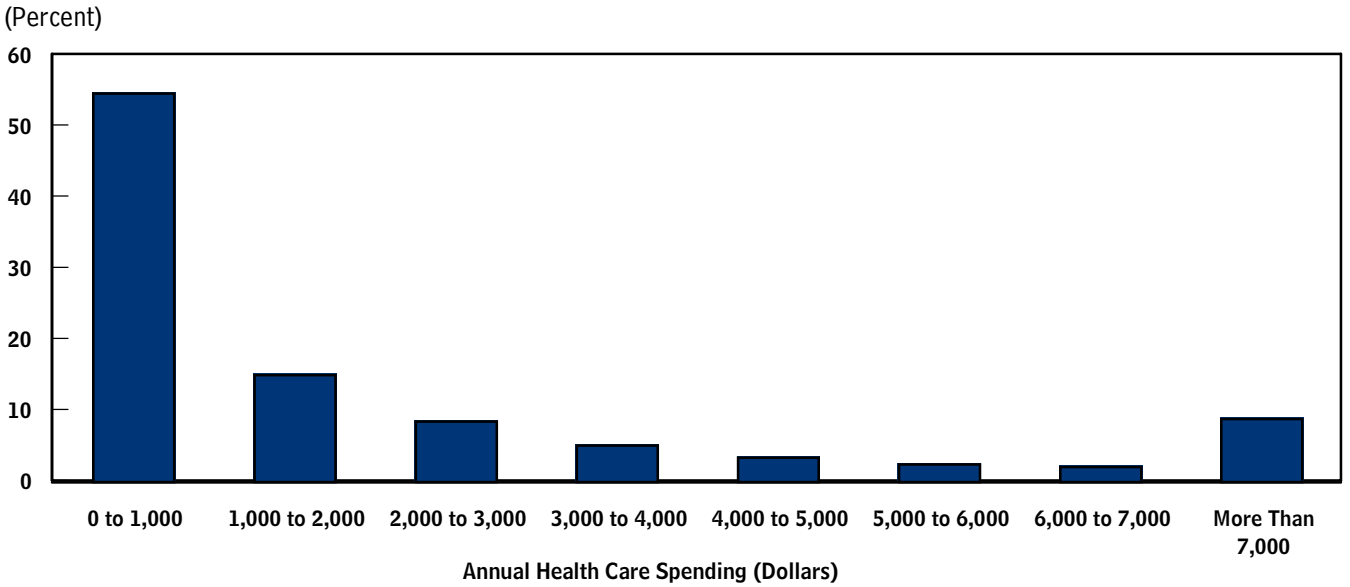
In a comparison of the designs of the plans and their potential effects on expenditures, another important consideration is how many enrollees—out of a broadly representative group—will be in each range of spending (see Figure 2-2). The Congressional Budget Office estimates that among nonelderly individuals who reported having health insurance for the entire year in 2004, 32 percent had total health care costs of less than $350, 23 percent had costs of $350 to $1,000, and 15 percent had costs between $1,000 and $2,000. Another 22 percent had costs that would have put them between the consumer-directed plans' deductible ($2,000) and out-of-pocket limit, which would be reached at $7,000 in total spending. The remainder of the group of nonelderly individuals had costs above that level. Because the illustrative plans were constructed to have equal actuarial value, the financial gains and losses for individual enrollees offset one another overall, once the values of the HRA's and HSA's balances are accounted for. (Chapter 5 discusses how those gains and losses would affect whether enrollment in consumer-directed plans was broadly representative.)

A potentially significant limitation of the comparisons of out-of-pocket costs is that they do not factor in any tax subsidies. Although the subsidies will tend to encourage people to use more care (other things being equal), they will also reduce the financial burden of cost sharing for individual enrollees in proportion to the enrollees' marginal tax rates. The three health plan designs may have different effects on tax revenues as well.

- For HRA plans, the effect of the tax subsidy applies most clearly up to the point at which the employer's contribution or the balance in the account is exhausted—because those dollars are the only ones that receive favorable tax treatment. Over time, if enrollees built up balances in their accounts, the tax treatment of those funds would become a more significant factor in their decision about whether or not to seek treatment.

**Figure 2-2.**

## Distribution of Individuals in Each Range of Health Care Spending, 2004




Source: Congressional Budget Office based on data for 2004 from the Medical Expenditure Panel Survey conducted by the Department of Health and Human Services' Agency for Healthcare Research and Quality.

Note: "Individuals" constitutes a broadly representative group of nonelderly individuals who were privately insured for all of 2004.

- For enrollees in HSAs, the employer's contribution to the account in the example is well below the annual limit on total contributions, so enrollees with higher levels of health care costs could arrange to make most or all of their remaining out-of-pocket payments through the account and so avoid taxation of that money. Thus, they would not generally bear the full cost of the services they received before they had met their annual deductible.

- Further complicating the comparison, however, is that enrollees in conventional plans might also be able to pay for some of their out-of-pocket costs with tax-favored funds by using a flexible spending account. Although they would probably be reluctant to cover more than their predictable medical costs in that manner (because of the use-it-or-lose-it nature of FSA deposits), their out-of-pocket costs would also be more predictable under a conventional plan than under a consumer-directed plan.

Because consumer-directed designs make out-of-pocket costs financed through the account tax-free, they can at least match and may exceed the tax advantages provided by a conventional plan's design. HRAs would offer the same overall tax advantages as conventional plans would, but HSAs would allow more out-of-pocket costs to become tax-deductible (while also reducing tax revenues). Thus, enrollees in conventional plans would find consumer-directed plans more attractive than high-deductible plans alone.

At the same time, the example shows that consumer-directed plans can be structured to offer the same average value as a conventional health plan while generally providing stronger incentives for enrollees to control their initial health care costs—thereby avoiding some of the moral hazard problem common with insurance. That is, their policy will cover the same share of health care costs overall, but the presence of that insurance is less likely to stimulate greater use of covered services because enrollees get to keep most or all of the savings when they limit their spending. That combination is the key innovation embodied in consumer-directed designs.

The focus of consumer-directed designs is thus on influencing the demand for medical care; managed care plans, by contrast, have focused (to a greater or lesser extent) on affecting the supply of services by doctors and other providers. But before considering how the features of

consumer-directed designs interact with efforts by health plans to manage enrollees' use of care—efforts that are also aimed at limiting moral hazard and health care spending—two areas of controversy surrounding those designs warrant attention: coverage of preventive care and prescription drugs and incentives to control costs that exceed a policy's deductible.

### Incentives for Using Preventive Care and Prescription Drugs

A concern that has been expressed about health plans' having high deductibles is that they could discourage the use of "preventive" care and prescription drugs and thereby raise overall costs for health care. In principle, preventive care (such as screening for the presence of a disease or for risk factors associated with it) can help avoid the more costly treatments required after a disease has developed further. Likewise, the use of prescription drugs may forestall or slow the progression of a disease that would be more expensive to treat at a later stage. In some cases, however, increased use of preventive care or prescription drugs could increase other health care spending—for example, to treat newly discovered diseases or to address complications that arise from testing or from drug regimens. Indeed, one older study concluded that the use of preventive care usually adds to overall medical spending, once the costs of screening individuals who are found not to have the disease in question are included.[8]

Even if the use of those services could reduce total spending for health care for an average patient, the evidence is mixed about whether providing coverage for them under an insurance policy would have the same impact. That effect would depend on whether enrollees who would otherwise not have used those services increased their demand once coverage was provided. It would also depend on the effects of preventive care for the specific group that received those services—which might differ from the effect for average patients.

To the extent that the greater use of preventive care or medications reduced other health care spending, insurance plan designs that featured a high deductible could lead enrollees to use too little of such care. The reason is that they would take into account the costs they would bear up front but would discount any savings that accrued to the health plan in the future. (Economists refer to such a situation in which the person who is making a decision does not reap all of the benefits of their actions as a positive "externality.") Clearly, enrollees would have personal and other financial incentives to avoid becoming sick, but they might also be dissuaded by such factors as the immediate time and effort required to get preventive care or to follow a prescription drug regimen. Enrollees in conventional plans would also tend to discount the potential savings from avoiding a high-cost treatment in the future. But because they would be less likely to face the full costs of their initial care, they would be more likely to seek preventive services even if they did not stand to realize all of the resulting benefits.

The extent to which those concerns about consumer-directed plans arose in practice would depend on the plans' specific features. HRAs are not required to have a high deductible; consequently, even if the basic design of a plan featured a high deductible, the employer that sponsored the plan would be free to provide exceptions for drugs or preventive care. For HSAs, the enabling legislation specifically allowed coverage for preventive care before enrollees had met the deductible (probably to address concerns about the underutilization of such services). Although the law does not require the coverage, health plans would have an incentive to offer it if they expected that it would reduce their costs—thus allowing the potential externality to be corrected.[9] If health plans experienced a substantial amount of turnover in their membership—and thus would not expect to capture later savings from covering preventive care—their incentive to cover preventive services would be weakened. However, that consideration would apply equally to plans of consumer-directed and conventional design. Another reason that insurers might choose to offer coverage of preventive services would be to attract healthier enrollees,

8. Louise B. Russell, *Is Prevention Better Than Cure?* (Washington, D.C.: Brookings Institution, 1986).

9. The illustrative plans discussed earlier, drawn from the American Academy of Actuaries' study, included full coverage of as much as $500 in preventive services under the HRA and HSA designs; under the conventional plan's design, preventive services would be covered in the same manner as other services would be. The Henry J. Kaiser Family Foundation's 2006 survey of employers reported that 22 percent of enrollees in consumer-directed plans could receive coverage for preventive procedures before meeting the general deductible and that 57 percent of HRA enrollees could get coverage for prescription drugs below the deductible. Among conventional plans that had a deductible, about 45 percent exempted preventive procedures from the deductible.

who might be more likely to benefit from that coverage than from payments to treat incurred illnesses.

The legislation that established HSAs provided no exception for coverage of prescription drugs below the deductible. In 2004 and 2005, Internal Revenue Service regulations allowed HSAs to provide drug coverage before enrollees met the general deductible; starting in 2006, however, plans may not provide such coverage if they want to continue to qualify as an HSA. Thus, before enrollees reach the deductible, they must now weigh the full costs of drug regimens against their benefits—that is, those therapies will be on a par with visits to the doctor or other types of care that enrollees might receive. (The IRS has indicated that it will consider permitting coverage below the general HSA deductible for specific drugs if they can be shown to prevent rather than treat a disease.)

A related issue is whether those requirements will make it more difficult for HSAs to steer enrollees toward the use of lower-cost generic drugs or to obtain discounts from drug manufacturers on the prices of patented brand-name drugs. Conventional health plans generally feature lower cost-sharing obligations for generic drugs than for brand-name drugs to encourage enrollees to use generic products. HSA enrollees will also have strong financial incentives to use generic drugs when their spending is below their plan's deductible because they will face the full difference in cost between those medications and their brand-name competitors.

The situation could be different, however, if the competing brand-name drugs were patented and no generic product was available. Conventional health plans are able to set up their formularies, or lists of preferred drugs—and to vary the levels of enrollees' copayments for preferred and nonpreferred brand-name drugs—to shift usage to drugs that are preferred. In turn, the plans secure price discounts from the manufacturers of preferred drugs (in exchange for the increase in sales of their product and in their market share that results). HSA enrollees whose spending was below their deductible would see only the differences in prices between drugs, which could be larger or smaller than the differences in copayments for preferred and nonpreferred drugs under a conventional plan. Given that arrangement, providing a price discount for a preferred drug might not be enough of an incentive to substantially increase the use of that drug—which could make it more difficult for the HSA to secure discounts for preferred drugs in the first place. Even so, enrollees in HSAs generally have strong financial incentives to use the least expensive brand-name drug that is available to treat their disease.

### Incentives to Control Catastrophic Costs

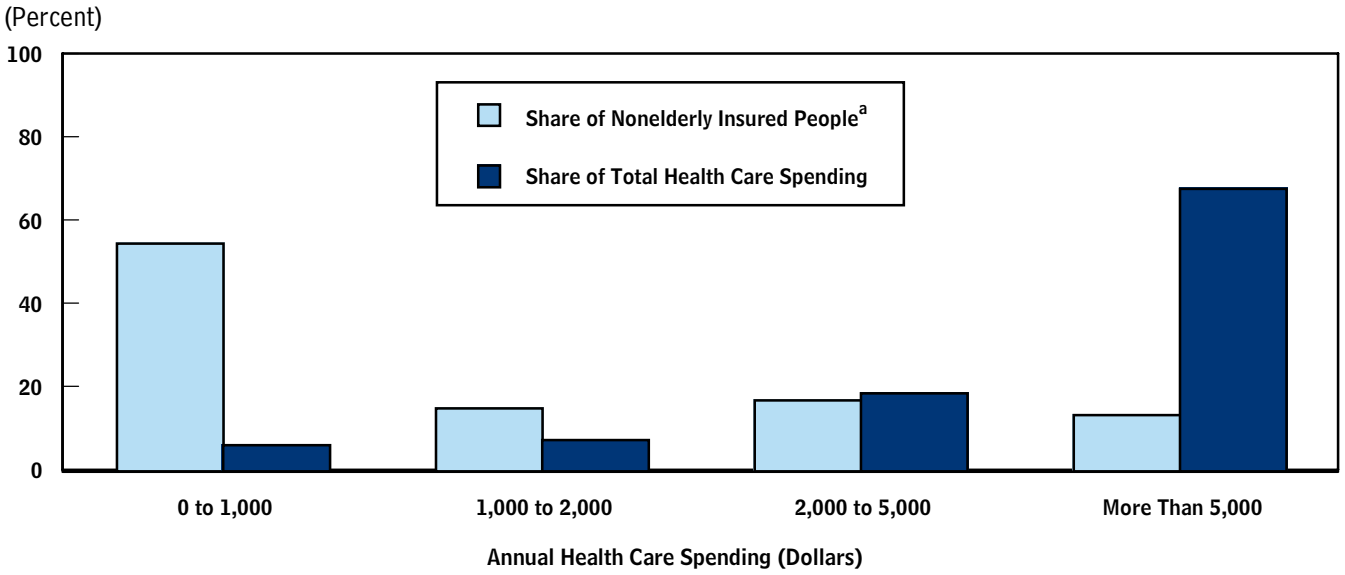
Relative to health care plans of conventional design, consumer-directed plans clearly create stronger incentives for enrollees to limit their initial health care spending, but comparisons of plans must also account for any effects the designs have on spending that occurs after the higher deductible has been met. As in the example given earlier, many consumer-directed designs include a range of spending—one that lies above the deductible but below the annual limit on out-of-pocket costs—over which enrollees face limited coinsurance.[10] If enrollees in consumer-directed plans had reached the out-of-pocket limit, they would not have a financial incentive to control their health care spending—and might prefer to shift the timing of their care (if possible) so that it would be fully covered rather than wait for the beginning of a new plan year, when a new plan deductible had to be satisfied. Enrollees in conventional plans would have the same motivation once they had reached their out-of-pocket limit, but in general, they would reach that limit at a higher level of total spending.

Some observers have argued that consumer-directed plans can have only a small effect on health care spending because so much of that spending is incurred by enrollees who will exceed their deductibles and out-of-pocket limits. Indeed, the vast majority of such spending is generated by the relatively small share of individuals who use large amounts of care in a given year (which is why people seek insurance for their health care costs). For example, CBO's analysis indicates that in 2004, 13 percent of nonelderly insured Americans used more than $5,000 worth of care—but that high-spending subgroup accounted for about 68 percent of the health care costs

10. Contrary to that example, however, the available data on coinsurance rates indicate that they are slightly lower, on average, under consumer-directed plans than they are under conventional plans. According to the 2006 Kaiser survey of employers, enrollees in conventional plans that charge coinsurance typically face rates for physicians' services of 10 percent to 15 percent (28 percent of enrollees) or 20 percent to 25 percent (68 percent of enrollees) for network doctors; coinsurance rates generally varied from 20 percent to 45 percent for nonnetwork doctors. Under consumer-directed plans, the typical coinsurance rates were 10 percent to 15 percent (60 percent of enrollees) or 20 percent to 25 percent (34 percent of enrollees) for network providers.

**Figure 2-3.**

## Distribution of Annual Health Care Spending, 2004




Source: Congressional Budget Office based on data from the Medical Expenditure Panel Survey conducted by the Department of Health and Human Services' Agency for Healthcare Research and Quality.

Note: In the figure, individuals are grouped according to their total health care spending for the year, and the associated spending includes all health care costs incurred by the group's members. For example, 17 percent of this population had total spending of at least $2,000 but less than $5,000, and their aggregate health care costs (including their first $2,000 in spending) accounted for 19 percent of the total.

a. Privately insured individuals who were insured for the full year.

for that population (see Figure 2-3). If the threshold is lowered to $2,000 worth of care, the share of nonelderly insured people with higher spending increases to 30 percent, and the share of health care costs attributable to those individuals rises to 86 percent. By contrast, the share of that population that used less than $1,000 worth of care during the year was (as noted previously) about 55 percent, and their collective spending amounted to only 6 percent of the total.[11]

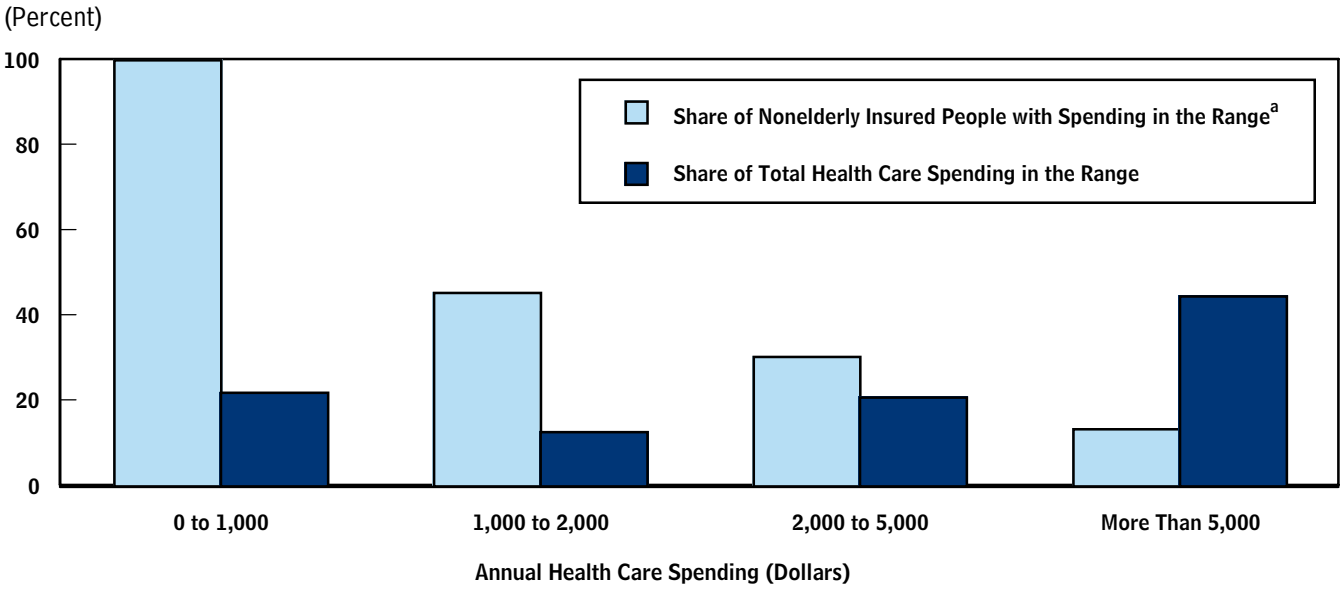
Although that concentration of health care spending tends to limit the impact that consumer-directed designs can have on total costs, the initial cost sharing that those designs require might nevertheless affect spending above the deductible somewhat and could also affect spending above the out-of-pocket limit. Enrollees who used substantial amounts of care would eventually exceed their out-of-pocket limits, but much of their spending would occur below those thresholds. Among nonelderly insured people in 2004, for example, about one-third of the spending of individuals whose total costs exceeded $5,000 occurred before that threshold was reached. (That is, about one-third of their spending was incurred before their total costs reached $5,000, and the rest was accumulated after that point.) Similarly, much of the spending of those who ended up using more than $1,000 but less than $5,000 in health care services was actually for their first $1,000 of care. Recasting the distribution of costs so that it shows spending within each of those dollar intervals suggests less concentration of health care costs (see Figure 2-4).

The key question is how financial considerations will affect the choices about health care that enrollees in consumer-directed plans make. For some enrollees who

11. The data that CBO used in its analysis come from the Medical Expenditure Panel Survey (conducted by the Department of Health and Human Services' Agency for Healthcare Research and Quality), which tends to undercount total health care spending and may undercount the costs incurred by people who consume the most care—in which case, it would understate the degree to which health care spending was concentrated in the highest-cost groups.

**Figure 2-4.**

## Distribution of Health Care Spending by Spending Range, 2004




Source: Congressional Budget Office based on data from the Medical Expenditure Panel Survey conducted by the Department of Health and Human Services' Agency for Health Care Research and Quality.

Note: In the figure, individuals are classified according to whether they had any spending in each dollar range, and the associated spending includes only those expenses that were incurred in the range. For example, 45 percent of the sample had total spending of at least $1,000—but some of that spending was for their first $1,000 worth of care (which is included in the first spending range); some was for services that they used after their total spending had exceeded $2,000 (which is included in the third spending range); and some was for care provided after their total spending had reached $5,000 (which is included in the fourth spending range).

a. Privately insured individuals who were insured for the full year.

have high costs for health care, the exact level of their deductible will not affect their use of services because their need for care and the benefits they receive from it will outweigh any burden created by their cost-sharing obligations. Even before they reach their deductible, some enrollees may anticipate that they will exceed it later; consequently, their choice will be governed by the share of costs they expect to pay above the deductible. For other enrollees, however, higher initial cost sharing may lead them to decide that treatment for their condition is not worth its costs. If such decisions ultimately prevented some hospitalizations, the result could be to reduce higher-end costs—that is, there would be fewer expenditures that exceeded the plans' deductibles.

A similar question arises regarding the design of conventional health plans. As noted earlier, a conventional plan of comparable value would tend to require some cost sharing over a range of spending that would extend beyond the point at which a consumer-directed plan's limit on out-of-pocket costs had been reached. (In the example given earlier, that range runs from $7,000 in total spending to $10,350.) The extent to which cost sharing may influence decisions about treatment when overall expenditures reach those levels is uncertain.

## Comparing Consumer-Directed Plans with Conventionally Designed Managed Care Plans

The potential for consumer-directed health plans to reduce health care spending is clearest when those designs are compared with an unmanaged conventional plan, such as an indemnity policy that provides reimbursement after the fact for care received. Conventional plans of that kind have lower deductibles and cover any care that is deemed to be medically necessary—that is, any care that has positive medical benefits—so enrollees generally have to balance the benefits of that care against only a small fraction of its total costs. Enrollees are likely to use more health care when faced with those incentives than they

will when they have to pay all or nearly all of the initial costs of their care. That logic generally applies even if enrollees in a consumer-directed plan are paying for care by using funds in their account that were contributed by an employer—because most individuals have an incentive to treat those contributions like cash.

The potential for cost savings from widespread enrollment in consumer-directed plans is less evident, however, if those plans are being compared with managed care approaches—with the impact's depending on whether the comparison involves a preferred provider organization plan or a health maintenance organization.[12] PPOs generally employ less restrictive management techniques than HMOs do; their main source of leverage comes from selecting the doctors and hospitals to be included in their network of preferred providers.[13] In plans that have a conventional PPO design, enrollees must pay a higher coinsurance rate when they use nonnetwork providers, a requirement that gives enrollees a strong financial incentive to seek care within the plan's network. (And network providers usually accept a discounted payment in return for the higher or more certain volume of patients they get.)[14] If PPOs can exclude some high-cost providers from their network and enrollees avoid using those providers, the direct result will be lower health care spending. The risk of exclusion that providers face may also help reduce the use of health care services within the plan's network. Although a PPO plan may actually exclude only a small number of doctors, a credible threat of exclusion may discourage network doctors from calling for hospital admissions in borderline cases or pursuing the most expensive treatments for their patients.

To offset the limited incentives that enrollees have to contain their costs for expensive services (such as hospitalizations), PPOs may take additional steps to limit those expenditures. For example, they may pay a fixed fee per admission based on the patient's diagnosis (instead of per diem payments) or assign case managers to encourage shorter hospital stays. Consumer-directed plans could have a similar effect on the use of health care services by adopting their own PPO networks and methods for managing costs once enrollees had exceeded their deductible (and could also secure lower prices for those services from network providers). Even so, some of the savings that might be garnered by raising the deductible in an indemnity insurance plan have probably been achieved by PPOs' limited adoption of management techniques.

The potential for reductions in the use of health care services under consumer-directed plans is further limited in comparison to HMOs because HMOs generally use more aggressive management tools than PPOs do.[15] In some cases, such as in the Kaiser Permanente health plan, the doctors in the HMO work exclusively for that plan, and the plan owns the hospitals that provide care to enrollees, thus enabling the HMO to exert considerable leverage over enrollees' use of services. (Such plans are called staff-model HMOs.) In the more common case, a network of independent doctors and hospitals works under contract to the health plan, a structure that is more like a PPO. But HMOs still tend to be more active than PPOs in reviewing the use of health care services and in seeking to alter patterns of clinical practice. Because HMOs generally do not cover any portion of the cost of care received from out-of-network providers, providers face a stronger incentive to be included in an HMO's network. As a result, provider payment rates may be lower and compliance with treatment guidelines may be higher in HMOs (although the extent of the differences will depend on local market conditions and other factors).

In the past several years, however, consumers and providers have objected to some of the management techniques that HMOs use, and as a result, the health plans have

12. For further discussion of interactions between managed care and consumer-directed approaches, see the November/December 2005 issue of *Health Affairs*.

13. For a discussion of PPOs, see Robert E. Hurley, Bradley C. Strunk, and Justin S. White, "The Puzzling Popularity of the PPO," *Health Affairs* (March/April 2004).

14. Indeed, the difference in out-of-pocket payments between preferred and nonpreferred doctors may exceed the difference in their total charges. For example, if a network provider charged a discounted rate of $100 for an office visit and enrollees faced coinsurance of 20 percent, they would pay $20 for that visit. If a nonnetwork provider's charge was $120 and enrollees faced coinsurance of 40 percent, their obligation would be $48 (or $28 more). Some PPO plans require enrollees to pay a larger share of the discounted charge plus the full difference in charges for out-of-network care.

15. Although HMOs could offer a high-deductible plan that included an individual account—and could thus meet the definition of a consumer-directed plan—the available evidence (discussed later) indicates that such arrangements are rare. Moreover, an aggressive management role for the health plan under such an arrangement might appear to be inconsistent with a "consumer-directed" approach.

modified some of those approaches. For example, HMOs had typically required enrollees to obtain a referral from their primary care physician before seeing a specialist—thus providing a "gatekeeper" who could assess the need for care but who did not have a financial interest in whether it was provided. Many HMOs no longer require such referrals.[16] Even more recently, though, rapidly rising costs have led many HMOs to reinstitute some of the procedures they had previously eliminated, such as the requirement to obtain prior authorization from the health plan before receiving selected services. One study found that in so doing, "health plans have targeted those services that offer little or no clinical benefit while being careful not to reduce access to potentially beneficial services."[17]

In comparing HMOs and consumer-directed health plans, it is also useful to consider a hypothetical plan—a very tightly managed HMO—that would deny coverage for all services whose costs exceeded their expected benefits. Enrollees in such an HMO would face essentially the same financial incentives regarding their use of care as would enrollees in consumer-directed plans who expected their costs to remain below their deductible. Enrollees in the consumer-directed plan would presumably forgo treatments whose costs exceeded their likely benefits and, conversely, purchase all care whose expected benefits exceeded its costs. In the tightly managed HMO, care that was not cost-effective would not be covered, so enrollees could still avail themselves of it but only if they were willing to pay its full cost. (Presumably, they would not do so.) However, care that was cost-effective overall would be covered by the HMO and available at a relatively small cost to the enrollee—and thus almost certainly would be used. Total health care spending for enrollees in both plans would therefore be comparable, at least in principle.

In practice, many challenges would confront that hypothetical HMO in trying to establish coverage rules that could distinguish between cases in which care would be cost-effective and cases in which it would not be. Even so, the hypothetical case illustrates the fact that managed care plans can effectively vary cost sharing, depending on the extent of the enrollee's need for care. By contrast, consumer-directed designs must (at least in the case of HSAs) have a high deductible that applies equally to all services, whether they are clearly needed or of marginal value. (HRAs could have lower deductibles but would then be comparable to conventional plans and would not meet the working definition of a consumer-directed plan.) Further, individuals who are enrolled in consumer-directed plans also face substantial challenges in determining whether the care their doctor has recommended—or an initial visit to the doctor to begin treatment—is cost-effective. Even by comparison with a less tightly managed HMO, therefore, it is not clear whether consumer-directed health plans would yield lower health care spending for the same set of enrollees. (The role that better information about the costs and benefits of treatments could play under both conventional and consumer-directed plan designs is discussed further in Chapter 4.)

16. See Debra A. Draper and others, "The Changing Face of Managed Care," *Health Affairs* (January/February 2002).

17. See Glen P. Mays, Gary Claxton, and Justin White, "Marketwatch: Managed Care Rebound? Recent Changes in Health Plans' Cost Containment Strategies," *Health Affairs* Web Exclusive (August 11, 2004), p. W4-429, available at http://content.healthaffairs.org/cgi/content/full/hlthaff.w4.427/DC1.

CHAPTER

3

# Evidence About the Impact of Consumer-Directed Designs on Health Care Spending

Because health reimbursement arrangements and health savings accounts are so new, little direct evidence is available about how those designs affect individuals' spending for health care. But a number of insights about their potential impact can be gleaned from older studies that examined the consequences of increasing deductibles and coinsurance rates or simulated the effects of combining a high-deductible health plan with a tax-favored account. Those studies have estimated the effects such plans would have if their enrollees are broadly representative of the nonelderly population. (Chapter 5 considers the issue of whether consumer-directed plans are likely to attract individuals with below-average health care costs; Chapter 6 reviews the limited evidence that studies of actual consumer-directed plans provide about their enrollees and their impact on health care spending and outcomes—evidence that should be treated cautiously because it is preliminary.)

A primary source of information about the impact of cost sharing on the use of health care services remains the RAND Health Insurance Experiment, which began in the 1970s and primarily studied unmanaged plans. On the basis of its findings, researchers have estimated that shifting a representative group of enrollees from a conventional indemnity plan to a high-deductible design could decrease their use of health care services and spending by about 5 percent. Some of those savings appear to come from avoiding expensive hospitalizations whose costs would have exceeded even a high deductible. Several more-recent studies have tried to simulate the effects of adding a tax-favored account into the mix; those studies have yielded larger or smaller estimates of the reduction in spending, depending partly on the levels of the deductibles they modeled and partly on the assumptions they used about enrollees' responses to cost sharing.

Although those findings are valuable, an important limitation of them is that they did not account for the effects of care management, which (as discussed in Chapter 2) could reduce the scope for savings from adopting a high-deductible design. The results of a more recent study indicate that consumer-directed plans—when compared with conventional plans that also use a network of preferred providers—will yield spending reductions of about 2 percent in the short term and 5 percent in the longer term. Combining that finding with comparisons of costs for preferred provider organizations and health maintenance organizations, however, indicates that consumer-directed plans will not lower spending and might raise it, relative to spending under HMOs.

At the same time, other studies have suggested that over the long term, the effects of consumer-directed plans on health care spending could be larger, as enrollees adjusted to the new incentives that they faced. In particular, they might shift to plans with higher deductibles—either because of the new tax advantage given to funds used to pay for out-of-pocket costs or because they had accumulated larger balances in their consumer-directed accounts—and the systemic effects of higher levels of cost sharing could be larger than the RAND experiment's results suggest. But questions remain about those findings as well.

## Evidence from the RAND Health Insurance Experiment

The basic rationale behind the designs of consumer-directed plans—that individuals will be more prudent in their use of care if they are responsible for more of their initial health care costs—was tested most rigorously in a study by the RAND Corporation. The RAND Health Insurance Experiment, conducted from 1974 to 1982, sought to measure the effects of health insurance cost

sharing on the utilization of services, expenditures, and health outcomes by randomly assigning large groups of nonelderly individuals and families to insurance plans with different designs and tracking their experience for several years.[1] A major advantage of random assignment is that the study's results show the effects of the policies' designs for a broadly representative group of people—which could differ from the effects that are observed when individuals sort themselves into different designs. Even though the RAND data were gathered several decades ago, the study's findings remain relevant and are widely relied on by analysts, owing largely to the study's rigorous design and execution but also to the lack of more-recent experimental work.[2]

### Estimated Effects of Cost Sharing on Health Care Spending

The RAND study tested several versions of various insurance designs, but the main policies that it analyzed were structured as follows:

- A plan in which all care was free to enrollees (that is, with no deductible or coinsurance);
- A plan that had a deductible of $150 per person (but no subsequent coinsurance) for outpatient services and no cost sharing for inpatient (hospital) services;
- Plans that had no deductible and coinsurance of 25 percent or 50 percent for all services; and
- A plan that required coinsurance of 95 percent for all services.

The plans that required coinsurance also featured an annual limit on enrollees' out-of-pocket costs, pegged at the lesser of $1,000 or a percentage of family income. The last plan listed above is thus very similar to a policy that has a deductible of $1,000 and full coverage beyond that point; it differs only in the fact that it provides a small degree of up-front coverage (an approach that was taken in large part to ensure that enrollees in the study had a reason to report all of the health care costs they had incurred).[3] None of those plans, however, matches the arrangements in current conventional health plans, which feature both a deductible and coinsurance payments beyond that point. As a result, the direct results of the RAND study do not allow a clear comparison of spending under conventional and high-deductible health plans.

After the RAND study was completed, a team of researchers led by Emmett Keeler (who had worked on the original RAND experiment) applied a complex methodology to the RAND data to simulate the effects on health care expenditures of a larger set of plan designs, including a variety of conventional and high-deductible arrangements.[4] The resulting spending levels from their study were reported in 1983 dollars, but for ease of comparison, the Congressional Budget Office has adjusted those figures to reflect the fourfold increase in health care costs per capita between 1983 and 2004 (see Table 3-1).

1. For a complete discussion, see Robert H. Brook and others, "Does Free Care Improve Adults' Health? Results from a Randomized Controlled Trial," *New England Journal of Medicine*, vol. 309, no. 23 (December 8, 1983); Willard G. Manning and others, "Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment," *American Economic Review*, vol. 77, no. 3 (June 1987); or Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, Mass.: Harvard University Press, 1993). For a recent and more accessible summary, see Jonathan Gruber, "The Role of Consumer Copayments for Health Care: Lessons from the RAND Health Insurance Experiment and Beyond" (Washington, D.C.: Henry J. Kaiser Family Foundation, October 2006), available at www.kff.org/insurance/upload/7566.pdf.

2. For a more recent contribution to this literature, see Matthew J. Eichner, "The Demand for Medical Care: What People Pay Does Matter," *American Economic Review*, vol. 88, no. 2 (May 1998). Eichner's study was not a randomized trial but instead used health insurance claims data to examine the impact on the use of care by other family members if one member incurs an accidental injury—a random event that (because of the design of family policies) changes the cost sharing that those other family members face. Eichner found that if individuals had perfect foresight about their health care spending for the remainder of a calendar year, then total spending appeared more responsive to cost sharing than the RAND study's results had indicated. However, in earlier work, when he assumed that individuals faced some uncertainty regarding their future health care spending, his results were comparable to those of the RAND study.

3. The plan in the RAND study that is shown here as having a deductible of $150 also provided 5 percent coverage below that point to encourage participants to report all of their claims.

4. Emmett B. Keeler and others, *The Demand for Episodes of Medical Treatment in the Health Insurance Experiment* (Santa Monica, Calif.: RAND Corporation, March 1988). See also Joan L. Buchanan and others, "Simulating Health Expenditures Under Alternative Insurance Plans," *Management Science*, vol. 37, no. 9 (September 1991).

**Table 3-1.**

## Basic Results of the RAND Health Insurance Experiment Reflecting 2004 Levels of Spending

| | Selected Characteristics of Plans | | | Annual Levels of Health Care Spending | | | |
|---|---|---|---|---|---|---|---|
| Plan Type | Deductible (Dollars) | Coinsurance Above Deductible (Percent) | Out-of-Pocket Limit (Dollars) | Average Out-of-Pocket Costs (Dollars) | Average Covered Costs (Dollars) | Average Costs (Dollars) | Costs Relative to Free Care (Percent) |
| **Designs Included in the RAND Health Insurance Experiment** | | | | | | | |
| Free Care | 0 | 0 | 0 | 0 | 3,440 | 3,440 | 100 |
| Deductible Only | 400 | 0 | 400 | 272 | 2,512 | 2,784 | 81 |
| Coinsurance Only | 0 | 25 | 4,000 | 504 | 2,096 | 2,600 | 76 |
| **Designs Estimated on the Basis of the RAND Experiment's Results** | | | | | | | |
| Conventional | 400 | 25 | 4,000 | 616 | 1,612 | 2,228 | 65 |
| High Deductible | | | | | | | |
| Higher deductible | 4,000 | 0 | 4,000 | 972 | 1,144 | 2,116 | 62 |
| Lower deductible | 2,000 | 0 | 2,000 | 744 | 1,760 | 2,504 | 73 |
| **Memorandum:** | | | | | | | |
| Health Maintenance Organization | 0 | 0 | 0 | 0 | 2,475 | 2,475 | 72 |

Source: Congressional Budget Office based on Emmett B. Keeler and others, *The Demand for Episodes of Medical Treatment in the Health Insurance Experiment* (Santa Monica, Calif.: Rand Corporation, March 1988); and Joan L. Buchanan and others, "Simulating Health Expenditures Under Alternative Insurance Plans," *Management Science*, vol. 37, no. 9 (September 1991).

Note: Figures in the studies noted above were reported in 1983 dollars. CBO adjusted those figures to reflect growth in health care spending per capita by using the National Health Expenditure estimates compiled by the Department of Health and Human Services.

Consistent with the direct results of the RAND experiment, the Keeler study found that total spending would be highest under the plan that offered free care to enrollees. Compared with spending under that plan, a policy with a limited deductible but full coverage above that point (the "Deductible Only" design in Table 3-1) would reduce total spending by about 20 percent, and a policy with no deductible but uniform coinsurance of 25 percent up to a limit on out-of-pocket costs (the "Coinsurance Only" design in the table) would reduce average health care spending for enrollees by about 25 percent. At today's level of spending, the "Deductible Only" policy would have a deductible of about $400, whereas the "Coinsurance Only" policy would have an out-of-pocket limit of roughly $4,000.

Adjusted to reflect current levels of health care spending, the Keeler study's results also indicated that a conventional policy with a deductible of $400 and coinsurance of 25 percent up to an out-of-pocket limit of $4,000 would generate average health care expenditures that were about 35 percent lower than those under a free-care plan. Similarly, a high-deductible policy—specifically, one that had a deductible of $4,000 but full coverage beyond that point—would reduce spending by about 38 percent compared with a free-care plan, according to the estimates. Compared with spending under the conventional plan, total health care spending under that high-deductible policy would thus be about 5 percent lower. Although the savings expected when moving from free care to a conventional or a high-deductible policy design would be substantial, the likely savings when moving from a conventional plan to a high-deductible plan would be more modest. At the same time, the results indicate that the high-deductible design could reduce total spending even though its enrollees would reach their limit on out-of-pocket costs at a lower level of such spending than would be the case in the conventional plan.

In dollar terms, average health expenditures—whether paid by the plan or the enrollee—would fall to $2,116 under the high-deductible policy, compared with $2,228

under the conventional policy. At the same time, for people switching from the conventional to the high-deductible plan, average cost-sharing liabilities would rise from $616 to $972, an increase of $356.[5] But their covered costs—total expenditures minus out-of-pocket costs—would fall by a larger amount ($468 dollars), and enrollees would be expected to capture those savings through lower health insurance premiums.[6] Thus, enrollees as a group would ultimately benefit financially from the reduction in their average health care costs under a high-deductible plan. Depending on their use of health care, however, some enrollees would be worse off in such a plan, and some would see a larger-than-average gain—as discussed later.

### Limitations of the RAND Results for Health Care Spending

Several factors make it difficult to translate the results from the RAND experiment and estimates based on those results into a precise prediction of how health care spending would be affected if a broadly representative group of enrollees was shifted into plans of consumer-directed design. In addition, one recent study has highlighted the longer-term impact that changes in cost sharing could have on health care spending—an effect that might be larger than the RAND estimates suggest.

**Differential Tax Advantages.** The above comparison of conventional and high-deductible plans does not account for the tax-favored treatment that consumer-directed plans provide for some out-of-pocket spending. If enrollees typically face a marginal tax rate of 25 percent, that tax subsidy effectively lowers the coinsurance rate below the deductible from 100 percent to 75 percent. (The effect of the tax advantage on spending might be smaller for health reimbursement arrangements than for health savings accounts because HRAs tend to make less out-of-pocket spending tax-free.) The Keeler study did not simulate the effects of that specific design; nevertheless, its results suggested that total health care spending under such a "high-coinsurance" plan would probably be similar to the levels seen under the conventional plan that was described above.[7]

As discussed in Chapter 2, a further complication in attempting to foresee effects on health care costs is that enrollees in conventional plans could also gain favorable tax treatment for some of their out-of-pocket spending by establishing a flexible spending account. Contributions to FSAs would tend to be smaller than contributions to accounts associated with consumer-directed plans (in part because the use-it-or-lose-it feature of FSAs would encourage individuals to use the account to fund only their predictable out-of-pocket costs). As a result, the impact of the tax subsidy on the use of health care services by enrollees in conventional plans would probably be smaller as well. At the same time, the tax-favored treatment of out-of-pocket costs might lead enrollees in consumer-directed plans to shift toward higher cost-sharing requirements—which would tend to generate some reductions in health care spending. Thus, the net impact of tax considerations on the spending comparison is potentially important, but its likely magnitude is unclear.

**Modeling Issues.** Another challenge that arises in comparing the policy designs examined by the RAND researchers with current insurance plans is that the RAND study assigned both individuals and families to the same plan designs (although the limits established for out-of-pocket expenses depended partly on total family income); by contrast, the design of insurance policies today typically differs for individual and family coverage. For example, average deductibles for family coverage under such plans are in the vicinity of $4,000, but conventional family plans currently have higher deductibles, on average,

5. The resulting arc elasticity (which uses the average coinsurance rates and spending levels between the two cases to calculate the percentage changes in each variable) is about 0.1; that is, a 10 percent increase in cost sharing reduces total expenditures by about 1 percent.

6. Whether they purchased their insurance individually or through an employer, enrollees in the high-deductible plan would be expected to capture the savings in covered costs in the form of lower policy premiums (or, for employees, perhaps a corresponding increase in their wages or in their employer's contribution to a consumer-directed plan account). Note also that the dollar figures used here reflect average spending for the types of enrollees that were studied in the RAND experiment—nonelderly individuals and families—so the spending figures differ from current levels of average health care spending for the entire U.S. population.

7. The Keeler study modeled a policy that had a coinsurance rate of 50 percent up to an out-of-pocket limit of $4,000 (at today's levels of spending) and estimated that total health care costs under that policy would be about $2,400. A policy that required coinsurance of 75 percent below the deductible could be expected to yield total costs that would fall about midway between that level and the amount estimated for the full high-deductible design—that is, $2,116. In other words, spending under a plan with 75 percent coinsurance would probably be on the order of $2,250.

than the conventional policy described above. Conversely, the deductible of $400 in the conventional plan design is comparable to the average deductible for conventional policies for individuals, but a deductible of $4,000 is much higher than the average levels seen today for individual enrollees in consumer-directed plans.

Further complicating the comparison is the way that the Keeler study modeled the deductibles and out-of-pocket limits. In that study, those amounts applied separately to each individual in a family; in practice, deductibles and out-of-pocket limits usually encompass spending by all of a family's members. Thus, both the conventional and consumer-directed designs in the above comparison offered less coverage than the average plans that are currently held. Using a family-level limit on out-of-pocket costs would tend to raise health care spending under both designs (because a greater share of health care costs would be covered by the insurance policies), but here, too, the impact of those modeling assumptions on the comparison of spending under conventional and consumer-directed plans is difficult to determine.

**Differential Actuarial Values.** In comparing total health care costs under two different plan designs, analysts should distinguish between differences that reflect enrollees' responses to varying designs of the same overall actuarial value and differences that are due to varying levels of richness in the designs. However, in the comparison of spending under conventional and high-deductible designs that is shown in Table 3-1, the actuarial value of the conventional plan design appears to be greater than that of the high-deductible design—because at any given level of medical claims, an enrollee's cost-sharing liabilities under the conventional plan will be less than or equal to those under the high-deductible plan's design.

The actuarial values of the plans could be equalized in several ways. One approach would be to lower the deductible in the high-deductible plan design. A plan that had a deductible of $2,000 would appear to have about the same actuarial value as the conventional plan, but according to the RAND estimates, such a policy would yield total health care spending that was about 12 percent higher than spending under that conventional design.[8] Alternatively, the deductible in the conventional plan could be increased (although the extent of the change that would be needed is not clear). Another way of raising the actuarial value of a consumer-directed policy would be to add funds to its linked account. If enrollees treated those funds as if they were just as valuable as cash—rather than discounting their value, as some HRA enrollees might do—then savings in total health care costs on the order of 5 percent could probably still be achieved.

**Systemic Effects of Cost Sharing.** A more fundamental limitation of the RAND study is that it could not measure broader effects on the health care system that might result from widespread changes in levels of cost sharing—because it examined the experience of only a few thousand enrollees. A recent study suggests that such broader changes could occur, but the implications of that finding for an analysis of consumer-directed health plans are not entirely clear.[9]

The study examined the impact that Medicare's introduction in 1965 had on subsequent hospital spending in the United States. The share of seniors who had private health insurance coverage prior to 1965 varied by the region of the country in which they lived, so faster growth in hospital costs in regions where Medicare had a larger impact on insurance coverage can reasonably be considered an effect of the program. (By contrast, factors that affected hospital costs generally would tend to have the same impact in all regions.) Comparing the extent of spending growth that was due to the introduction of Medicare with the change in average coinsurance rates that it brought about, the author found that cost sharing had a much larger effect on hospital spending than the RAND study suggested—several times larger, in fact. That finding was attributed largely to changes in the treatments given to seniors, such as rapid expansion of cardiac care units.

Several questions can be raised about this study's findings and about how they apply to a comparison of current consumer-directed and conventional health plan designs.

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8. The Keeler and Buchanan studies on which those findings are based did not calculate actuarial values for the plan designs being considered, but a rough equivalence may be inferred from the estimate that the conventional design and the plan that had a $2,000 deductible would both cover about the same share of total medical costs (70 percent to 72 percent).

9. See Amy Finkelstein, *The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare*, Working Paper No. 11619 (Cambridge, Mass.: National Bureau of Economic Research, September 2005). A more recent version of the study is available at www.nber.org/~afinkels/papers/Finkelstein_Medicare_April06.pdf.

First, Medicare's impact on average rates of hospital coinsurance may have been larger than the author estimated—which means that the proportional effect on spending for a given change in coinsurance would be smaller. (Different methods of calculating the response also yield smaller estimates.) Second, Medicare's introduction also increased coverage among seniors for physicians' and other health care services; given the RAND study's finding (discussed in the next section) that cost sharing outside the hospital can affect inpatient spending, it becomes difficult to determine which of those changes in coverage affected the treatment of Medicare enrollees. Third, even taking the results for Medicare's introduction as a given, it is not clear that they would apply in a strictly proportional way to smaller-scale changes in cost sharing among insurance plan designs that cover most hospital costs. Finally, as the author notes, the findings may not apply (at least, not to the same extent) in the era of managed care. The potential effect of cost-sharing levels on the rate of growth of health care spending is an important area for further research.

### Other Findings from the RAND Experiment

Another limitation of the spending comparisons provided earlier is that they show the impact of cost sharing under unmanaged indemnity insurance policies. If the increased management of care by health plans also reduced enrollees' use of services, the scope for additional savings from higher levels of cost sharing might be smaller (for reasons discussed in Chapter 2). The RAND study sheds some light on that issue because it included an HMO in its analysis. The study's findings also provide insights about how initial cost-sharing requirements can affect spending that occurs above the levels of plans' deductibles and out-of-pocket limits.

**Accounting for the Effects of Managed Care.** The RAND study included a staff-model HMO, in which the plan's doctors are paid a salary; that approach contrasts with the fee-for-service reimbursement of doctors and hospitals in the other (unmanaged) plans that were studied. The RAND analysts found that participants who were randomly assigned to that HMO plan used outpatient care to the same degree as those assigned to the unmanaged free-care plan. But HMO enrollees used much less inpatient care: compared with enrollees in the free-care plan, the share of HMO participants with one or more hospital admissions was one-third lower. Because hospital costs account for a large share of total spending, that reduction in inpatient care had a substantial effect on the total cost per HMO enrollee.

Examining further the reason for the lower hospitalization rates among HMO enrollees, the RAND analysts concluded that it probably reflected "a treatment style involving more intensive outpatient treatment of those whom fee-for-service physicians would hospitalize, combined with less intensive treatment of those who would not be admitted" to the hospital under either system.[10] That is, the overall similarity in outpatient costs masked the fact that the HMO generally reduced costs for all "episodes" of care (an episode encompassed all of the care associated with a given medical incident or condition). By contrast, the other plan designs that RAND studied, which relied on cost sharing to control spending, generally reduced the number of episodes per enrollee but not the costs per episode once treatment was initiated.

Overall, expenditures for the HMO group were estimated to be about 70 percent of expenditures for enrollees in the free-care plan.[11] Thus, the effects on health care costs of shifting enrollees from free indemnity coverage to an HMO would be comparable to the impact of the plan included in the RAND experiment that featured coinsurance of 95 percent for all services and a family-level limit on out-of-pocket costs—that design also yielded a reduction in spending of about 30 percent relative to the free-care plan. The costs for HMO enrollees would also be similar to the estimated effects of a plan with a $2,000 deductible for each family member (see Table 3-1 on page 33). But spending under the HMO design studied by RAND would be somewhat higher than the projected costs under a policy with a deductible of $4,000 for each family member.

10. Newhouse and the Insurance Experiment Group, *Free for All?*, p. 279.

11. Manning and others, "Health Insurance and the Demand for Medical Care," pp. 265–266. The RAND analysts did not have data on actual spending per enrollee in the HMO, which is often difficult to calculate for staff-model plans because a separate payment is not made for each service provided. Instead, analysts had data on the utilization of services by HMO enrollees and imputed spending by using typical charges for those services—essentially the same prices they used for enrollees in the other plan designs studied in the experiment. Thus, the difference in spending between the HMO and other plans did not reflect any differences in the costs or prices of specific services.

**Table 3-2.**

## Estimated Effect of Cost Sharing on Inpatient Spending

(2004 Dollars)

| Cost Sharing | Total Spending per Enrollee | Average Inpatient Spending | Hospital Admission | | Difference from Free-Care Plan | | |
|---|---|---|---|---|---|---|---|
| | | | Probability (Percent) | Average Cost | Total Spending | Inpatient Spending | Share of Difference from Inpatient Spending (Percent) |
| None (Free care) | 2,749 | 1,501 | 12.8 | 11,728 | n.a. | n.a. | n.a. |
| Outpatient Deductible | 2,309 | 1,417 | 11.5 | 12,319 | -440 | -84 | 19 |
| Coinsurance[a] | | | | | | | |
| 25 percent | 2,262 | 1,331 | 10.5 | 12,672 | -487 | -171 | 35 |
| 50 percent[b] | 2,100 | 1,402 | 9.2 | 15,242 | -649 | -99 | 15 |
| 95 percent | 1,979 | 1,204 | 9.9 | 12,158 | -770 | -298 | 39 |

Source: Congressional Budget Office based on Willard G. Manning and others, "Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment," *American Economic Review,* vol. 77, no. 3 (June 1987).

Notes: In calculating spending, CBO took the adjusted total expenses reported in the study for 1984 and allocated them proportionally to unadjusted figures for inpatient and total spending. It then increased those amounts by the growth in U.S. health care spending per capita between 1984 and 2004.

n.a. = not applicable.

a. Plans that featured coinsurance also capped out-of-pocket costs at the lesser of $1,000 or a specified percentage of family income.

b. One enrollee in this plan had an extremely expensive hospitalization, which affected the average cost per admission and the difference from other plans in total and inpatient spending.

Two contrasting considerations affect the more general comparison of the costs of HMO plans and plans of a high-deductible design. On the one hand, the HMO plan studied in the RAND experiment required no cost sharing at all (so that the contrast with the free-care plan would reveal a "pure" HMO effect on expenditures). An HMO plan that had some cost sharing would almost certainly yield less total spending, although the magnitude of that reduction is uncertain. On the other hand, the staff-model HMO studied in the RAND experiment would be expected to yield somewhat lower costs than the more common HMOs of today—which typically feature networks of independent doctors and hospitals and negotiated fee-for-service payments to specialists within those networks. Those more typical HMO designs give the health plan less leverage over the treatments that enrollees receive.

**Effects on Spending Above a High Deductible.** The RAND study also provides some indication about whether facing a high deductible might affect the costs people incur once their spending exceeds that deductible. In its analysis of that issue, CBO based its findings on the direct results of the RAND experiment, for which more-detailed data on spending are readily available. As noted earlier, the study, strictly speaking, did not include a high-deductible design. But it had a sufficiently similar plan—the policy that required 95 percent coinsurance up to a relatively high limit on out-of-pocket costs—to permit several inferences to be drawn.

The study found that enrollees who faced higher overall levels of cost sharing generally had lower inpatient spending (see Table 3-2). Compared with enrollees who faced 95 percent coinsurance, enrollees who received free health care were about 30 percent more likely to have a hospital admission; they also incurred inpatient costs that were about 30 percent higher. Because the number of admissions per enrollee and hospital spending changed to the same degree, the costs per admission were comparable for both groups, at least on average. Thus, it appears that the drop in hospital costs for those who faced substantial cost sharing was not simply the result of eliminating some lower-cost admissions (which would have caused average costs per admission to increase). About 40 percent of the difference in total spending between the free-care plan

and the plan that had 95 percent coinsurance came from reduced inpatient costs. Given that spending per hospital admission was usually much greater than the out-of-pocket limits that enrollees faced, it is reasonable to conclude that most of the savings on hospital costs were accounted for by spending that would have occurred above those limits (and therefore above the deductible of a similar high-deductible plan).

The finding that a high-deductible plan (or one of a similar design) could affect spending above the deductible might seem surprising because enrollees would not have a financial incentive to limit their use of services beyond that point. The RAND analysts concluded that the effect arose primarily because higher cost sharing led individuals to seek treatment less often, resulting in fewer episodes of care. Once treatment was initiated, however, spending per episode was comparable for those who received free care and those who faced cost sharing. Thus, the primary reason for the decline in inpatient expenditures was that enrollees who had to pay most of their initial costs avoided some episodes for which free-care enrollees were ultimately hospitalized. (Whether that difference affected those enrollees' health is discussed in the next chapter.) By itself, cost sharing for inpatient services had a negligible impact on total spending. As one summary put it, the RAND results indicated overall that "patient decisions determine the frequency of treatment episodes while doctors determine the size of the episode."[12]

A comparison of the plan that required 95 percent coinsurance with the other plans that required some cost sharing presents a murkier picture. Reductions in spending for hospital care still accounted for a substantial share of the total savings under the high-deductible-like plan, but the differences in inpatient costs across plans that had cost sharing were not statistically significant. (That is, the odds that those differences arose purely by chance were greater than one in 20, so that explanation could not be ruled out with sufficient confidence.) One part of the explanation is the small proportion of enrollees who were hospitalized, and another is the greater variability of their inpatient costs—both of which contributed to a larger range of uncertainty around the estimates of spending for inpatient care.[13] The overall differences in spending across those plan designs were significant, however, and in most of the comparisons, it was more likely than not that the plan that required 95 percent coinsurance yielded lower inpatient costs than the other designs that required some (but less) cost sharing. In sum, it seems reasonable to conclude that a high-deductible design would probably reduce spending above that deductible when compared with conventional policy designs, but the extent of the impact on those high-end costs is uncertain.

## Estimated Effects of Adding a Tax-Favored Account

Building on the RAND experiment's results, a number of researchers have sought to simulate the effects on health care spending of combining a high-deductible policy with a tax-favored account. Most studies have compared several specific plan designs, the features of which are held constant in a "static" analysis; the resulting impact on health care costs depends partly on the relative value of the plans being compared and partly on the assumptions about enrollees' responses to cost sharing that the researchers have used. Such simulations have found that coupling high-deductible health plans with tax-favored individual accounts yields a smaller impact on total health expenditures than the same high-deductible plan by itself would produce, and the difference grows as the tax advantage for account funds becomes more substantial. That finding is not surprising: in such studies, the only effect of the tax advantage is to lower the relative cost of health care services. But other studies have also sought to consider effects over time—for example, the incentive for enrollees to switch to plans with higher levels of cost sharing once they can pay their out-of-pocket expenses with tax-subsidized funds and the potential for enrollees to accumulate funds in their accounts that might protect them against future medical claims. Some questions remain, however, about how to interpret the findings of those studies and how they apply to the case of consumer-directed plans.

### Simulated Short-Term Effects of Consumer-Directed Plan Designs

A number of studies that were conducted to simulate the impact on health care spending of medical savings

12. Buchanan and others, "Simulating Health Expenditures Under Alternative Insurance Plans," p. 1069.

13. In addition, the plan that imposed 50 percent coinsurance had one enrollee who experienced an extremely expensive hospitalization—which also explains why that plan had the highest inpatient costs per enrollee.

accounts can be used to illustrate the potential effects of consumer-directed designs—because medical savings accounts are so similar to HSAs and HRAs.

- In one study, researchers estimated the impact on total expenditures of switching a representative group of nonelderly enrollees from a conventional health plan to two types of consumer-directed designs.[14] The conventional plan had a deductible of $400, followed by coinsurance of 20 percent up to a limit on out-of-pocket costs of $2,400. The first consumer-directed plan was similar to an individually purchased HSA, in that all out-of-pocket spending avoided income taxes but not payroll taxes. The second consumer-directed plan resembled an HRA design; it had only a modest contribution from the employer that went untaxed. The researchers estimated that under the first consumer-directed plan, spending for health care would not change appreciably (compared with spending under the conventional plan) if the deductible was set at $2,400 for individuals and $4,000 for families; total spending would decline by 7 percent if deductibles for individuals were $4,000 and those for families, $8,000. Under the second plan—which had fewer tax advantages for out-of-pocket costs—spending would be reduced by 6 percent and 13 percent, respectively.

- A similar analysis conducted at about the same time also sought to estimate the effect on total health care spending of switching individuals from a conventional insurance plan to a consumer-directed design.[15] That study found that the higher deductible by itself led to a decrease in total spending of 4 percent to 8 percent—but it also concluded that those savings would be partially offset by policyholders' ability to pay their share of costs with untaxed funds. For a typical set of workers who faced a marginal income tax rate of 20 percent, enrolling in a plan that had a consumer-directed design was estimated to reduce total health care spending by 2 percent to 4 percent, relative to the conventional plan. For an individual subject to a marginal tax rate of 50 percent, however, enrolling in a plan that had a consumer-directed design was estimated to increase their health care spending. That finding reflects the fact that the higher the marginal tax rate that enrollees in a consumer-directed plan face, the lower is the effective coinsurance rate that they must pay.

- In another comparable analysis, researchers at the Urban Institute used an actuarial model to estimate health care spending under two hypothetical plans: a conventional (and unmanaged) indemnity plan that had a deductible of about $400, coinsurance of 20 percent for spending above the deductible, and a maximum out-of-pocket amount of $2,150; and a consumer-directed design that had a deductible of $3,400 (which was also the out-of-pocket maximum) plus a contribution by the employer of $400 to an associated savings account.[16] (Thus, the consumer-directed plan resembled an HRA design.) Those researchers estimated that health care spending would be 15 percent lower under the consumer-directed plan. They cautioned, though, that the practical impact of widespread adoption of consumer-directed designs would probably be smaller, for two reasons: first, many enrollees are already in managed care plans in the first place (reducing the scope for savings from a high-deductible plan); and second, enrollees might view the employer's contribution and their account balances as being less valuable than cash (in which case they would be more likely to spend those funds on

14. Emmett B. Keeler and others, "Can Medical Savings Accounts for the Nonelderly Reduce Health Care Costs?," *Journal of the American Medical Association*, vol. 275, no. 21 (June 5, 1996). The parameters of the health plans used in that study were expressed in 1996 dollars; for ease of exposition, those figures have been increased here by 60 percent to reflect the growth of health care costs per capita in the United States between 1996 and 2004.

15. Larry Ozanne, "How Will Medical Savings Accounts Affect Medical Spending?" *Inquiry*, vol. 38, no. 3 (Fall 1996). After an adjustment to reflect current levels of health care spending, the conventional plan the author modeled had a deductible of about $325, coinsurance of 20 percent above that point, and a limit on out-of-pocket costs of about $1,650. The consumer-directed plan had a deductible of about $3,250 and no further cost sharing.

16. Len M. Nichols, Susan Wall, and Marilyn Moon, *Tax-Preferred Medical Savings Accounts and Catastrophic Health Insurance Plans: A Numerical Analysis of Winners and Losers* (Washington, D.C.: Urban Institute, April 1996). It appears that the consumer-directed plans that the study examined did not make all out-of-pocket costs tax-free but allowed only a tax-free employer's contribution (which reflected some of the constraints being debated for MSAs for the under-65 population at the time of the study). As with the other studies mentioned here, the dollar figures that the Urban Institute authors used have been increased (in this case, from 1994 levels to 2004 levels) to reflect rising health care costs per capita.

health care services). An additional caveat is that the study apparently assumed that cost sharing would have a larger effect on health care spending than the RAND study's results indicated.[17]

One limitation of those studies is that the researchers did not hold constant the overall value of the health plans they were comparing (so as to isolate the effects of a plan's design). By contrast, analysts at the American Academy of Actuaries recently compared the effects of plan designs (described in Chapter 2) that had the same actuarial value.[18] The analysts concluded that shifting a representative set of individuals from a conventional plan to a consumer-directed design with comparable overall value would yield reductions in total health care spending that ranged from 2 percent to 5 percent. The 2 percent figure represents a likely short-term response, in which spending for physicians' services is modestly affected but hospital costs are not; the 5 percent figure represents a longer-term impact, in which spending for physicians' services is reduced to a greater extent and hospital costs change modestly. The authors cautioned, however, that their estimates of savings relied on the assumption that employees would treat their account balances like cash and thus be inclined to reduce their utilization of health care services to build up those balances. As discussed in Chapter 2, that assumption may not be valid for all HRA enrollees (particularly those who expect their health care costs to be low), but it is likely to apply to HSA enrollees. One limitation of that study is that it is not clear whether the authors assumed that the tax subsidy for out-of-pocket costs under a consumer-directed plan would affect enrollees' propensity to use care.

In addition to comparing plans of equal value, the American Academy of Actuaries' study also has the advantage of incorporating the effects of cost management by the health plan. Specifically, both the conventional and the consumer-directed plans that were analyzed delivered care through a PPO network. The academy's findings are very similar to the results of the Keeler study, which indicates that the effect of PPO-style management on the central spending comparison may be small (at least in the longer term). Overall, the results of all of the studies reviewed here suggest that for a representative group enrolled in a consumer-directed health plan, total health care spending would eventually be reduced by about 5 percent when compared with a conventionally designed PPO plan of similar value.

Comparing costs for consumer-directed plans and plans with conventional HMO designs is more difficult, both because less information is available about direct comparisons at a point in time and because the stringency of HMO management has varied in recent years. On average, HMOs would probably have lower costs than conventional PPOs have—although the difference would vary from area to area, depending on the extent of competition among providers and whether HMO plans had developed a strong presence in the local market. In another recent study, CBO estimated that an HMO plan would, on average, have costs that were about 10 percent lower than those of a PPO to deliver a comparable package of benefits.[19] Taken together, those findings imply that widespread enrollment in consumer-directed health plans that use a PPO network will probably not lower health care spending relative to that under conventional HMOs—and in fact could raise spending. That conclusion is also consistent with the spending comparison in the RAND study between an HMO and a plan that required very high coinsurance.

### Analyses of Longer-Term Effects and Responses

Although static comparisons of different plan designs for a given year are useful, it is also important to take the potential for longer-term effects into account. Making many out-of-pocket health care costs tax-deductible or tax-free should not only encourage enrollees to shift toward consumer-directed plans but also lead them to choose higher deductibles over time. Another consideration that is missed by single-year plan comparisons is the potential to accumulate account balances over a longer

17. The model of enrollee responses that was used in the Nichols study came from earlier work by the American Academy of Actuaries, so the results of that organization's more recent study (presented below) may provide a more up-to-date assessment of the likely response.

18. American Academy of Actuaries, *The Impact of Consumer-Driven Health Plans on Health Care Costs: A Closer Look at Plans with Health Reimbursement Accounts* (January 2004), available at www.actuary.org/pdf/health/cdhp_jan04.pdf. Although that analysis focused on the case of an HRA, its findings seem to apply equally to the case of an HSA.

19. See Congressional Budget Office, *CBO's Analysis of Regional Preferred Provider Organizations Under the Medicare Modernization Act* (October 2004), p. 14.

period, which might make enrollees more willing to choose a plan that has a higher deductible.

**Shifting Toward Higher Cost Sharing.** As discussed in Chapter 2, there is a solid theoretical basis for the argument that providing favorable tax treatment for all cost sharing would ultimately result in higher net rates of coinsurance—which in turn would lower health care spending at least to some degree. Several studies have shown that the long-standing tax advantage for employer-sponsored coverage has led to lower rates of coinsurance in those policies, on average, but little direct evidence is available about the effect of favorable treatment for out-of-pocket costs.

The only study available that examines that question provides mixed evidence about those theoretical propositions and their implications for consumer-directed plans.[20] The authors used data from 1993 to compare the coinsurance rates of health plans offered by firms that also offered flexible spending accounts and by firms that did not offer them. After attempting to isolate the effects of other factors, the researchers concluded that health plans at firms that offered FSAs had coinsurance rates that were about 7 percentage points higher—that is, coinsurance rates averaged 23 percent for firms that had FSAs and 16 percent for firms that did not. Because FSAs had been available for many years at the time that the data for the study were gathered, that finding probably represents a long-term response.

Several issues arise in trying to interpret that finding. One challenge in such a study is to identify factors that would affect whether a firm offered an FSA but that would not also affect the overall value of the health insurance plans it offered; that is, the firms that offered FSAs might have differed from the firms that did not in ways that confounded the analysis. It is not clear that the methodology the authors employed overcame that obstacle. Even if the reported results are taken as a given, the findings' implications for consumer-directed health plans are ambiguous. Although the results are consistent with the view that preferential tax treatment for out-of-pocket costs will lead to an increase in gross coinsurance rates, the firms that offered FSAs did not end up with higher net coinsurance rates after taxes were taken into account.[21] The incentives to increase coinsurance rates that an FSA creates are weaker than those associated with a consumer-directed plan, so it is likely that consumer-directed designs would eventually have a greater impact. But to the extent that consumer-directed plans were offered by firms that had already offered FSAs, the incremental effect on coinsurance rates and thus spending could be small.

**Accumulating Account Balances.** Another dimension that is missed by snapshots of total and out-of-pocket health care costs under plans with a consumer-directed design is the pattern of account contributions and withdrawals over an extended period. Substantial balances in enrollees' accounts would not only protect them against future medical claims but might also make them more willing to move toward policies with even higher deductibles.

To examine that question, one study used three years of data on health insurance claims for the employees of a large U.S. firm to try to simulate the distribution of account balances that might arise over a lifetime of participation in a consumer-directed plan. Specifically, it examined how enrollees would fare if their employer provided an insurance policy with an annual deductible (and out-of-pocket limit) of $4,000 and contributed $2,000 each year to their account.[22] According to the simulation, virtually all enrollees would reach age 60 with a positive balance in their account; for many enrollees, the estimated balance would be substantial—even though the authors did not assume that enrollees would reduce their total use of health care services as a result of the new financial incentives to limit expenditures that they would face.

20. See William Jack, Arik Levinson, and Sjamsu Rahardja, *Employee Cost-Sharing and the Welfare Effects of Flexible Spending Accounts*, Working Paper No. 11315 (Cambridge, Mass.: National Bureau of Economic Research, May 2005).

21. In the study, the typical employee faced a marginal tax rate of about 30 percent. As a result, her net coinsurance rate in a firm that offered FSAs would be 16 percent (70 percent of the gross coinsurance rate of 23 percent).

22. See Matthew J. Eichner, Mark B. McClellan, and David A. Wise, *Insurance or Self-Insurance?: Variation, Persistence, and Individual Health Accounts*, Working Paper No. 5640 (Cambridge, Mass.: National Bureau of Economic Research, June 1996), pp. 1–29. For simplicity, the authors conducted the entire analysis by using then-current levels of health care spending—an approach comparable to assuming that the deductible and the employer's contribution grow at the same rate as per capita health care costs over time. In this instance, CBO did not adjust dollar amounts to correspond to current levels of health care spending.

One factor that the study highlighted was the variability over a (simulated) lifetime—or at least between the ages of 25 and 60—of total health care spending and account withdrawals. The authors reported that about 55 percent of employees accounted for about 80 percent of expenditures over that extended period. Some concentration of expenditures would be expected in any area in which individuals had purchased insurance—because people would be trying to protect themselves against the small probability that they would incur large costs. But those lifetime costs are somewhat less concentrated than costs over a five-year period would be. For example, the study found that after five years (at age 30), the share of employees who accounted for 80 percent of expenditures was only about 35 percent.

As for enrollees' withdrawals to cover the out-of-pocket costs they incurred (those below the deductible), the authors reported that by age 60, about 20 percent of enrollees would have used more than 50 percent of their employer's contributions and 5 percent would have used more than 80 percent. However, 50 percent of enrollees would have used less than 30 percent of the contributions, the authors estimated. That finding has been cited by some proponents of consumer-directed plans.[23]

The study's finding about the potential for people to accumulate balances in their accounts must be tempered by several caveats, however.

- *Larger Payments by Employers.* The consumer-directed design that the researchers modeled would apparently cause the employer's total payments to increase substantially. The costs of the catastrophic insurance policy that the plan incorporated were estimated to be $700 per enrollee per year; the annual cost to the employer (including the contributions to an employee's account) would thus be $2,700 per person per year. By contrast, the conventional insurance policy in which employees had previously been enrolled was estimated to cost the employer about $1,400 per person per year. If the account contributions had been set at $700 per year—thus holding the employer's total costs constant while rearranging the form of the payment—the balance in a typical account at any given point would have been much smaller.[24]

- *Unusual Catastrophic Policy.* The catastrophic health insurance policy that the study analyzed had an unusual feature: if the enrollee's account balance dropped to zero, the plan would cover all remaining expenses.[25] Thus, there could be no negative balances, a feature that would weaken enrollees' incentive to limit their use of care. With annual contributions of $2,000, the risk of exhausting all balances would be smaller, so the cost of covering claims beyond that point would be relatively low. However, if the employer's contribution to the account had been $700, then a policy that covered any shortfalls would be more expensive to provide—so the account contribution would have had to be less than $700 to keep the total payments by the employer constant.

- *Limited Data on Spending Patterns Over Time*. The authors had three years' worth of claims data with which to work. That approach represented a substantial improvement over many other analyses, and the authors were able to check the overall accuracy of their projections of lifetime medical costs by comparing their imputed distributions of health care spending at various ages with actual distributions. But the authors

23. See Michael F. Cannon, *Health Savings Accounts: Do the Critics Have a Point?* Policy Analysis No. 569 (Washington, D.C.: Cato Institute, May 30, 2006), p. 4, available at www.cato.org/pubs/pas/pa569.pdf.

24. As the authors noted, "the results would look quite different if [the] contribution were $1,000 instead of $2,000" (Eichner, McClellan, and Wise, *Insurance or Self-Insurance?*, p. 27). According to their data, average account withdrawals over a lifetime would be at least $24,000, whereas an account contribution of $700 annually for 35 years would yield $24,500 in total deposits. If average payments by the employer and average health care costs per enrollee had been held equal, it would follow that average out-of-pocket costs would also be unchanged (because the authors did not assume that enrollees' use of health care would change). Median withdrawals over the entire 35 years appear to have been somewhat smaller than those average amounts—about $20,000 for men and $25,000 for women.

25. The authors note that if the account "balance goes to zero, all expenses are paid by the insurance plan" (Ibid., p. 23); the costs of that feature were included in the premium for the consumer-directed design. Because a gap exists between the annual contribution and the out-of-pocket limit, enrollees would still have to pay costs that fell within that gap out of any prior accumulated balances. An offsetting benefit to enrollees would be that they would have no true out-of-pocket costs for their care—all expenses would be covered by the insurance plan or the account. However, one of the conventional plans in which they had been enrolled had also required no cost sharing; the other had a low deductible and an annual out-of-pocket limit of $500 per family.

also noted that more years of data on prior expenditures would yield better estimates of persistence. Their findings about the distribution of lifetime health care costs might overstate the degree to which the fluctuations in annual costs evened out over time. As a result, they might have understated the variation in lifetime medical costs and account withdrawals as well as the variability of the account balances that individuals would retain at retirement.

CHAPTER

4

# Effects of Consumer-Directed Designs on the Prices, Quality, and Outcomes of Health Care

Besides encouraging enrollees to limit their use of health care services by exposing them to a greater share of the services' costs, consumer-directed plans could also reduce spending for health care—or increase the efficiency of its delivery—by lowering the prices that are paid for services and increasing the effectiveness of services that are received. Some advocates of consumer-directed designs maintain that those effects will be so significant that they will transform the market for health care and bring about substantial improvements in the overall quality of care that is provided.[1] The incentives for enrollees to consider both the costs and benefits of care under consumer-directed designs, it is argued, could yield not only lower prices—either through direct negotiations between enrollees and providers or by competitive pressures on providers—but also changes in the treatments that enrollees seek or that doctors recommend. But it is not clear that individuals will be more effective than health plans in bringing about such changes (which health plans also have financial incentives to encourage). At present, the dearth of information that is available on actual prices and the quality of care also makes it more difficult to improve the performance of the health care system.

Critics of consumer-directed designs have raised concerns that such plans will reduce spending simply by discouraging enrollees from getting needed treatments. If that occurred, it would have adverse effects on enrollees' health and might lead to higher health care spending in the future (to deal with diseases at a more advanced or more acute stage). But there appears to be little evidence to support those concerns. The RAND Health Insurance Experiment, which randomly assigned individuals and families to various health plan designs and tracked their experience for several years, found no differences in the health of enrollees when it compared plans that required some degree of cost sharing. Another important consideration is that consumer-directed plans may provide coverage below their deductibles for preventive services, which may identify health problems at an early point—although it appears that many consumer-directed plans have chosen not to offer such coverage.

## Price Setting and Provider Networks

Some proponents of consumer-directed health plans have argued that enrollees should bargain with providers to establish prices for the care they receive.[2] For routine or lower-cost services, enrollees in consumer-directed plans would have a strong financial incentive to get the best prices they could. But for some kinds of care—for example, expensive hospitalizations or emergency services—the plans would generally need to establish prices. In the case of high-cost procedures, enrollees would have little incentive to bargain once they had exceeded their deductible (or if they expected to exceed it at a later point), and in the case of urgent care, enrollee-level bargaining would generally be infeasible.

1. See the statement of John C. Goodman, President, National Center for Policy Analysis, *Health Savings Accounts*, before the Senate Special Committee on Aging, May 19, 2004; and Greg Scandlen, "Consumer-Driven Health Care: Just a Tweak or a Revolution?" *Health Affairs*, vol. 24, no. 6 (November/December 2005).

2. See Regina E. Herzlinger, "Let's Put Consumers in Charge of Health Care," *Harvard Business Review,* vol. 80, no. 7 (July 2004); and Herzlinger, ed., *Consumer-Driven Health Care: Implications for Providers, Payers, and Policymakers* (San Francisco: Jossey-Bass, 2004), pp. 74–101. For examples in which enrollees in consumer-directed plans bargained directly with providers, see Vanessa Fuhrmans, "Childbirth for Bargain-Hunters: Pregnant Women Take Lead in Negotiating Over Prices Amid Cutbacks in Coverage," *Wall Street Journal*, April 5, 2005.

**Box 4-1.**

## Administrative Costs

Proponents of consumer-directed health plans have suggested that the plans could lower total health care spending by reducing some of the administrative costs associated with health insurance. The accounts that such plans include—which enrollees can use to pay their medical bills—might be tapped at the time that services are received by using what amounts to a debit card. That approach could replace the common practice in conventional health plans of doctors' submitting claims to insurers and being reimbursed at some later date, often after some review, paperwork, back-and-forth communications, and dispute resolution.

In many cases, however, administrative review of billed charges and payments would still be necessary under consumer-directed plan designs.[1] For both health reimbursement arrangements (HRAs) and health savings accounts (HSAs), plan administrators would certainly want to review payments once enrollees had exceeded their annual deductible because the plan would be responsible for paying most of the health care costs that enrollees incurred from that point forward. But they would also want to monitor spending below that point because it would affect when the insurer's liability began; in particular, enrollees who anticipated that they would exceed their deductible (but had not yet done so) would have only a limited incentive to keep careful track of their medical bills. In the case of HRAs, plan administrators would have an additional incentive to review withdrawals from enrollees' accounts and to ensure accurate billing—because only at the time of a withdrawal from the HRA do those costs become actual expenses for the employer that sponsors the plan.

In other cases, administrative costs might decline only as an accounting matter. For spending incurred before their deductible was met, enrollees in consumer-directed plans would typically have the same incentives as the administrators of conventional plans to review their bills (for example, by checking

1. For a discussion of problems that have arisen regarding payment procedures, see Sarah Rubenstein, "Savings Accounts for Health Care Cause Confusion," *Wall Street Journal*, November 30, 2004.

Several factors make it unlikely that individual-level negotiations would result in lower prices for health care services than those that are currently being paid.

- Administrators of a conventional health plan also have strong incentives to negotiate lower prices with providers, either to increase their plan's profits (in the short run) or to hold down premiums and compete for enrollees (in the longer term). Although third-party reimbursement by health insurers does discourage enrollees in conventional plans from considering the prices paid for their care, such third parties have a strong interest in keeping those prices as low as possible.

- Insurers might have a stronger bargaining position than individuals would have. In particular, insurers could more effectively use the threat of exclusion from the health plan's network—and the associated loss of patients and income—to secure lower payment rates from providers. The magnitude of that effect would depend on the threat's credibility, which is partly a function of the insurer's share of the local market and the degree of competition among providers.

**Box 4-1.**

## Continued

to ensure that the payment they made for a service or provider was the correct amount). In that case, however, the result of switching to a consumer-directed plan might simply be to transfer some administrative burdens from plan administrators to individuals. The administrative costs would no longer be counted as health care spending because they would not be part of the health plans' costs, but there would still be economic costs in the form of enrollees' time and effort. Thus, whether debit-card arrangements introduced by consumer-directed plans would reduce administrative costs in an economic sense is unclear.[2]

2. Adding a debit-card mechanism might boost administrative costs. For example, Aetna announced that enrollees in consumer-directed health plans would be able to "begin accessing those accounts later this year by using a company linked checkbook or debit card arrangement." But "the cost of the program will be worked into the premium amount . . . and will cost on average about $3 per month per employee." See "Aetna to Offer HSAs to Small Employers, Individuals; Debit Card Program Unveiled," *BNA Health Care Daily*, February 18, 2005.

Shifts in enrollment toward consumer-directed health plans might also raise two other issues related to administrative costs. First, costs for doctors and hospitals might increase somewhat if increased efforts were required to collect payments from enrollees (either because their plan did not feature a debit-card mechanism or because enrollees chose not to use that option). Second, employers appear to be concerned about the additional administrative costs they might have to incur if they switched to or added consumer-directed options—costs that would stem from having to explain the somewhat more complex features of those options. Given the interest in consumer-directed plans that employers have expressed in surveys, the potential for additional costs may not be a substantial barrier to the plans' broader adoption. But any resulting savings on health claims that those plans generated might be at least partially offset by one-time costs for introducing the new plans.

In sum, the overall effect of consumer-directed designs on administrative costs for health care appears uncertain.

- Another consideration is the time it might take providers and individuals to conduct price negotiations. Any additional costs to providers from bargaining over rates with each patient would probably be passed on in the form of higher prices. The costs to individual enrollees would not be counted as an explicit health care expenditure, but there would still be an opportunity cost for the time involved.[3] By contrast, a health plan could conduct one negotiation for all its enrollees. (Other potential effects of consumer-directed plans on the administrative costs that are associated with health care delivery are considered in Box 4-1.)

3. An opportunity cost of an activity is the value of the best option that could have been pursued instead—that is, the cost of not being able to put that time (and any other resources involved) to another use.

For those reasons, most enrollees would probably prefer to essentially contract out to their health plan the task of negotiating a provider fee schedule. Consistent with that assessment of enrollees' preferences, a recent industry survey found that more than 90 percent of enrollees who had health savings accounts were in plans that used a preferred provider organization; in general, those enrollees paid the same negotiated prices for care as enrollees in the insurers' other PPO offerings. As for comparisons with the prices of health maintenance organizations, some evidence shows that the rates HMOs pay providers are lower than the rates that PPO plans pay. The prices in HMOs could thus be somewhat lower than the prices in consumer-directed plans. For both PPOs and HMOs, the price discounts that health insurers can obtain from providers will depend in part on the degree of competition among providers in the area—but that is a factor that would also affect any individual-level negotiations.

Even without explicit bargaining, stronger incentives for enrollees to consider the prices of the services they receive could put downward pressure on those prices—if enough consumers were willing to switch to lower-priced providers and if providers responded by lowering their prices to compete more aggressively for patients. But whether such market pressure would make consumer-directed plans more effective than other kinds of designs in holding down prices is not clear. Conventional health plans also have financial incentives to negotiate low prices with network providers and to limit the participation of high-priced providers. Providers thus have an incentive to compete on the basis of their prices for inclusion in the health plans' networks.

In the near term at least, the limited availability of information on providers' prices constrains the efforts of enrollees to seek the best value in their care. As summarized by one recent news article, "no source has detailed information comparing prices from provider to provider" that enrollees can use.[4] Plans with a consumer-directed design could provide information about the typical costs for treating a given condition. But individuals currently have no clear way to obtain meaningful estimates, before health care is provided, of both the services that they need and the net price of those services—information that they frequently obtain for other kinds of services (such as car repairs). The confidentiality provisions often contained in contracts between health insurance plans and providers may be one of the factors that hinders such price transparency.[5]

Over time, if more information became available about the prices charged by specific providers, enrollees in consumer-directed health plans would have stronger incentives than enrollees in conventional plans to consider whether the added cost of a given provider was worth paying. As conventional plans are currently structured, enrollees face that trade-off only when they are choosing between a network and a nonnetwork provider. To match the incentives that consumer-directed designs provide when enrollees choose among network doctors, conventionally designed plans would have to adopt a different approach than they do now—perhaps reimbursing an average amount for each procedure or service and requiring enrollees to pay any difference between that amount and their chosen provider's charges.[6] (Such approaches are sometimes called reference pricing.) That payment structure would be somewhat more complex than one that imposed a common copayment or coinsurance rate for each service, but it would not be without precedent. Prior to the advent of managed care, health plans typically limited their payment for a service to a percentage of a regional average of charges, and enrollees were responsible for paying any excess amount that their doctor billed.

## The Quality of Health Care

Both supporters and critics of consumer-directed health plans agree that if such arrangements are to work well, enrollees need useful information not only about prices but also about the quality of the care that different providers offer. Depending on the type of service, that information might include direct, objective measures (such as survival rates or indicators of patients' functional improvement), indirect measures that seek to capture the use of best medical practices (such as the extent to which certain "evidence-based" treatment guidelines are followed), or more-subjective measures (such as enrollees' satisfaction). If consumers face differing prices among providers, they will need information on the quality of the care that those providers offer to determine whether higher-cost providers are delivering better outcomes for their patients and then whether the value of the added quality is worth the added costs. Yet even establishing

4. See Vanessa Fuhrmans, "Patients Give New Insurance Mixed Reviews: Consumer-Directed Health Plans Can Cut Costs, But Early Users Cite Problems Comparing Prices," *Wall Street Journal*, June 14, 2005. More recently, however, Aetna has given its members in selected geographic areas access to information about the prices charged by specific doctors for 30 of the most widely used services (as well as some comparative information about their quality). See January W. Payne, "The Secret's Out: Aetna Members Gain Access to Care Price, Quality Data," *Washington Post*, August 22, 2006.

5. If competition among providers is limited, the confidentiality of price information might yield lower prices because it would inhibit efforts by those providers to cooperate (actively or passively) to keep prices higher. See the statement of Paul B. Ginsburg, President, Center for Studying Health System Change, *Consumer Price Shopping in Health Care*, before the Subcommittee on Health of the House Committee on Energy and Commerce, March 15, 2006.

6. The extent to which health plans pay different rates to different providers for the same services—rather than a common rate for each procedure—is not generally known.

**Box 4-2.**

## What Is Health Care Quality?

For many types of goods and services, it is not difficult to describe or understand what is meant by their quality—the term generally reflects how well-made they are and how well they perform or fulfill their desired functions. For health care services, a general definition of higher quality might be care that is more likely to yield the desired health outcomes. However, the central role that doctors play in diagnosing their patients' health problems, recommending an overall course of treatment, and guiding the determination of the specific services that are provided complicates the application of that concept of quality. Those additional steps mean that the quality of health care depends not just on performing a given medical procedure well but also on choosing which type of treatment to provide and which specific procedures (if any) to perform.

Reflecting that complexity, an influential report issued by the Institute of Medicine's Committee on Quality of Health Care in America put forward the following six objectives. It recommended that health care be provided in a manner that is:

- "Safe—avoiding injuries to patients from the care that is intended to help them.
- Effective—providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
- Patient-centered—providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- Timely—reducing waits and sometimes harmful delays for both those who receive and those who give care.
- Efficient—avoiding waste, including waste of equipment, supplies, ideas, and energy.
- Equitable—providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status."[1]

The committee's goals capture the many dimensions of health care quality, but in some respects, they may go beyond the meaning of the term. (For example, the sixth goal above, equitable treatment quality, could be considered an additional objective.) Even so, the goals highlight three widely acknowledged types of shortcomings in the quality of care that people receive—although efforts to determine the extent of those shortcomings have been hampered by the limited availability of data on the quality of care.

*Misuse*. That term includes incorrect diagnoses as well as medical errors and other sources of avoidable complications (such as infections that patients acquire during a hospital stay). Over the past decade, the Institute of Medicine has issued several reports that seek to document the extent of medical errors and their consequences.[2]

1. Institute of Medicine, *Crossing the Quality Chasm* (Washington, D.C.: National Academy Press, 2001), p. 6.
2. For example, see Institute of Medicine, *To Err Is Human* (Washington, D.C.: National Academy Press, 1999).

what is meant by the term "health care quality" can be difficult (see Box 4-2).

Developing more information about the quality of health care services could have several beneficial effects. In addition to discouraging enrollees from using inefficient providers, it could also dissuade them from getting care that does little to improve their health. Perhaps more significantly, better comparative information about providers and treatments might also encourage doctors to improve the care they provide and lead them to reevaluate the treatments they recommend. But whether spending for

**Box 4-2.**

## Continued

- *Underuse*. In this context, the term is defined as a failure to provide services that would have been medically beneficial. Several recent studies have reported that individuals frequently do not receive care that is recommended or deemed appropriate, even when they have insurance coverage.[3]

- *Overuse*. In this case, the term means the provision of a service even though its risk of harm exceeds its potential benefit—that is, when it is not warranted on medical grounds. A number of studies have found (on the basis of after-the-fact reviews by independent panels of doctors) that a sizable share of certain surgeries were performed despite their being clinically inappropriate or of equivocal value. Those findings held true under a variety of insurance plan designs.[4]

An important caveat is that those definitions of underuse and overuse do not take into account the costs of providing the services involved. That approach is appropriate in considering the quality of care by itself because the focus should be on the benefits of care. And resource costs are a factor in considering the efficiency with which a given level of care quality is obtained (which is another one of the committee's goals). If providers use resources that do not improve the odds of a favorable outcome—or that, like medical errors, detract from the benefits of care—they could provide that level of quality at a lower overall cost. But if higher-quality care is also more expensive to provide, then trade-offs between costs and quality must be made.

The goal of having patient-centered care also highlights the important role of preferences in determining which type of health care is "better." A more invasive treatment that involves surgery, for example, may have a higher probability of curing a disease but also pose a greater risk of complications and adverse side effects. Whether such care is of higher quality than a less aggressive treatment thus depends on how an individual weighs those competing considerations. Complicating that determination may be substantial uncertainty—or differences in views within the medical community—about the effects that a given treatment or procedure will have on a particular type of patient, even if performed well. And over time, standards of care quality must be continually updated as new studies are released (sometimes with conflicting results) and new treatments and procedures are developed. All of those factors combine to make it difficult to provide summary measures of the quality of the services that health care providers deliver.

3. See Elizabeth A. McGlynn and others, "The Quality of Health Care Delivered to Adults in the United States," *New England Journal of Medicine*, vol. 348, no. 26 (June 26, 2003); and Stephen F. Jencks, Edwin D. Huff, and Timothy Cuerdon, "Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998–1999 to 2000–2001," *Journal of the American Medical Association*, vol. 289, no. 3 (January 15, 2003).

4. For a useful discussion of care quality issues, see Mark R. Chassin, "Is Health Care Ready for Six Sigma Quality?" *Millbank Quarterly*, vol. 76, no. 4 (1998). For a summary of studies on the overuse of care, see Elizabeth A. McGlynn, "Assessing the Appropriateness of Care: How Much Is Too Much?" RAND Research Brief (Santa Monica, Calif.: RAND, 1998), available at www.rand.org/pubs/research_briefs/RB4522.

health care would increase or decrease as a result is uncertain. On the one hand, greater emphasis on the quality of health care services could avoid some costly complications arising from poorly provided care. On the other, it could lead to greater use of more-expensive (but higher-quality) providers. Further, a common problem—according to many current measures of care quality—is that individuals often fail to receive recommended treatments. Whether better information would lead to an increase or decrease in the amount of care demanded is thus difficult to predict.

Currently, many consumer-directed health plans provide online tools to help enrollees search for network providers, and some also provide tools to help enrollees choose among treatment options. However, the information on quality that is currently available on plans' Web sites is relatively sparse—in no small part because widely accepted and useful measures of the quality of providers' services are not generally available.[7] Moreover, health insurance companies that provide information about the quality of services and decision-support tools to enrollees in their consumer-directed health plans appear to offer similar kinds of information and tools to enrollees in health plans of conventional design. For example, Aetna, which offers plans that have health savings accounts and health reimbursement arrangements, includes information on the quality of hospital services on its Web site—and provides the same information to enrollees in all of the health plans that the firm offers, including conventional plans.

More generally, all types of plans appear to be moving in the direction of providing more information to their enrollees about the quality and benefits of providers' services to encourage enrollees to get better care for their money. If such information improved outcomes for enrollees, lowered health care costs (and thus a plan's expenditures), or enhanced enrollees' satisfaction, conventional health plans would also have an incentive to monitor their providers and offer the information they collected to enrollees. And enrollees in those plans would have a powerful incentive to use such information: because they would generally pay only a small share of the costs for their care, their choice of a provider could be guided more by differences in the quality of providers' services than by differences in the services' costs.[8]

Health plans face substantial challenges in developing appropriate measures of the quality of providers' care that enrollees can use effectively. Plans must gather the necessary information, adjust for apparent differences in outcomes that stem from other factors, and report the results in an accessible, useful fashion for consumers. (For example, doctors and hospitals that provide higher-quality services may also treat sicker patients and thus may appear to have worse outcomes—so the raw data require some form of risk adjustment to present a more accurate picture.) In some cases, simply achieving a consensus in the medical community about how to assess quality might be difficult. And even if accurate measures of quality could be developed, the extent to which enrollees would be able to understand and make use of that information would vary; some enrollees would find it easy, whereas others might find that the complexity of medical care made it very difficult. Enrollees in conventional plans would face the same challenges in comparing providers, but it might be that consumer-directed health plans will appeal to individuals who feel more comfortable in evaluating such information and making such choices themselves.

What remains to be seen is whether the added financial incentive that enrollees in consumer-directed plans have to use more information about care quality will be enough to overcome the other challenges that arise in trying to provide that information. Improvements in health information technology and the development of electronic medical records could accelerate progress on those fronts. For example, electronic medical records would make it easier to collect data on the outcomes of care (although tensions could arise between gathering more information and protecting patients' privacy). But those developments would also yield information useful to conventional health plans in determining which treatments to cover for particular conditions and which providers to include in their networks. Thus, the impact that better information about the quality of care would have on the relative costs or efficiency of consumer-directed and conventional health plans is uncertain.

7. Because the Congressional Budget Office did not conduct an exhaustive search of health plan Web sites or assess the information that they provide to enrollees about health care quality, that conclusion is tentative. But a recent report by the Government Accountability Office examined the decision-support tools provided by five of the largest insurance carriers that offer consumer-directed plans and found that they "do not provide sufficient information to allow enrollees to fully assess the cost and quality trade-offs of health care purchasing decisions." See Government Accountability Office, *Consumer-Directed Health Plans*, GAO-06-514 (April 2006), p. 25.

8. Some observers have argued that competition in health care currently takes place at the "wrong level"—occurring when health plans compete for enrollees rather than when providers compete to offer the services that a patient needs. See Michael E. Porter and Elizabeth Olmstead Teisburg, "Redefining Competition in Health Care," *Harvard Business Review,* vol. 82, no. 6 (June 2004). But if providers also compete for patients on the basis of quality and compete to be included in health plan networks on the basis of both quality and price, then the current system could also be effective in balancing the costs and benefits of care.

## Impact of Consumer-Directed Designs on Enrollees' Health

Although greater demand for information about the quality of health care could eventually yield improved health for enrollees in consumer-directed plans, critics of such plans argue that they will have a more immediate impact: they will lead enrollees to forgo necessary medical treatments and thus adversely affect enrollees' health. A primary source of information about the issue is, once again, the RAND Health Insurance Experiment, which in addition to examining the impact of cost sharing on expenditures also sought to measure its effect on participants' health.

Analysts generally agree about the implications of the RAND study for health care spending and the use of services, but views differ about whether its results show that the reduced use of services under high-deductible insurance designs will have a detrimental effect on health care outcomes for such plans' enrollees. Although the RAND researchers found little direct evidence that higher levels of cost sharing had any adverse effects on health, observers disagree about whether those findings are persuasive or merely reflect the difficulty of detecting such effects. Some evidence suggests that higher cost sharing will discourage individuals from using some services that would probably be medically beneficial, but whether those services would actually have been cost-effective for the particular individuals concerned is unclear.

In principle, enrollees should consume care only when the benefits to them exceed the costs of the care. When faced with a higher deductible, therefore, they should forgo only those treatments that provide modest benefits relative to their full costs. Even within that framework, some individuals might forgo some health benefits if they used fewer services, but they would still be better off overall as long as their financial savings more than compensated them for the change in their health status or prospects. But even before addressing that potential trade-off, a central question is whether the health of individuals is affected at all when they face higher levels of cost sharing.

### Evidence from the RAND Health Insurance Experiment

The RAND research team—and other researchers who used data from the RAND study—have sought to measure the effect of cost sharing on enrollees' health in two ways: first, by looking for any impact on the treatments that enrollees received, and second, by considering more direct (though harder-to-measure) effects on their underlying health. A related consideration is the evidence about coverage for preventive care and the effects of cost sharing on its use.

**Effect of Cost Sharing on Treatments Received.** The first line of analysis of the RAND data focused on whether plans that imposed cost sharing discouraged the use of "appropriate" or "inappropriate" health care, compared with a plan that offered free care to enrollees. Because making that determination case by case can be difficult, researchers often used various proxy measures.

As one example, the RAND team measured the use of emergency room services, separating them according to more urgent and less urgent diagnoses (as characterized by an independent team of doctors).[9] For less urgent conditions, the use of emergency room services among enrollees in the free-care plan was about 90 percent higher than among enrollees in the plans that required cost sharing; for more urgent diagnoses, by contrast, emergency room use under the free-care plan was only about 30 percent higher. That finding suggests that many emergency room visits for less urgent conditions by enrollees in the free-care plan were unnecessary, but it also raises the concern that enrollees in the plans that required cost sharing did not receive prompt treatment in some cases that were more urgent.

Whether those differences in treatments might have had an adverse effect on the health of enrollees who faced cost sharing is difficult to determine, however. Among the more urgent diagnoses, enrollees' use of emergency room services under the free-care plan and the cost-sharing plans varied by diagnosis; for example, enrollees in the free-care plan who had asthma were nearly three times as likely to go to the emergency room as enrollees who faced cost sharing, but enrollees in both plans who were diagnosed with chest pain or acute heart disease had compara-

9. Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, Mass.: Harvard University Press, 1993), pp. 152–159.

ble rates of emergency room use.[10] For the specific cases in which cost sharing made a difference, the medical benefits of more-prompt treatment are hard to ascertain. And it is even more difficult to say whether or not the emergency room visits for more urgent diagnoses that were discouraged by plans' cost-sharing features would have been worth their full costs. That determination would depend in part on whether an enrollee could have received treatment in a less costly setting, outside of an emergency room, at the time.

The RAND team also analyzed the more general probability that enrollees would seek care in any setting for various diagnoses, which researchers grouped according to the estimated effectiveness of medical treatment for them.[11] The analysis showed that among diagnoses for which medical care was considered highly effective, cost sharing reduced the likelihood of using services, on average, by about 25 percent. It reduced the use of generally effective treatments to a greater degree among poorer children than among children in higher-income families, whereas among adults, the effects of cost sharing did not differ significantly by income. Among diagnoses for which professional medical care (at the time of the study) was considered rarely effective or for which self-care was effective, cost sharing yielded reductions in the use of services that ranged from 20 percent to 33 percent.

Those results might suggest that cost sharing did not differentially discourage the use of low-value treatments but instead operated more bluntly to reduce the use of all services. But here, too, it is hard to predict the net impact on enrollees' health—that is, whether the reduced use of effective and ineffective treatments offset one another or whether the downsides of receiving fewer effective treatments outweighed the benefits of avoiding some ineffective care. Another consideration is that the tests of whether treatments were effective looked only at their likely medical benefits and did not try to assess whether they were also cost-effective in each case; in principle, some care that is highly effective might also be prohibitively expensive, whereas some care that is rarely effective might still be cheap enough to pass a cost–benefit test. Related to that point, the study's categories of highly effective and rarely effective treatments were quite heterogeneous. For example, diagnoses for which highly effective treatments were available included strep throat and nonfungal skin infections (which are probably inexpensive to treat and more prevalent among children) as well as more serious conditions, such as congestive heart failure. Diagnoses for which treatments were considered rarely effective ranged from fever and headaches to chest pain and degenerative joint disease.

Another set of studies sought to analyze (on the basis of after-the-fact reviews of medical charts by a team of doctors) whether specific procedures or hospital admissions for specific patients were medically necessary. The most relevant of those studies for the purposes of this analysis examined whether the prevalence of appropriate and inappropriate hospital admissions depended on the level of cost sharing that patients faced. Researchers found the following: "In plans with cost sharing for all services [including hospitalization], 22 percent of admissions and 34 percent of hospital days were classified as inappropriate, as compared with 24 percent of admissions and 35 percent of hospital days in the plan under which care was free to the patient (these differences were not statistically significant)."[12] As discussed in Chapter 3, patients who faced cost sharing were less likely to be admitted to the hospital overall; however, those results indicate that patients still used some services that were judged not to provide positive medical benefits—and they used such services in about the same proportion as did patients who received free care.

Taken together, the findings that cost sharing led enrollees to forgo treatments that were judged to be urgent, effective, or medically appropriate could indicate that those enrollees were made worse off as a result. Yet even if enrollees in plans that required cost sharing saw their health deteriorate (or improve to a lesser degree than it would have under the free-care plan), it would be difficult to determine from the studies alone whether those effects outweighed the financial savings that those plans generated. Nor is it clear whether differences in treatment grew

10. A more recent study found that among HMO enrollees who were having a heart attack, those who had to make a copayment did not delay their trips to the emergency room relative to those who faced no cost sharing for emergency care. See David J. Magid and others, "Absence of Association Between Insurance Copayments and Delays in Seeking Emergency Care Among Patients with Myocardial Infarction," *New England Journal of Medicine*, vol. 336, no. 24 (June 12, 1997).

11. Newhouse and the Insurance Experiment Group, *Free for All?*, pp. 159–165.

12. See Albert L. Siu and others, "Inappropriate Use of Hospitals in a Randomized Trial of Health Insurance Plans," *New England Journal of Medicine*, vol. 315, no. 20 (November 13, 1986), p. 1259.

with the level of cost sharing that was required (most of the comparisons were made between the free-care plan, on the one hand, and all of the cost-sharing plans as a group, on the other). But an overall assessment of those findings depends to a substantial degree on whether cost sharing had adverse health effects on balance, taking into account all of the reductions in the use of services that cost sharing generated—which is the second line of analysis that the RAND team conducted.

**Effect of Cost Sharing on Underlying Health.** The RAND researchers sought to estimate the effects of cost sharing on health more directly by using a wide variety of measures. Also, in an effort to capture longer-term effects, enrollees in the experiment were followed for at least three years and some for as many as five years. The study team's overall assessment was that for the average enrollee, "there were no substantial benefits from free care."[13] In other words, plans that required cost sharing generally did not have an adverse effect on the health of their enrollees. Given that enrollees who faced cost sharing did not receive some treatments that (on average) have positive medical benefits, that result may seem surprising. The RAND analysts considered the argument that adverse health effects actually occurred for those enrollees and were simply not measured effectively in the experiment; however, they concluded that they were

> . . . confident that our health status measures were sufficiently accurate and comprehensive to have captured any important gain in health status. We interpret the proportionate change in appropriate and inappropriate care to mean that the benefits of the additional appropriate care were offset by the additional inappropriate care received by those with full coverage. In other words, the increased inappropriate care was not just zero-benefit care; it actually had negative effects.[14]

Otherwise, the RAND team found only limited evidence of adverse health consequences for enrollees in the plans with cost sharing. Specifically, they found that low-income enrollees who were in the least healthy quartile (basically, one quarter) of their sample had better results for blood pressure control and vision correction when they received free care than when they faced cost sharing; researchers found no statistically significant discrepancies among the many other measures that they examined and the groups of enrollees that they compared. Although lower-income enrollees might be expected to have more difficulty than other enrollees in financing care out of their own pocket, researchers saw those adverse health effects even though less affluent enrollees faced lower caps on their out-of-pocket costs. (In the experiment, out-of-pocket costs were limited to a fixed dollar amount or a percentage of family income, whichever was less.) At the same time, the RAND analysts ruled out any adverse health impacts from cost sharing for higher-income enrollees, even though those enrollees faced a correspondingly higher limit on their out-of-pocket costs.[15]

The RAND team also sought to estimate whether differences in enrollees' health affected their risk of death. To estimate that risk, researchers used epidemiological models—that is, they did not compare actual rates of death among the various plans, which (given the number and age of the enrollees involved) would probably not have differed in a statistically significant way. Although they found that, on average, cost sharing had no measurable effect on the risk of dying, they detected an effect among the least healthy quartile of their sample, particularly for the poorer enrollees in that group. For that low-income, high-risk group, the change in the probability of death, according to the researchers, was

> about 10 percent (0.2 percentage points). Thus, a person [in that group] with a 2.1 percent chance of dying on the cost-sharing plans would have that chance reduced to about 1.9 percent on the free-care plan. This effect is attributable solely to the effect of free care on blood pressure control. The other two factors that affect [the probability of death in their

13. Newhouse and the Insurance Experiment Group, *Free for All?*, p. 201. The RAND study also examined the effect on health of enrolling in an HMO and found no significant impact relative to free care, even though the HMO yielded substantial reductions in total health expenditures.

14. Ibid., p. 356.

15. To ensure that potential participants in the RAND experiment who had richer insurance coverage would not be discouraged from enrolling, researchers offered them "participation incentive" payments, which were "calculated as the maximum loss risked by changing to the experimental plan from existing coverage, and were independent of health care use" during the experiment. See Newhouse and the Insurance Experiment Group, *Free for All?*, p. 12.

> model]. . . , cholesterol and smoking, were unaffected by the additional medical care that free care induced.[16]

That finding of a 10 percent increase in the risk of dying has been a central point for opponents in the debate about consumer-directed health plans. However, two important caveats about that finding must be taken into account.

- First, although the RAND study found some negative effects on health when comparing the free-care plan (on the one hand) with the plans that required cost sharing (on the other), the researchers could detect no differences in health outcomes among enrollees in the plans that required cost sharing. That result suggests that any adverse impact (relative to free care) would also arise under plans of conventional design and that there would be no effect on health when comparing conventional plans with high-deductible designs.

- Second, although free care had a beneficial impact on the control of high blood pressure, the RAND team concluded that most of those health gains could be achieved with a one-time screening examination. Because consumer-directed health plans may pay for preventive services before an enrollee has satisfied the general deductible, those plans could cover such screening fully and might thus see little diminution in the health of their enrollees relative to outcomes under a free-care plan.

Overall, results from the RAND experiment do not appear to support the argument that converting health plans from conventional to consumer-directed designs will necessarily cause enrollees to have worse health outcomes. Whether effects on health occur for some subgroups may depend on the coverage that consumer-directed plans provide for preventive services and the extent to which enrollees use those services.

**Coverage and Use of Preventive Services.** In the RAND study, preventive services received the same coverage that other services received—they were either free to enrollees or subject to a deductible or coinsurance, depending on the overall design of the enrollees' plan. The study compared the use of any preventive services over a three-year period by men, by women, and by children (with additional analysis of Pap smears for women and immunizations for children).[17] In some cases, the differences between the plans that charged coinsurance or imposed a deductible, on the one hand, and the free-care plan, on the other, were relatively small and not significant statistically. In other cases, the differences were statistically significant, with the cost-sharing plans' reducing the likelihood of using preventive care by 10 to 20 percentage points. The underlying utilization rates for preventive care varied widely, however, so the percentage reductions in use that resulted from cost sharing also differed substantially. A primary conclusion of the study was that for all types of preventive care except well-child examinations of newborns, the amount of such care used by participants was much less than the levels that were generally recommended on the grounds of health. Moreover, that gap was also evident among participants in the free-care plan.

Given those results and the RAND study's findings about blood pressure control for some groups of participants, another consideration is whether insurers that offer consumer-directed plans are availing themselves of the option to cover preventive services below the general deductible. According to the most recent survey of employers by the Henry J. Kaiser Family Foundation, 22 percent of workers who are enrolled in consumer-directed plans offered by their employers get such coverage, compared with 47 percent of workers enrolled in conventional PPO plans that have a deductible.[18] The possibility that those differences in coverage for preventive services might have an effect on enrollees' health cannot be ruled out. (As discussed in Chapter 2, the issue of whether coverage for preventive services pays for itself by generating savings later on other health care costs is both distinct from whether those services yield health benefits and more difficult to determine.)

16. Ibid., pp. 209–210. The risk-of-dying measure that the RAND team used reflected risk over a three-year period. For reference, at the time of the study, a 40-year-old male of average health had a 1 percent chance of dying during that three-year period.

17. Ibid., p. 179. The analysis was also divided by age group.

18. See Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2006 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2006). Less is known about whether HSAs purchased in the individual insurance market give preferential coverage to preventive services.

A final issue that arises concerning consumer-directed plans and preventive services is whether the cost sharing that those plans require for other services would have an indirect effect on the use of preventive care. That is, even if preventive services were fully covered, they might be provided only in conjunction with other services (such as a visit to a physician) that were still subject to the plan's deductible—so enrollees would have to consider those costs as well. The RAND study did not address that point. But one recent study generally found small and statistically insignificant reductions in the use of free preventive services by enrollees who faced cost sharing for office visits to physicians.[19]

### Other Studies of Health Effects

Other studies besides the RAND experiment have investigated the link between insurance coverage and health care spending on the one hand and health outcomes on the other. Those studies, however, face a challenge arising from the nonrandom nature of enrollment in health care plans: people who purchase insurance or choose more-extensive coverage may differ from those who do not in ways that also affect their spending for health care, and if the researcher who conducts the study cannot discern those differences and isolate their effects, they may confound the study's results. (For some factors, such as income or education, the differences may simply not have been measured in the available data; for other factors, such as preferences about health care, they may not be observable.) In addition, the applicability of the results to an analysis of consumer-directed health plans may not be straightforward.

One set of studies has reported that the lack of health insurance has adverse effects on health.[20] For example, uninsured individuals who developed cancer generally had poorer outcomes and died more quickly than cancer patients who had private health insurance. (That difference was attributed partly to later diagnosis for those uninsured individuals; broader studies of the uninsured population have found that they are less likely to receive screening tests, such as mammograms.) Similarly, uninsured individuals who had heart disease were less likely to receive expensive treatments for it and also had higher rates of mortality than those who had heart disease but were privately insured. Even if those studies were able to control for other differences between insured and uninsured patients, however, it is not clear that those findings are relevant to consumer-directed plans. Enrollees in those plans would have coverage for expensive procedures, and their use of health services below their deductible would probably differ from the use of services by individuals who had no insurance coverage at all.

Other studies have examined the relationship between health care spending and health outcomes, drawing largely on data from the Medicare program. For example, researchers at Dartmouth examined the differences in Medicare spending and patterns of treatment for the same condition in different geographic areas; to prevent differences in the degree of enrollees' sickness from influencing their results, they examined spending in the last six months of life.[21] Overall, they found substantial differences in spending but little variation in the measures of health—and in some cases, higher spending was associated with worse outcomes. Some questions remain about whether the study's methodology was able to mimic that of a randomized trial, but the differences that the researchers found in practice styles in different areas were large and difficult to explain. Rates of cardiac bypass surgery, for example, varied fourfold among the regions they examined but were not correlated with the incidence of heart attacks in each region.

Those studies of Medicare spending did not directly address the effect of cost sharing on health outcomes. Other analyses have shown that Medicare enrollees who have a supplemental medigap insurance policy that covers their cost sharing use more Medicare services than do enrollees who have no supplemental coverage. But those

19. See Geetesh Solanki, Helen Halperin Schauffler, and Leonard S. Miller, "The Direct and Indirect Effects of Cost-Sharing on the Use of Preventive Services," *Health Services Research,* vol. 34, no. 6 (February 2000), pp. 1331–1350. Nearly all of the enrollees in the health plans that were studied received blood pressure screening, Pap smears, and mammograms regardless of their plans' cost-sharing requirements.

20. For a review of those studies, see Institute of Medicine, *Care Without Coverage: Too Little, Too Late* (Washington, D.C.: National Academy Press, 2002), available at www.iom.edu/Object.File/Master/4/160/Uninsured2FINAL.pdf.

21. See John E. Wennberg, Elliot S. Fisher, and Jonathan S. Skinner, "Geography and the Debate Over Medicare Reform," *Health Affairs* (February 13, 2002); and Elliot S. Fisher and others, "The Implications of Regional Variations in Medicare Spending; Part 1: The Content, Quality, and Accessibility of Care," *Annals of Internal Medicine*, vol. 38, no. 4 (February 18, 2003), available at www.annals.org/cgi/content/full/138/4/273.

analyses did not directly address whether the differences in spending are associated with differences in health outcomes. Thus, although the research relating health care spending and outcomes is consistent with the findings of the RAND study about the impact of cost sharing on spending, it does not appear to shed additional light on the relationship between cost sharing and health.

Whether allowing tax-free accounts to be combined with high-deductible policies would lead to a change in the conditions that give rise to the disparities in treatments among regions is also unclear—given that any financial incentives to provide more care do not seem to vary geographically.

CHAPTER

5

# The Potential for Favorable Selection and Its Effects on Spending and Insurance Markets

How consumer-directed health plan designs might affect health care spending would depend not only on the incentives that individuals faced once they were enrolled but also on the types of people who chose to enroll. Some individuals would be more likely than others to select a consumer-directed health plan. Factors that would affect their chances of enrolling are the source and type of their current insurance coverage—which would also influence the extent to which their incentives to use health care services changed once they had enrolled in the new plan. For those who already had a high-deductible policy (whether it had been provided through an employer or purchased in the individual insurance market), the tax subsidy for out-of-pocket costs in a consumer-directed plan would provide a strong reason to switch, but health care spending might increase as a result. For those who were currently uninsured, however, the added attraction of such plans would seem modest.

At least initially, the impact of consumer-directed plans on spending for health care would also depend on whether enrollment in them—particularly among the large share of people who get their insurance coverage through an employer—was representative of the general (nonelderly) population or was instead concentrated among individuals who had lower health care costs and fewer health problems. The prospect of such favorable selection is a primary concern raised by critics of consumer-directed designs; if it occurred, conventional plans would be left with enrollees who had above-average health care costs—a phenomenon known as adverse selection. Over time, that adverse selection would cause premiums in conventional plans to rise, and critics of consumer-directed designs worry that as a result, conventional health plans would ultimately be driven from the market—not because they are an inferior product but simply because of the dynamics of the market for health insurance.

Some degree of favorable selection in consumer-directed plans seems likely, because individuals whose health care costs are low would have stronger incentives to switch to those plans and because health care spending has some predictability from year to year. If individuals with lower costs did switch, those who had higher costs would probably end up paying somewhat more for their health care, either in the form of higher premiums (if they remained in a conventional plan) or higher cost sharing (if they switched to a consumer-directed plan). But other factors could limit the extent of favorable selection—including steps to counteract selection pressures that employers would have financial incentives to take—with the result that consumer-directed and conventional plans could continue to coexist.

## Incentives for Enrolling in a Consumer-Directed Health Plan

The potential attractions of a consumer-directed health plan will differ for people who are currently uninsured, for those who purchase coverage in the individual insurance market, and for those who get coverage through their employer. The incentives for an individual to enroll will also depend on their expected health care costs.

### Enrollment Incentives and Current Insurance Coverage

Most Americans under age 65 get their health insurance coverage through their employer, and in most cases, that coverage is provided through a large firm (see Table 5-1).

**Table 5-1.**

## Sources of Health Insurance Coverage and Prevalence of High-Deductible Plans Among the Nonelderly Population in 2004

| Source of Health Insurance | Number of Covered Individuals (Millions) | Percentage of the Nonelderly Population | Individual Policies: Number of People Covered (Millions) | Individual Policies: Deductible of More Than $1,000 (Percent) | Family Policies: Number of People Covered (Millions) | Family Policies: Deductible of More Than $2,000 (Percent) |
|---|---|---|---|---|---|---|
| Employer Sponsored | | | | | | |
| Large firm (100 or more employees) | 125.3 | 50 | 31.6 | 2 | 93.7 | 2 |
| Small firm (Fewer than 100 employees) | 39.7 | 16 | 13.0 | 14 | 26.7 | 11 |
| Nongroup (Individual market) | 10.0 | 4 | 4.1 | 69 | 5.9 | 49 |
| Public[a] | 37.4 | 15 | n.a. | n.a. | n.a. | n.a. |
| No Insurance | 44.1 | 17 | n.a. | n.a. | n.a. | n.a. |

Source: Congressional Budget Office based on the 2001 Survey of Income and Program Participation conducted by the Bureau of the Census; Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2004 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2004); and America's Health Insurance Plans, *Individual Health Insurance: A Comprehensive Survey of Affordability, Access, and Benefits* (Washington, D.C.: America's Health Insurance Plans, Center for Policy and Research, August 2005), available at www.ahipresearch.com/pdfs/Individual_Insurance_Survey_Report8-26-2005.pdf.

Note: n.a. = not applicable.

a. Includes Medicare, Medicaid, and other government health insurance programs.

In the longer term, then, the number of enrollees in consumer-directed plans (and their impact on overall health care spending) may depend primarily on whether employees of large firms switch to those plans. In the nearer term, however, policies that are provided through small employers or that have been purchased in the individual insurance market are much more likely to have deductibles above the minimum levels required for a health savings account—indicating that initial interest in consumer-directed designs may be greater among those groups. People who lack health insurance represent another potential market for consumer-directed plans, although interest among those individuals may be limited by the same factors that have led them to be uninsured in the first place.

**People Who Have Individual Health Insurance Policies.** Many people who have purchased their own policy in the individual health insurance market already have deductibles on those policies that exceed the minimum required deductible for an HSA. As a result, some proponents of consumer-directed health plans have expected those policyholders to convert their insurance to an HSA relatively rapidly to take advantage of the tax subsidy for out-of-pocket costs.[1] Estimating the number of people whose primary source of insurance is an individually purchased policy is difficult, and published figures vary widely; nevertheless, the Congressional Budget Office estimates that in 2004, about 10 million people were covered by them and that about half that number had deductibles that would have met the HSA requirements for that year (see Table 5-1).

If policyholders switched to an HSA from a high-deductible plan that had no associated account, there would be countervailing pressures on their health care spending. The immediate impact would probably be an increase in their total health care spending because the new tax subsidy for their out-of-pocket costs would lower the effective coinsurance rate that they faced (at least until they reached the annual limit on HSA contributions). An offsetting pressure on those individuals' spend-

1. See Greg Scandlen, *Health Savings Accounts* (Alexandria, Va.: Galen Institute, December 17, 2003), available at www.galen.org/fileuploads/HSA.pdf.

ing would stem from the incentive to increase their deductible. But how far they might go in that direction would depend on several factors.

- If the deductible in their individually purchased plan was just below the minimum level required for an HSA, then increasing it (when enrolling in the HSA) would reduce both their premiums and their net out-of-pocket costs—because all of those out-of-pocket costs would become eligible for the tax subsidy as a result.

- If their deductible was above the minimum HSA threshold but below the maximum HSA contribution, then increasing their deductible would save them more on their premiums than they might expect to pay in higher out-of-pocket expenses. Their gross out-of-pocket costs would, on average, go up by about the same amount as their premiums went down; however, their net savings on premiums, which are paid for with after-tax dollars, would exceed the net increase in expected cost sharing, which would be paid for with untaxed dollars.[2] The incentive for such individuals to boost their deductible would affect their choice only up to a point, however, because a higher deductible would also expose them to greater financial risk for their uncovered costs.

- The incentive that faced policyholders whose deductibles already exceeded the contribution limit for HSAs would be unchanged. If their deductible was increased, it would reduce their premiums for the policy—just as it would have if there had been no HSA option—but it would not permit them to make additional tax-free contributions to their account.

Overall, it is not clear whether the resulting increase in policyholders' deductibles—and the dampening effect of those increases on health care spending—would be large enough to offset the immediate impact of the tax subsidy on those individuals' incentive to use health care.

**People Who Are Uninsured.** At any given point in 2004, according to recent survey data, about 44 million people in this country lacked health insurance.[3] The factors that led them not to purchase coverage would also affect their interest in a plan that had a consumer-directed design. In principle at least, many of those individuals could already have purchased high-deductible coverage in the individual insurance market (or, in the case of uninsured children, their family could have purchased such coverage). That they have not done so, despite the relatively low premiums for such policies, suggests that—compared with the other demands on their resources—they do not value that health insurance coverage enough to incur its costs.

For uninsured individuals, the new factor that might persuade them to purchase a high-deductible policy with a health savings account would be the tax advantage—the ability to make all or most of their out-of-pocket payments with tax-free money. That inducement would be somewhat weaker for the uninsured than for the nonelderly population as a whole, however, because uninsured people tend to have less income and thus face lower income tax rates. Depending on how "uninsured" is defined, the estimated share of the uninsured whose family income is below 200 percent of the federal poverty level is between two-thirds and three-quarters.[4] CBO estimates that currently, the median marginal income tax rate that individuals who are uninsured face is 15 percent (combining federal and state income taxes), whereas the median rate that insured individuals face is 21 percent.

2. For example, suppose an increase in the plan's deductible would reduce the policy premium by $100. If one ignored other factors that might affect that premium (such as the administrative costs of the insurer), the policyholder's expected out-of-pocket costs would increase by $100 in gross terms. But because those out-of-pocket costs would be tax-subsidized, the net cost to the policyholder (assuming a marginal tax rate of 25 percent) would be only $75—so the policyholder would gain financially from the change. That logic applies even if contributions above the deductible avoid taxation.

3. That estimate is based on the Survey of Income and Program Participation, which is administered by the Bureau of the Census. Estimates from that survey differ somewhat from estimates that are based on the Census Bureau's Current Population Survey—which is more commonly cited and which generated an estimate for 2004 of 45 million uninsured individuals.

4. According to a study by the Henry J. Kaiser Family Foundation, among people who are uninsured at a given point in time, two-thirds are members of families whose income is below 200 percent of the federal poverty level. See Kaiser Commission on Medicaid and the Uninsured, *The Uninsured: A Primer* (Washington, D.C.: Henry J. Kaiser Family Foundation, January 2006), available at www.kff.org/uninsured/upload/7451.pdf. Among those who are uninsured all year, the share whose income is below the poverty threshold rises to 75 percent. See Congressional Budget Office, *How Many People Lack Health Insurance and For How Long?* (May 2003).

The tax advantages of establishing a consumer-directed plan would be greater if the plan was set up through an employer—because enrollees could then avoid both income and payroll taxes on their out-of-pocket expenditures.[5] Several factors, however, lessen the likelihood that uninsured individuals will obtain such coverage through their employer. According to one recent study, four-fifths of the uninsured had a family member who was employed (full-time, in most cases), but 64 percent of uninsured workers were employed by firms that did not offer health benefits; another 17 percent worked in firms that offered health insurance, but those employees were not eligible for the benefit.[6] Employers who have chosen not to offer coverage and the remaining employees who were eligible for it but have chosen not to take it up have done so even though their insurance premiums would receive favorable tax treatment. For many uninsured people, the added incentive of paying their out-of-pocket costs for health care tax-free through a consumer-directed plan may not be enough of a draw for them to demand such coverage (which they would have to pay for directly or in the form of reduced wages). Consequently, their employers may not be motivated to begin offering it to them.

Even so, the availability of consumer-directed health plans is likely to have an impact on the number of uninsured individuals and on their health care spending. But measuring that impact is complicated by the fact that people are gaining and losing insurance coverage with some frequency—even as the total number of uninsured individuals at any given time stays relatively stable. As a result, tracking the number of previously uninsured people who purchase consumer-directed health plans may not accurately measure the plans' net impact on the share of the population that lacks health insurance. The analytic problem is that it is not clear what choice those purchasers would have made if the option of enrolling in a consumer-directed plan had not been available. If they would otherwise have remained uninsured, then their enrollment in such plans would reduce the uninsured population; if they would have secured another form of coverage instead, the availability of consumer-directed plans would have had no effect on the number of uninsured people. To the extent that the availability of such plans reduced the number of uninsured people, it would probably increase their total spending for health care—both because of the new tax subsidy that enrollees would receive for their initial spending and because of the insurance protection that they would gain for their higher-end costs.

**People Who Have Employer-Sponsored Health Insurance.** Most people under the age of 65 who have health insurance get that coverage through their employer or the employer of a family member—about 165 million people in 2004, CBO estimates. Because that group is so large, even a relatively small change in the share of people who have high-deductible policies could translate into a substantial number of enrollees and a noticeable impact on overall health care spending.

One consideration that would affect both the propensity of individuals to enroll in consumer-directed plans and the impact on health care spending that would result is the level of cost sharing that employees currently face in employer-sponsored health insurance plans. According to recent survey data, many enrollees in such plans have a relatively low—or even no—deductible. For example, among employees enrolled in a self-only health insurance policy (individual coverage) in 2004, roughly half had a deductible of zero; about 5 percent were enrolled in policies that would have met the minimum deductible requirement of $1,000 for an HSA.[7]

Those figures include individuals who are enrolled in health maintenance organizations, which typically have no deductible. (To limit the use of health care services, HMOs focus more on management techniques aimed at providers than on financial incentives aimed at enrollees.) For plans whose design features a preferred provider organization—plans that typically rely on some cost sharing

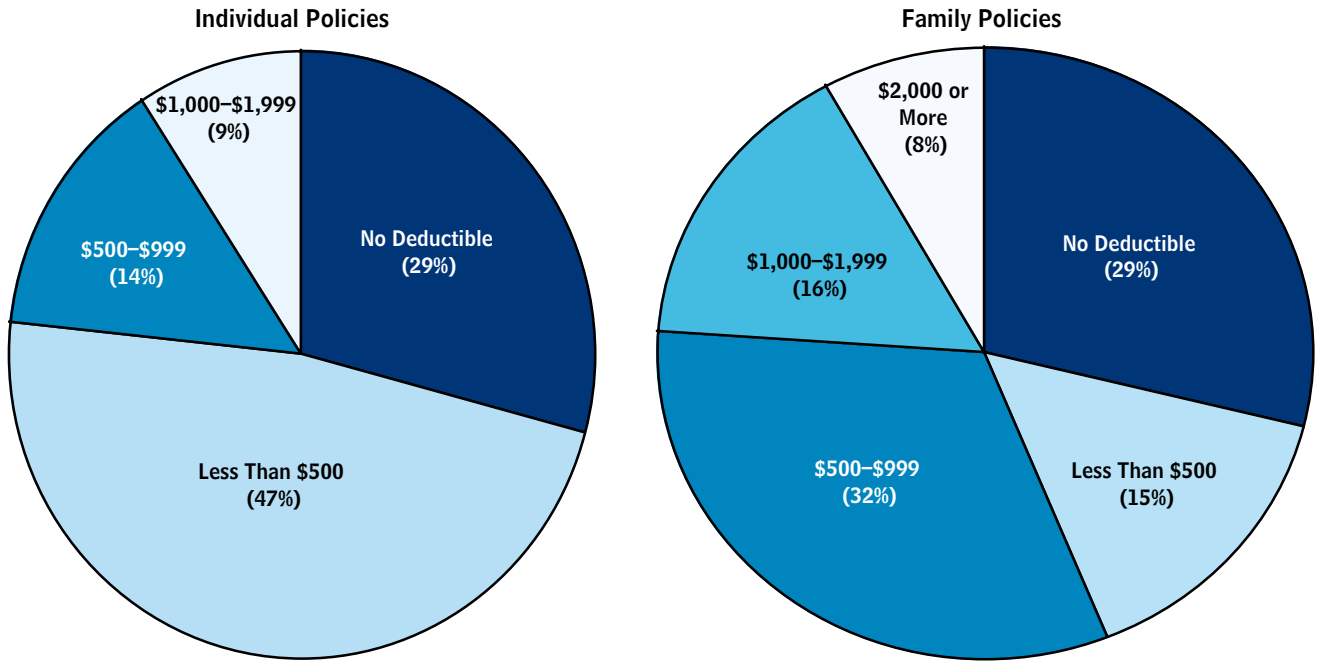
5. Employees who were receiving the earned income tax credit could also avoid the tax that is effectively imposed by the credit's phase-out schedule because contributions to the plan's associated savings account would take the form of reductions in salary. Those reductions could be adjusted temporarily (in amounts that varied from paycheck to paycheck) to cover the costs of a health service after it had been received; putting aside the money to cover out-of-pocket costs in advance would not be necessary.

6. Kaiser Commission on Medicaid and the Uninsured, *The Uninsured: A Primer,* pp. 4 and 13.

7. See Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2004 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2004). That survey did not provide comparable figures for the share of family policies that had no deductible. The figures shown here combine results for large and small employers.

**Figure 5-1.**

## Distribution of Deductibles for Enrollees in Preferred Provider Organization Plans, 2005




Source: Congressional Budget Office based on Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2005 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2005).

to limit expenditures and that have become the most popular form of employer-provided health insurance—the distribution of deductibles among enrollees presents a somewhat different picture (see Figure 5-1). According to survey data, the average deductible for PPO enrollees in 2005 was $323 for individual policies and $679 for family policies.[8]

The prevalence of relatively low deductibles in current employer-sponsored plans has conflicting implications for the potential impact of consumer-directed plans on health care spending. On the one hand, it suggests that a move toward consumer-directed designs might encounter resistance among enrollees, who seem to prefer lower deductibles (although that resistance could be offset at least in part if an employer's contributions to the linked account were large enough). And if the level of enrollment in consumer-directed plans was low, the plans' impact on total U.S. health care spending would be correspondingly reduced. On the other hand, the low deductibles of current plans indicate a greater potential for reducing costs among enrollees who switch to consumer-directed plans because those enrollees would be liable for a larger share of their health care costs (even if they could finance some of those expenses through an employer's contribution to their account).

In determining the effect of consumer-directed plans on spending for health care, another important consideration is whether firms convert their health insurance entirely to a consumer-directed model or simply add such an option to their existing set of conventional plan offerings. The former scenario is more straightforward analytically and probably has the greatest potential for immediately reducing health care spending. The only caveat would be that the magnitude of the impact on total spending would depend on whether employers that switched completely from conventional coverage to

8. See Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2005 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2005). The figures shown here are the deductibles that apply, on average, for services received within the plan's network of providers. Comparable figures were not provided in the 2006 report.

consumer-directed designs had employees who had average, above-average, or below-average costs for health care. If firms that switched to consumer-directed plans had employees whose health care costs were lower and whose health was generally better than average, the impact on total health care spending would be proportionally smaller—because those individuals' spending would constitute a smaller share of the total.

Only a limited amount of information is available about whether firms that offer consumer-directed plans are converting their coverage entirely to that form or adding it as an option. One recent survey indicated that about half of the enrollees in employment-based consumer-directed plans (compared with about one-third of those who had conventional employer-based coverage) did not have another health plan option. However, whether the survey's results are representative of all consumer-directed plans offered by employers is not clear.[9] A more recent and representative survey of employers indicated that about 40 percent of employees who had enrolled in consumer-directed plans—about 1.1 million workers—were not offered another option. But the survey also showed that the total number of employees who are offered a consumer-directed plan (whether by itself or alongside other options) is about 10 million. Thus, it is relatively rare for employers to fully convert their health care coverage to a consumer-directed design.[10]

For employers that add such options to their current menu of health plan choices, the impact on health care spending will depend at least initially on whether enrollment in the consumer-directed plans is broadly representative of the population that has employer-sponsored insurance. Whether and to what extent incentives exist for lower-cost, generally healthier enrollees to choose plans that have a consumer-directed design is discussed in the next section.

### Enrollment Incentives and Expected Health Care Costs

Among people who have employer-sponsored health insurance and who are offered a choice between convention and consumer-directed plan designs, a key determinant of whether they will enroll in a consumer-directed plan is whether they expect to gain or lose financially as a result. Such prospects will also influence whether an employer adds a consumer-directed plan as an option or converts the firm's coverage entirely to that design. The earlier example of conventional and consumer-directed health plan designs—which was based on a study by the American Academy of Actuaries and was used in Chapter 2 to highlight the differences in incentives to seek care that enrollees face—also illustrates how the financial incentives to enroll in consumer-directed plans differ for healthier, lower-cost individuals and less healthy, higher-cost individuals.

- A person who had low levels of spending for health care or no spending and who enrolled in a health reimbursement arrangement or health savings account would have negative out-of-pocket costs—that is, positive balances that could be carried forward to the next year. In the example in Chapter 2, the employer's contributions that could be rolled over if not used were $800 for the HRA and $600 for the HSA. As a result of those contributions, individuals who had health care spending of less than about $1,000 would have lower out-of-pocket costs under those consumer-directed plans than under the conventional plan.

- For people who had intermediate levels of health care spending, however, HRA and HSA plans would generally result in higher cost-sharing liabilities than a conventional plan would, even after accounting for the spending that would be covered by the employer's contributions to the associated accounts. In the example, individuals with health care spending of $2,000 would have $515 in out-of-pocket costs under the conventional plan, but their gross out-of-pocket costs would be $685 higher under the HRA and $885 higher under the HSA. The difference in gross cost-sharing liabilities between the conventional and consumer-directed plans would gradually increase until total health care spending equaled $7,000 (at which point the out-of-pocket limit in the consumer-

9. Paul Fronstin and Sara Collins, *Early Experience with High-Deductible and Consumer-Driven Health Plans: Findings from the EBRI/Commonwealth Fund "Consumerism in Health Care" Survey*, EBRI Issue Brief No. 288 (Washington, D.C.: Employee Benefit Research Institute, December 2005), available at www.ebri.org/pdf/briefspdf/EBRI_IB_12-2005.pdf. The results of that study were based on an online survey and so may not be representative of the general nonelderly population.

10. Jon R. Gabel, Jeremy D. Pickreign, and Heidi H. Whitmore, *Behind the Slow Enrollment Growth of Employer-Based Consumer-Directed Health Plans*, Issue Brief No. 107 (Washington, D.C.: Center for Studying Health System Change, December 2006), available at www.hschange.com/CONTENT/opp/opp.pdf.

directed plans would be reached) and then would begin to decline.[11]

- In the example, individuals who had the highest levels of total health care spending would incur higher out-of-pocket costs under the consumer-directed plans than under the conventional plan. But as discussed in Chapter 2, those plans could have been designed to have comparable limits on out-of-pocket costs, at least on a net basis (after taking employers' contributions into account).

Which type of plan would result in higher out-of-pocket costs for individuals who ended up using the most health care services is thus difficult to determine in advance. All else being equal, however, the nature of the plans' designs is such that the individuals who have the lowest health care costs overall will have lower out-of-pocket costs under the consumer-directed plan (because of employers' contributions to the savings accounts). Conversely, people who have intermediate-level health care spending will have lower out-of-pocket costs under the conventional plan (because of the lower deductible). Thus, the same features of consumer-directed plans that encourage enrollees to be prudent in their use of services—the high deductible and control over account funds—also generate pressures for favorable selection in those plans, which raises a potential trade-off.

Two additional factors would lessen the difference in net costs between the consumer-directed and conventional plan designs but would probably not change the basic financial calculus for most potential enrollees.

- First, the tax advantage given to out-of-pocket spending under consumer-directed plans would make for smaller net differences in cost-sharing liabilities, particularly in the case of HSAs. But it would be unlikely to eliminate those differences because the tax savings are a percentage of an enrollee's gross out-of-pocket payments. In the example, an individual with total health care spending of $2,000 would have gross cost-sharing liabilities of $1,400 under the HSA, or $885 more than under the conventional plan. If that person faced a marginal income tax rate of 25 percent, though, the net liability under the HSA would be $1,050, and the difference between that figure and the liability under the conventional plan would fall to $535.

- Second, total health care spending would be reduced under the consumer-directed designs, which would generate a reduction in out-of-pocket costs and would also lower plan premiums somewhat—reflecting the stronger incentives to control costs that those designs incorporate. But the effect of those incentives would have to be relatively large—much larger than the RAND study or the Academy of Actuaries' analysis would indicate—to appreciably change the premiums and thus the break-even point for enrollees. In the example, the actuarial value of the conventional and consumer-directed plans (which represents what the total premium would be for those plans if enrollees' use of health care did not change) was about $2,100. Thus, a reduction of 5 percent in total spending would translate into premium savings of about $100.

**Predictability of Health Care Costs.** A limitation of the forgoing analysis—which focuses on individuals' costs under different plan designs, given their spending for health care—is that people cannot be certain about their future costs for care when they are choosing an insurance plan. Instead, their choice will tend to reflect the level of future spending they expect to incur as well as the potential variability of that spending.

Even so, the available data on nonelderly insured individuals indicate that those with low health care costs in one year tend to have similarly low costs the next year; the data also suggest that high costs for health care are likely to persist (see Table 5-2). Within that population, for example, individuals who used less than $1,000 worth of care in 2003 had a 78 percent chance of using less than $1,000 worth of care in 2004 but only a 5 percent chance of using more than $5,000 worth of care. By contrast, individuals who used between $1,000 and $5,000 worth of care in 2003 were much less likely (a 41 percent probability) to have used less than $1,000 worth of care in 2004. Those individuals had about an even chance (47 percent) of incurring costs in the $1,000-to-$5,000 range again in 2004. Individuals who used more than $5,000 worth of care in 2003 were more than three times

11. In the example, the maximum difference in liabilities would occur for individuals who had $7,000 in total health care spending. At that point, an HRA enrollee would have incurred $2,200 in out-of-pocket costs (after using the employer's account contribution), and an HSA enrollee would have incurred $2,400. An enrollee in a conventional plan would have incurred $1,015 in out-of-pocket costs.

**Table 5-2.**

## Persistence of Health Care Spending

| Total 2003 Spending Range (Dollars) | Percentage of Population in Range | Percentage of 2003 Subgroup with Total 2004 Spending in Range | | | | Spending in 2004 (Dollars) | |
|---|---|---|---|---|---|---|---|
| | | 0 to $1,000 | $1,000 to $5,000 | More Than $5,000 | All Ranges | Mean | Median |
| Zero to 1,000 | 50 | 78 | 17 | 5 | 100 | 1,214 | 279 |
| 1,000 to 5,000 | 35 | 41 | 47 | 13 | 100 | 2,597 | 1,313 |
| More Than 5,000 | 15 | 24 | 39 | 37 | 100 | 7,765 | 3,316 |

Source: Congressional Budget Office based on merged data for 2003 and 2004 from the Medical Expenditure Panel Survey conducted by the Department of Health and Human Services' Agency for Healthcare Research and Quality.

Notes: The figures include only individuals who were under the age of 65 in 2003 and were privately insured for all of that year.

CBO increased total health care spending for 2003 to 2004 dollars by using the growth in health care spending per capita as estimated from the National Health Expenditures compiled by the Department of Health and Human Services.

as likely as the lowest-cost group (a 76 percent chance compared with a 22 percent probability) to have expenditures that exceeded $1,000 in 2004.

Those raw correlations probably understate the extent to which individuals who have had various levels of spending in the past can anticipate their likely needs for health care in the future—because the correlations take no account of what led to the earlier spending. In practice, people who have had health problems that are unlikely to recur and those who have conditions that are more chronically costly will use that information in choosing a health insurance plan. Thus, although individuals still face substantial uncertainty about the exact level of their future health care costs—and would generally value insurance coverage against incurring very high costs, which both plan designs provide—they may still have enough information in many cases to determine which design would be most advantageous for them.

A related question is the period to use in analyzing the persistence of health care spending. A focus on year-to-year correlations is most relevant in the case of employees who are offered a choice between consumer-directed and conventional plans because they typically have the option of changing plans once a year. If they can predict their spending for the next year, they might choose to enroll in consumer-directed plans when they expected their health care costs to be low and then to switch to a conventional design when they expected their costs to be higher. For employees of firms that convert their coverage entirely to a consumer-directed design, however, a longer perspective is useful because gains in one year might be offset by losses in another. According to the study by Matthew Eichner, Mark McClellan, and David Wise (which is discussed further in Chapter 3), health care spending is less concentrated over longer periods—that is, the share of spending accounted for by a given percentage of the highest-cost cases declines.[12] But that study's attempt to model account withdrawals and accumulations under a consumer-directed design also showed that individuals varied substantially in their use of care over a (simulated) lifetime. Some individuals had very little health care spending over a 35-year period, whereas others used their accounts year after year and did not build up a balance.[13]

The questions of whether and to what extent health care costs are persistent or predictable over time are tied to the relationship between such costs and health status. Clearly, both actual and expected health care spending may differ among individuals for a number of reasons. Even among people with the same disease, spending may vary because of their preferences about seeking care in the first place or about the type of treatment that they will receive. The increase in out-of-pocket costs under consumer-directed designs would fall partly on those enrollees who chose a

12. See Matthew J. Eichner, Mark B. McClellan, and David A. Wise, *Insurance or Self-Insurance? Variation, Persistence, and Individual Health Accounts*, Working Paper No. 5640 (Cambridge, Mass.: National Bureau of Economic Research, June 1996).

13. For an analysis of health care spending for Medicare enrollees over an extended period, see Congressional Budget Office, *High-Cost Medicare Beneficiaries* (May 2005).

more expensive treatment for their condition. Substantial differences in spending are also apparent among geographic areas—differences that go beyond variations in the prices of services and that appear to reflect differences among local providers in their styles of practice (for example, how likely they are to recommend surgery).

At the same time, a significant correlation exists between prior health problems and future levels of health care spending. That correlation can be seen in so-called risk-adjustment models that attempt to predict future health care costs on the basis of past diagnoses; although such models can account for only a portion of the overall variation in health care costs, they show clear relationships that are independent of other considerations. Thus, although better health status is not always synonymous with low costs for health care, as a group, people who have lower expected costs tend to be healthier than those who have higher expected costs.

**Access to Providers.** Deductibles and coinsurance rates are not the only factors that would induce people to select one kind of health plan over another. In particular, some advocates of consumer-directed health plans have argued that sicker individuals will want to enroll in such plans because they will have greater access to providers and more control over their health care as a result. As noted in Chapter 4, however, consumer-directed designs appear to feature PPO networks, so the issue of improved access to providers would not arise in comparisons of consumer-directed plans and conventional PPO plans. Such plans would probably be comparable in their use of care management as well—which under both designs would be focused on expensive hospitalizations—so enrollees' control over their care under the two plans would not seem to differ substantially either.

The argument that sicker enrollees might value greater control over their care and easier access to providers has greater relevance in comparisons of consumer-directed health plans and HMOs. Enrollees in HMOs may obtain care outside of their plan's provider network—or receive services that their plan does not deem necessary and thus will not cover—if they are willing to pay the full costs of that care. Thus, they must make the same determination in those circumstances that enrollees in consumer-directed plans face when they are below their deductible: are the services worth their full costs? People who had more health problems would find it easier to pay for such care if they were enrolled in a consumer-directed plan than if they participated in an HMO because they could use the funds in their associated account. In deciding whether to enroll in a consumer-directed plan, they would have to balance that gain against the higher out-of-pocket costs that they would face for approved treatments received within the plan's network.

Overall, some degree of favorable selection in consumer-directed plans seems likely among people who have employer-sponsored coverage and a choice among health plan designs. For relatively healthy individuals whose health care costs were low, the incentives to enroll in a plan with a consumer-directed design would be fairly clear. For people who had more health problems and higher health care costs, the financial calculus would vary but would tend to discourage enrollment; although broader access to providers might lead some members of that group to choose consumer-directed plans, the likelihood of their enrolling would appear to be smaller. However, the degree to which such selection will occur is difficult to predict. It depends not only on how individuals assess the advantages and disadvantages of consumer-directed plans but also on whether there are ripple effects on insurance markets and whether employers take steps to counter the pressure for favorable selection in consumer-directed plans.

## Impact on Health Care Costs and Insurance Markets

If enrollment in consumer-directed health plans was concentrated among people who had low health care costs, the plans' initial impact on total spending for health care would probably be much smaller than if enrollment had been more representative of the entire population. In part, that is because the change for the lower-cost group in their financial incentives to use care would be less significant: under a typical PPO design, enrollees whose health care costs were low would also have had to pay the full cost of a substantial portion of their treatments. The main reason for the small effect, however, is that those individuals account for a relatively small share of total spending for health care.

Over time, the impact of consumer-directed health plans on insurance markets could lead to greater and more representative enrollment in those plans as well as a larger effect on health care spending. Favorable selection in consumer-directed health plans would tend to push up premiums in conventional plans to reflect the higher

average costs of the remaining enrollees. By itself, that phenomenon would have little effect on total health care spending, but as premiums rose in conventional plans, the relatively healthy enrollees still in them would be more inclined to switch to the consumer-directed plans. Indeed, continued switching into consumer-directed plans might occur even if individuals were willing to pay the added premium that conventional plans with representative enrollment would charge. In that case, the factor that would be pushing people to enroll in the consumer-directed plan would be the additional gap between the plans' premiums that was due to adverse selection in the conventional plans.

Critics of consumer-directed designs have argued that in the extreme, a selection spiral might ensue—with enrollment in conventional plans continuing to decline as their average costs and premiums continued to increase—culminating in the loss of conventional plans as a health insurance option. As discussed later, that outcome may be avoided, for a number of reasons. If conventional plans were essentially eliminated, however, the ultimate effect on health care spending of adding consumer-directed options would be comparable to the case of an employer that switched all of its employees to a consumer-directed plan—that is, total spending would probably fall modestly (at least compared with spending under the predominant PPO designs) because of the stronger incentives to control costs.

Another scenario—which could arise even if an employer did not offer its employees a consumer-directed option—would involve lower-cost and relatively healthy enrollees in an employer-sponsored plan who decided to opt out and purchase an HSA in the individual insurance market. In that case, premiums for the employer-sponsored plan of conventional design would also tend to rise, which in turn could lead more of the relatively low-cost employees to drop out of that plan. Some analysts have argued that such developments would lead certain employers—particularly small firms that are less likely to subsidize employees' health insurance premiums as part of their compensation—to stop offering health insurance coverage of any kind. If that happened, and if some of the remaining employees were unable to find an affordable policy in the individual insurance market or another source of coverage, those employees would end up uninsured.[14]

Under either scenario, an important consequence of the dynamics of the insurance market is that higher-cost and generally less healthy individuals would probably end up paying more for their health care. They would face higher premiums if they continued to enroll in a health insurance plan of conventional design and higher cost-sharing liabilities if they switched to a consumer-directed plan. How much worse off those individuals would be financially would depend on several factors—including how persistent their health care spending was over a long period.

One source of uncertainty about the ultimate financial impact on individuals who have higher health care costs is whether they are already paying more for their health insurance—through lower wages—than other employees are. A common assumption is that among the enrollees in a given employer-sponsored health care plan, those who have lower expected costs for health care subsidize those who have higher expected costs because they all pay the same premium despite the differences in their use of health care services. (That phenomenon is sometimes referred to as a "cross subsidy.") In principle, however, people who anticipated a greater need for health insurance would be more willing than people who had a lower demand for that fringe benefit to accept a given job at a lower wage—as long as it provided insurance. If that was the case, and if employees with higher health care costs were already paying more for their health insurance than lower-cost employees were, then any adverse financial impact caused by consumer-directed plans would be correspondingly smaller. Most analysts agree that workers as a group pay the full cost of their health insurance in the long run, but there is less evidence about whether those who are more likely to use health insurance pay more for it in the form of forgone wages. One study found that maternity benefits were largely if not entirely paid for

14. A recent analysis examined proposals to expand the tax advantages of HSAs and found that on balance, the proposals would slightly increase the number of people who were uninsured. See Jonathan Gruber, *The Cost and Coverage Impact of the President's Health Insurance Budget Proposals* (Washington, D.C.: Center on Budget and Policy Priorities, February 15, 2006). That analysis did not address the effects of the original legislation that established HSAs as a health insurance option.

(through lower salaries) by those most likely to gain from them. How widely that phenomenon occurs in practice, however, is uncertain.[15]

If conventional insurance options became less affordable or less widely available because of a selection spiral, what overall impact would that have on individuals? The losses for people who had higher health care costs and the gains for those who had lower costs might be largely a zero-sum result—that is, the losses and gains might offset each other in the aggregate. But some studies suggest that there would be a small net decline in economic well-being from losing that insurance option and from facing greater variability in health care costs. The costs of those losses in well-being would have to be weighed against the net benefits of reduced health care spending that consumer-directed plans could yield.

- A study examined Harvard University's experience when it required employees to pay the added costs of joining a PPO plan that was loosely managed—which triggered a selection spiral that led to the PPO plan's demise.[16] Researchers estimated that the resulting loss for sicker enrollees outweighed the gain for healthier ones, yielding an overall decline in economic well-being (valued at 2 percent to 4 percent of average health insurance costs). An important factor in that analysis, however, was that the ensuing reduction in health care spending came from a lower level of profits for insurers (which simply transferred well-being from the insurers to their customers) and not from less use of low-value health care services (which could have yielded offsetting gains in economic well-being).

- Another analysis of high-deductible plans examined the cost to individuals of bearing additional financial risk for their health care costs—which would rise somewhat under consumer-directed designs because enrollees' out-of-pocket costs might vary more widely (even if the average liability was the same). The study found that the magnitude of added risk was affected primarily by whether the plan capped out-of-pocket spending; higher deductibles and higher rates of co-insurance were associated with higher risk, but the differences among plans with similar caps were not large.[17] That finding suggests that widespread enrollment in consumer-directed plans will cause a relatively small loss of economic well-being from increased risk—as long as the out-of-pocket limits in those plans are comparable to the limits in conventional plans.

### Simulations of Enrollment in Consumer-Directed Health Plans

A number of the studies cited in earlier chapters—which looked at how enrollment in consumer-directed plans that was broadly representative would affect health care spending—also examined whether lower-cost, healthier individuals would be more likely to choose those plans and what the potential consequences of that tendency would be.[18] As noted earlier, the American Academy of Actuaries compared conventional and consumer-directed health insurance plans of equal value and found that individuals with little or no health care spending would fare better under a consumer-directed plan, whereas individuals with medium or high levels of health care spending would have lower out-of-pocket costs under the conventional PPO design. Those researchers concluded that if "low cost participants are allowed to choose from multiple plan offerings, they would likely choose a CDHP [consumer-directed health plan] design. Conversely, high users are more likely to prefer remaining in a traditional plan. As a result, multiple plan offerings may result in significant selection issues."[19] The Academy of Actuaries'

15. See Jonathan Gruber, "The Incidence of Mandated Maternity Benefits," *American Economic Review*, vol. 84, no. 3 (June 1994), pp. 622–641. For a broader discussion, see Gruber, "Health Insurance and the Labor Market," in A.C. Cuyler and J.P. Newhouse, eds., *Handbook of Health Economics*, vol. 1A (Amsterdam: Elsevier, 2000), pp. 645–706.

16. See David M. Cutler and Sarah Reber, "Paying for Health Insurance: The Trade-Off between Competition and Adverse Selection," *Quarterly Journal of Economics*, vol. 113, no. 2 (May 1998), pp. 433–466.

17. See Joan L. Buchanan and others, "Simulating Health Expenditures Under Alternative Insurance Plans," *Management Science*, vol. 37, no. 9 (September 1991).

18. See, for example, Emmett B. Keeler and others, "Can Medical Savings Accounts for the Nonelderly Reduce Health Care Costs?" *Journal of the American Medical Association*, vol. 275, no. 21 (June 5, 1996); and Len M. Nichols, Susan Wall, and Marilyn Moon, *Tax-Preferred Medical Savings Accounts and Catastrophic Health Insurance Plans: A Numerical Analysis of Winners and Losers* (Washington, D.C.: Urban Institute, April 1996).

19. American Academy of Actuaries, *The Impact of Consumer-Driven Health Plans on Health Care Costs: A Closer Look at Plans with Health Reimbursement Accounts* (Washington, D.C.: American Academy of Actuaries, January 2004), p. 4, available at www.actuary.org/pdf/health/cdhp_jan04.pdf.

analysis also noted that such issues may arise, at least to some extent, any time multiple health insurance plans are offered.

Several other researchers developed models to simulate individuals' decisions about whether to enroll in a hypothetical consumer-directed plan or a conventional plan. Although the details of the models and the specific features of the plans varied, a common assumption was that individuals who expected to have a low level of spending for health care were more likely than people who expected to have high health care costs to enroll in the consumer-directed plan.[20] As a result, premiums for the conventional plans rose over time to reflect their enrollees' higher average costs. As those premiums increased, enrollment of relatively low-cost individuals in conventional plans tended to decline further.

In one example of such studies (by Daniel Zabinski and others), the main finding was that enrollment of primarily healthier, lower-cost individuals in consumer-directed health plans could generate selection spirals in which traditional plans were ultimately driven out of the market.[21] Not surprisingly, those researchers reported that selection spirals were more likely if individuals could foresee their medical spending and if consumer-directed plans had higher caps on out-of-pocket costs than conventional plans had. The Urban Institute study also reached the conclusion that offering workers a choice of plan designs was likely to generate strong pressures for favorable selection in the consumer-directed plan and adverse selection in the conventional plan. The results of any such model, however, are affected by the assumptions that researchers use about how enrollment, spending, and premiums for each plan option evolve over time. Thus, those findings may be informative about the possibility of a selection spiral, but it is not clear what predictive power they hold—particularly if employers take steps to limit selection pressures.

### Factors That Could Limit Selection Pressures

As noted above, favorable selection in consumer-directed plans by employees with lower health care costs could occur in two ways. First, employees who were offered a choice of health plan designs by their employer might flock to the consumer-directed plan. Second, employees might opt out of their employer's conventional coverage and purchase an HSA in the individual insurance market. The relatively low premiums for such policies could be attractive—particularly if they were priced to reflect the assumption that enrollees would have below-average health care costs.

**Forgone Subsidies.** Under current law, several factors would limit the probability that employees would take the second route noted above. Most employees' purchases of health insurance are subsidized—not only through the tax system (their premiums are paid with pretax dollars) but also by their employers (which pay a share of the premiums). According to a survey of employers, workers who are offered health insurance currently pay, on average, 16 percent of the total premium for individual coverage and 27 percent of the premium for family coverage.[22] Employees would forgo both of those subsidies if they shifted to individually purchased insurance. Even if employees who dropped the coverage offered through their employer and purchased their own HSA could arrange to receive more cash compensation in the bargain (or if they switched to a firm that did not offer subsidized health insurance), their HSA premiums would not be tax-deductible. In addition, their contributions to their account would be exempt from income taxes but not

20. An exception is the Keeler study of medical savings accounts that was cited earlier (Keeler and others, "Can Medical Savings Accounts for the Nonelderly Reduce Health Care Costs?"). It found that if the gross deductible is sufficiently low, the tax advantage of using account funds to cover out-of-pocket costs could make the consumer-directed plan attractive to enrollees who have the highest medical spending—because the net deductible would be lower than the conventional plan's limit on out-of-pocket costs. It is not clear from the study, however, what assumptions the researchers made about enrollees' ability to predict their future medical costs. The study also found that a higher deductible could cause a substantial degree of favorable selection in the consumer-directed plan and that total health care spending would be largely unaffected if enrollees were given a range of plan designs from which to choose, because some of those choices would cause spending to increase.

21. See Daniel Zabinski and others, "Medical Savings Accounts: Microsimulation Results from a Model with Adverse Selection," *Journal of Health Economics*, vol. 18, no. 2 (April 1999).

22. Kaiser Family Foundation and Health Research and Educational Trust, *Employer Health Benefits: 2006 Annual Survey* (Washington, D.C.: Henry J. Kaiser Family Foundation, September 2006). The survey found that for individual coverage, workers at smaller firms (those with fewer than 200 employees) paid about the same share of the premium, on average, as did workers at larger firms, but for family coverage, workers at smaller firms paid a larger share (33 percent, compared with 23 percent for workers at larger firms).

from payroll taxes. Those considerations reduce the attractiveness of shifting from employer-sponsored coverage to individually purchased HSAs.

**Incentives for Employers.** Employers that offered a choice between conventional and consumer-directed health plans would have financial incentives to limit the extent of favorable selection in their consumer-directed plans. In the short run at least, such selection could raise their total costs, particularly in the case of HSAs, because employers incur the full cost of their account contributions when they make them and employees may use the funds for any purpose. By contrast, in the case of HRAs, the costs of employers' contributions are incurred only when the funds are used to pay for health care services.

Some observers have suggested that concerns about the costs to employers of favorable selection can explain why many employers are offering HRAs instead of HSAs.[23] Although such concerns may be more extensive in the case of HSAs—because of the greater portability of the account funds—HRAs could also bring about a rise in employers' spending as a result of favorable selection. In part, that is because employees who expect their health care costs to be low may treat the funds as first-dollar coverage (and increase their use of care). But even if no such behavioral response occurred, employers who sponsored an HRA would be covering health care expenditures of low-cost enrollees that under a conventionally designed plan would fall below the deductible (and thus would create no liability for the plan). The example used earlier in this chapter of actuarially equivalent health plans—which illustrated the circumstances in which employees could lower their own out-of-pocket costs by switching to a consumer-directed health plan—also shows that employers' costs tend to increase correspondingly in the process.[24]

**Options for Employers.** If employers provided a choice between conventional and consumer-directed health plan designs, they could take several steps to reduce selection pressures. For example, they could offer plans of comparable actuarial value and then charge enrollees the same premium for each one, regardless of who actually decided to enroll in each plan; in effect, that approach would maintain any cross subsidies between higher-cost and lower-cost employees even as they sorted themselves among the plans. It would still be the case, however, that employers' total costs would rise in the short run as a result of that sorting—because employers would be paying more for enrollees who had low total health care expenditures and who switched into a consumer-directed plan. The approach of offering plans with equal actuarial values would also run counter to the goal of offering employees a range of health plan options and exposing them—through differing premiums—to the financial consequences of choosing a plan that offered more or fewer benefits. That alternative approach, sometimes called managed competition, is seen as another way to encourage individuals to be cost-conscious in their use of health care services.[25]

Employers could instead try to structure the options they provide, including the level of their contributions to HSAs and HRAs, to take the prospect of favorable selection into account. For example, they could offer a smaller contribution to the accounts for all enrollees. In that case, the conventional and consumer-directed plans would not be equally rich overall but would have more comparable costs for insuring the set of healthier, lower-cost employees that might be expected to enroll in the consumer-directed plan. That step would reduce the financial incentive for lower-cost enrollees to switch into that plan—but it would also make the consumer-directed plan less attractive for higher-cost employees because it would reduce the plan's actuarial value. As a result, the net effect of such a strategy on selection pressures is difficult to predict.

23. See Paul Fronstin, *Health Savings Accounts and Other Account-Based Health Plans*, EBRI Issue Brief No. 273 (Washington, D.C.: Employee Benefit Research Institute, September 2004), p. 12, available at www.ebri.org/pdf/briefspdf/0904ib1.pdf.

24. If employers' costs did rise, firms would be expected to offset those costs over time by reducing other forms of compensation. Also, in deciding whether to offer an HRA or HSA, they would have to take into account employees' preferences about the design of health plans as they competed in the labor market for workers. The Academy of Actuaries' analysis notes another reason that HRAs may be less likely to see favorable selection: the account funds may be forfeited if enrollees switch back to a conventional plan design at a later point (even if they remain with the same firm). That prospect would reduce the incentive for individuals to enroll in an HRA when their health care costs are low and then switch to a traditional plan if their health care costs subsequently rise.

25. For a recent discussion of managed competition, see Alain C. Enthoven, "Market Forces and Efficient Health Care Systems," *Health Affairs,* vol. 23, no. 2 (March/April 2004).

Another option would be for employers to vary their contributions to the accounts to reflect enrollees' expected health care costs based on their medical history—that is, to apply risk-adjustment methods to those contributions. Employers would contribute less to the consumer-directed plan accounts for healthier enrollees and more for sicker ones, which could help weaken the pressures for favorable selection in the consumer-directed plan. However, such a strategy would raise several issues.

- Comparability and nondiscrimination rules that currently govern employees' compensation would not appear to permit differentiation in the amounts contributed to consumer-directed plans' accounts.[26] To address that constraint, the President's budget request for 2007 included a proposal to change those rules to permit employers to contribute additional amounts to the HSAs of chronically ill employees or their dependents. (The recently passed Tax Relief and Health Care Act of 2006 modifies the comparability rules to permit larger account contributions for workers who make less than $100,000 per year.)

- Even if risk adjustment of contributions was allowed, existing risk-adjustment models tend to overestimate costs for healthier enrollees and underestimate costs for sicker ones. Risk adjustment would therefore tend to reduce but not eliminate pressures for favorable selection.

- Employers would incur some costs in implementing risk-adjustment procedures, and the adjustment of contributions could raise legal and other concerns about the privacy of an enrollee's health history.[27]

A final consideration regarding selection pressures and their impact comes from the experience of HMOs, which—like consumer-directed health plans—have been viewed as more attractive to healthier individuals who have lower health care costs. (Healthier people may be less concerned than people who have health problems about having a limited network of health care providers, and they may be more likely to accept prior-authorization requirements, utilization review, or other steps that HMOs take to limit their use of health care services.) The rise of HMOs and PPOs has led to dramatic reductions in the number of enrollees in indemnity insurance plans, which buttresses concerns about selection spirals. At the same time, HMOs have continued to coexist with more loosely managed PPOs for many years, even in markets in which both types of health plan are widely available. On the basis of that experience, potential scenarios for the future include one in which consumer-directed health plans drive loosely managed plans of conventional design from the market. Another possibility, however, is that a new equilibrium—with relatively stable enrollment in each type of plan—will eventually be achieved.

26. According to one recent analysis (Bob Lyke, Chris Peterson, and Neela Ranade, *Health Savings Accounts*, CRS Report for Congress RL32467, Congressional Research Service, updated March 23, 2005, available at www.law.umaryland.edu/marshall/crsreports/crsdocuments/RL3246703232005.pdf), contributions by employers to consumer-directed plans "must be comparable. Generally, contributions must be the same dollar amount or the same percentage of the . . . annual deductible, adjusted [only] to reflect the proportion of the year the employees have worked" (p. 8).

27. A related alternative would be for employers to adjust enrollees' premiums for each kind of plan to factor out any effects from the sorting of higher- and lower-cost employees. The goal would be to have differences in premiums among plans reflect only the differences in the plans' costs for treating a representative group. That type of risk adjustment (which Medicare employs in its system for paying private health care plans) could mitigate selection pressures (without running afoul of nondiscrimination rules) and still require enrollees to consider the differences in benefits and costs among plans.

CHAPTER

6

# Preliminary Evidence from Consumer-Directed Health Plans

Although health reimbursement arrangements and health savings accounts have been offered for only a few years, the available data about them shed some light on the issues discussed in earlier chapters. Much of that information comes from industry reports and from surveys of the firms that offer such plans and the individuals who have enrolled in them. That information must be considered preliminary; in many cases, its implications are ambiguous or leave room for multiple interpretations. Reports about the age of enrollees in consumer-directed plans or the share of them who were previously uninsured, for example, may not reveal whether those enrollees are healthier than the general population or whether they would have remained uninsured in the absence of consumer-directed plans. Meanwhile, comparisons of health care spending and the use of services under consumer-directed and conventional plans in many instances fail to account for possible differences in the value of the policies being compared or in the enrollees in those plans.

Studies about consumer-directed plans that have been published in academic journals are generally more rigorous than industry reports, but they also have limitations. Only a handful of such studies are available, and they focus on the experience of plans that feature health reimbursement arrangements (which became available before health savings accounts did). As discussed in more detail later, one such study found that enrollees in a consumer-directed plan were not noticeably younger or healthier than enrollees in conventional plans, but two others showed that consumer-directed plans attracted individuals who had much lower health care costs prior to enrolling—even though they did not differ noticeably from conventional-plan enrollees in their demographic characteristics. Yet even in those studies, the results may reflect idiosyncrasies of the particular health plans and the relatively small populations that were analyzed or the particular statistical techniques that researchers used to adjust for other differences between enrollees. Given the problems with the available data, it is appropriate to exercise caution before reaching any definitive conclusions on the basis of this evidence about the impact of consumer-directed designs on health care costs or other measures.[1]

## Surveys of Insurers and Enrollees

The initial descriptive statistics that have been released about enrollees in consumer-directed health plans—most of which reflect the experience of HSAs—provide a useful starting point for evaluating the available evidence about those plans. Some surveys have sought to measure the age and health status of enrollees; others have tried to examine enrollees' use of health care services and compare the costs of HSAs with those of conventionally designed plans; and still others have addressed the share of HSA enrollees who previously had been uninsured. One consideration to keep in mind in reviewing the studies' findings is that they reflect early adopters of consumer-directed plans, and those individuals may not be representative of the kinds of people who will enroll in such plans as they become more prevalent. For comparisons of consumer-directed and conventional plans that are based on surveys of individuals, another issue is whether the people who responded to the survey are a representative sample of the current enrollees in each type of health plan.

1. For another review of many of the studies examined here, see Melinda Beeuwkes Buntin and others, "Consumer-Directed Health Care: Early Evidence About Effects on Cost and Quality," *Health Affairs* Web Exclusive (October 24, 2006), available at http://content.healthaffairs.org/cgi/content/full/25/6/w516.

### Age and Health Status of Enrollees

Several studies have considered the age of HSA purchasers, a statistic that has generated interest largely because it is seen as a proxy for their health status—reflecting the fact that, on average, older individuals have more health problems than younger ones do. One analysis released in the summer of 2005 reported that "about half" of HSA purchasers were older than 40.[2] A more recent census conducted by the insurance industry examined all enrollees in plans that were "HSA-compatible"; that is, the plans had deductibles and out-of-pocket limits that conformed to the requirements for an HSA, but it was not known whether enrollees had actually established an associated savings account. That study found that half of those covered by individually purchased HSA-compatible plans and about 45 percent of those covered by such plans through their employer (in the "group" market) were age 40 or older.[3]

Those figures are comparable to the overall shares of the nonelderly population who are covered by individual and employer-sponsored insurance, respectively, who are above the age of 40—but whether the age of HSA enrollees is indicative of their health status or expected medical costs is unclear. Although age and health care spending are correlated, people's health status and health care spending also vary substantially within age groups. Regardless of their age, therefore, people who have chosen HSAs may be healthier or sicker than average, or comparable to the average individual in the nonelderly population—there is no way of knowing without additional data.

Some direct evidence about the health status of enrollees in consumer-directed plans comes from a recent report by the Blue Cross and Blue Shield Association, a trade group that represents Blue Cross and Blue Shield plans.[4] (Those plans sell a variety of health insurance policies, including health savings accounts.) Researchers found that enrollees in HSA-compatible and conventional insurance plans provided comparable assessments of their own health status. About 10 percent of enrollees in each type of plan characterized their health as either excellent or fair, and nearly half reported themselves as being in good health. That study has been criticized, however, on the grounds that it failed to distinguish between purchasers in the individual market, who tend to be healthier than average, and purchasers in the group market.[5] If the survey respondents who had conventional health plans were more likely to have purchased their policies in the individual market, then the comparison of enrollees' health status in the two types of plan would not reveal whether employer-sponsored HSAs are more attractive to healthier individuals.

Another survey, conducted in 2005, supports the argument that enrollees in consumer-directed plans in the individual insurance market are healthier than enrollees in such plans who have employer-sponsored coverage, but the survey's other results do not imply favorable selection in consumer-directed plans.[6] It found that 42 percent of enrollees in consumer-directed health plans that were sponsored by employers considered themselves to be in excellent or very good health, compared with 62 percent of enrollees in consumer-directed plans that had been purchased in the individual market. The study did not directly compare enrollees in consumer-directed and conventional plans who had employment-based coverage, but the results indicate that the health status of the

2. See Grace-Marie Turner, *Consumerism in Health Care: Early Evidence Is Positive* (Alexandria, Va.: Galen Institute, August 11, 2005), pp. 1–2, available at www.galen.org/fileuploads/Consumerism.pdf.

3. AHIP Center for Policy and Research, *January 2006 Census Shows 3.2 Million People Covered by HSA Plans* (Washington, D.C.: America's Health Insurance Plans, March 9, 2006), available at www.ahipresearch.org/pdfs/HSAHDHPReportJanuary2006.pdf. The figures included dependents (spouses and children) covered under family policies.

4. Blue Cross and Blue Shield Association, "Consumer-Directed Plans in Practice: Perspectives from Consumers and the Blues" (presentation by Maureen Sullivan at the National Press Club, Washington, D.C., September 28, 2005), available at www.bcbshealthissues.com/events/consumer/sullivan_presentation.ppt.

5. Edwin Park and Robert Greenstein, *Latest Enrollment Data Still Fail to Dispel Concerns About Health Savings Accounts* (Washington, D.C.: Center on Budget and Policy Priorities, revised January 30, 2006), available at www.cbpp.org/10-26-05health2.pdf.

6. See Paul Fronstin and Sara R. Collins, *Early Experience with High-Deductible and Consumer-Driven Health Plans: Findings from the EBRI/Commonwealth Fund "Consumerism in Health Care" Survey*, EBRI Issue Brief No. 288 (Washington, D.C.: Employee Benefit Research Institute, December 2005), available at www.ebri.org/pdf/briefspdf/EBRI_IB_12-2005.pdf.

two groups was comparable.[7] The survey also reported that enrollees who had high-deductible policies were much more likely than enrollees in conventional plans to spend more than 5 percent of their income on out-of-pocket health care costs. Although that finding may raise concerns about the financial burden on enrollees in consumer-directed plans, it suggests as well that a number of those enrollees end up having relatively high health care spending—a finding that is not entirely consistent with the view that such enrollees are disproportionately healthy. (Because the study is based on an online survey, however, its results may not be representative of the nonelderly population.)

Finally, a recent survey by the Henry J. Kaiser Family Foundation provides a variety of comparisons between enrollees in consumer-directed health plans and people who have employer-sponsored health insurance.[8] The survey found that enrollees in consumer-directed plans were more likely than enrollees in conventional employer-sponsored plans to report being in excellent or very good health (64 percent versus 52 percent) and were less likely to report having a chronic health condition, such as diabetes (35 percent versus 23 percent). Although the analysis did not indicate whether those differences were statistically significant, it appears that they were. As with the data from the Blue Cross and Blue Shield Association, however, a limitation of those comparisons is that the enrollees in consumer-directed plans included people who had purchased their coverage in the individual insurance market, whereas all members of the comparison group had employer-sponsored coverage. Thus, it is not clear from the results of the survey whether consumer-directed plans are experiencing favorable selection within the employer-sponsored market.

### Effect on the Uninsured Population

Another area of interest and debate regarding consumer-directed health plans has been the impact of their availability on the number of individuals who lack health insurance. The insurance industry study cited earlier estimated that 31 percent of the 855,000 people who were covered by individually purchased health plans that were HSA-compatible had previously been uninsured.[9] (That estimate was based on responses that represented about 40 percent of those policyholders.) Because purchasers of HSAs in the individual insurance market constitute about one-third of all HSA policyholders, purchasers who were previously uninsured would account for about 10 percent of all HSA enrollees. By comparison, recent estimates indicate that about 15 percent of the general U.S. population and 17 percent of the nonelderly population are uninsured at any given time. As another recent study noted, however, "a significant share of new purchasers of any type of health insurance on the individual market will be previously uninsured. Thus, those data do not reveal whether HSAs are more attractive to the uninsured than other types of coverage."[10]

The studies that are available also provide conflicting evidence about how enrollment in consumer-directed health plans would affect insurance coverage rates in the employer-sponsored group market.

- The census of insurers cited earlier found that 33 percent of small employers who purchased HSA-compatible plans had not previously offered health care coverage to their workforce.[11] However, the data

7. According to the survey, the overall share of people who had conventional coverage and who were in excellent or very good health was 45 percent. Because the survey was limited to individuals who had private insurance—about 95 percent of which is employer-sponsored—nearly all enrollees in such conventional plans probably had employer-sponsored coverage. That finding thus suggests that their health status was comparable to the health status of enrollees in employer-based consumer-directed plans (42 percent of whom reported that their health status was excellent or very good). The 2006 survey reported similar results; see Paul Fronstin and Sara Collins, *The 2nd Annual EBRI/Commonwealth Fund "Consumerism in Health Care" Survey 2006*, EBRI Issue Brief No. 300 (Washington, D.C.: Employee Benefit Research Institute, December 2006).

8. Henry J. Kaiser Family Foundation, *National Survey of Enrollees in Consumer-Directed Health Plans* (Washington, D.C.: Henry J. Kaiser Family Foundation, November 2006).

9. AHIP Center for Policy and Research, *January 2006 Census Shows 3.2 Million People Covered by HSA Plans*.

10. Michael F. Cannon, *Health Savings Accounts: Do the Critics Have a Point?* Policy Analysis No. 569 (Washington, D.C.: Cato Institute, May 30, 2006), p. 10, available at www.cato.org/pubs/pas/pa569.pdf. The Blue Cross and Blue Shield Association study cited earlier reported that among purchasers of HSA-compatible plans, the percentage of people who had been previously uninsured was lower—about 12 percent—although in part that discrepancy might reflect the particular combination of individually purchased and employer-sponsored coverage in the association's data.

11. AHIP Center for Policy and Research, *January 2006 Census Shows 3.2 Million People Covered by HSA Plans*.

do not indicate how many of those employers were also new firms, which (by definition) could not have offered coverage previously. And as with estimates of the number of HSA policyholders in the individual market who were previously uninsured, the net impact of those purchases on insurance coverage rates depends on what the small employers would have done if HSAs had not been available.

- Some analysts have argued that the availability of consumer-directed health plans in the individual market will lead some smaller employers to cease offering insurance coverage and that some employees (and their dependents) will end up uninsured as a result. The net effect could be to increase the total number of uninsured people.[12]

Overall, the net effect that the availability of consumer-directed health plans has had on the number of people who are uninsured remains unclear.

### Impact on Premiums and Health Care Costs

A limited amount of information has been released by insurers and consulting firms in the health care industry that compares the costs of plans with consumer-directed and conventional designs. (Those sources, it should be noted, may have a financial interest in the outcome of their analyses.) For example, Aetna released a study that examined the growth of spending for clients that had adopted HRA plans in January 2003.[13] In the first year, employers that offered those plans as an additional option reportedly saw relatively small increases in medical costs (3.7 percent), whereas an employer that switched its coverage entirely to an HRA design saw spending fall by 11 percent. According to the study, those figures compared favorably with double-digit increases in spending for a similar population of Aetna members. A more recent analysis found that clients who switched entirely to an HRA design experienced very slow growth in medical costs between 2002 and 2005—an increase of only 3 percent.[14] For employers that added an HRA option, costs grew by about 21 percent over three years. Although that study did not contrast those figures with the growth rates for Aetna's conventional plans, they are lower than the 25 percent increase in private health care spending that was observed nationally over that period. Such comparisons prompt several caveats, however.

- When comparisons of spending growth across health plans are adjusted to account for differences in the plans' enrollees, as was the case in the first Aetna study, the results may be very sensitive to the precise methods used to make the adjustments.

- Even if the populations of enrollees had been similar, some of the impact on spending might have come from changing the overall extent of coverage rather than simply changing its design; the studies do not indicate the relative values of the plans being compared or the size of any account contributions by the employers that sponsored the HRA plans.

Another issue that arises in comparing costs under consumer-directed and conventionally designed plans is whether the comparison is measuring total health care costs or only the costs covered by insurance. Comparisons of insured costs depend even more strongly than comparisons of overall costs on whether the value of the coverage differs between the two designs. Total spending would be affected only by the response of enrollees to the change in value, but insured costs would reflect both the change in value and the response of enrollees. The results of a survey of employers conducted by Mercer Human Resource Consulting help illustrate that point.[15] The firm reported that in 2004, the costs for employers of providing coverage under consumer-directed plans were significantly lower, on average, than the costs for providing coverage under plans that featured a preferred provider organization. But the difference in insured costs was smaller when

12. See Jonathan Gruber, *The Cost and Coverage Impact of the President's Health Insurance Budget Proposals* (Washington, D.C.: Center on Budget and Policy Priorities, February 15, 2006). That study reviewed proposals to change the laws governing HSAs but did not estimate how the original legislation that established HSAs affected insurance coverage rates.

13. See Aetna, Inc., "Aetna HealthFund® First-Year Results Validate Positive Impact of Health Care Consumerism" (press release, Hartford, Conn., June 22, 2004), available at www.aetna.com/news/2004/pr_20040622.htm.

14. See Aetna, Inc., "Aetna Releases Broadest Study to Date of Consumer-Directed Plans" (press release, Hartford, Conn., October 2, 2006), available at http://www.aetna.com/news/2006/pr_20061001.htm.

15. Mercer Human Resource Consulting, "Consumer-Directed Health Plans Were Least Costly Plan in 2004" (press release, New York, February 10, 2005), available at www.mercerhr.com/pressrelease/details.jhtml/dynamic/idContent/1170045.

consumer-directed plans were compared with PPO plans that had a high deductible.[16]

### Impact on the Use of Care

Another recent study of consumer-directed plans that has received some attention, conducted by the consulting firm McKinsey & Company, did not primarily examine effects on health care costs but instead focused on what might be called "intermediate," or "process," measures of the plans' impact.[17] To address concerns about favorable selection in consumer-directed plans when employees are given a choice among plan types—a tendency that would bias the results of the analysis—the researchers looked at firms that had switched their health insurance coverage entirely to a consumer-directed design (which is sometimes called a full-replacement approach) and compared them with firms that offered only conventional insurance. The study was based on data from a survey of employers and their employees; because of the very limited experience with HSAs at the time of the survey, it examined primarily HRA plans.

The McKinsey team's approach addresses one of the problems that can arise in comparing conventional and consumer-directed plans, but other issues remain. The firms that responded to their survey may not be representative of all firms that offer health insurance. A more important reservation about the study is that it did not take steps to account for potential differences between firms (and employees at firms) that switched entirely to consumer-directed plans and those that offered no consumer-directed option. Such cases of complete switching might involve groups of employees who were generally more health- or cost-conscious, or both, regardless of whether they had joined a consumer-directed health plan. Because the McKinsey survey lacked information about enrollees' behavior before they joined a consumer-directed plan, it could use only those who remained in a conventional health care plan as a comparison group; researchers were not able to present before-and-after comparisons for people who enrolled in consumer-directed plans.

As a result of those limitations, it is difficult to determine whether some of the McKinsey team's findings represent the impact of consumer-directed designs or reflect differences in the types of people who enrolled in such plans. For example, researchers found that the enrollees they studied "demonstrated strong value-conscious shopping behaviors" when choosing prescription drugs, even though enrollees received "carve-out" drug benefits comparable to those offered by conventional health plans—that is, purchases of prescription drugs were administered separately and were not subject to the high deductible. The McKinsey team took that behavior as evidence that enrollees in consumer-directed plans "may develop a sustained shift in mind-set that increases their value consciousness in all health decisions" (p. 9), a shift that applied even to those services that saw no change in coverage. The possibility that enrollees experienced such a substantial change so quickly cannot be ruled out altogether, but a more plausible explanation is that enrollees in those consumer-directed plans were more cost- and value-conscious to begin with. Similarly, the McKinsey team reported that those enrollees were "25 percent more likely to engage in healthy behaviors" (p. 5), compared with enrollees in conventional plans. The large magnitude of that difference also suggests that underlying disparities between the two groups of enrollees—rather than the rapid modification of enrollees' behavior in the consumer-directed plans—are a more likely explanation for that finding.

16. Specifically, Mercer reported that, on average, "CDHP [consumer-directed health plan] coverage cost significantly less per employee than PPO coverage in 2004—$5,233 compared to $6,096, a difference of nearly 17 percent. However, CDHPs have deductibles of $1,000 or more. The average cost for a standard PPO with a deductible of $1,000 or more was even lower than the CDHP cost, at $4,801. That is to be expected, as the CDHP per-employee cost includes all employer contributions to the employees' accounts." The Mercer study also reported a median contribution by employers of $700 for individual enrollees and $1,200 for families under consumer-directed plans—suggesting that the average cost for consumer-directed plans would be about $4,300 after excluding those contributions. Given that nearly all consumer-directed plans use a PPO network, it is not clear why the difference in costs remains when comparing only high-deductible plans.

17. Vishal Agrawal and others, *Consumer-Directed Health Plan Report—Early Evidence is Promising* (Pittsburgh, Pa.: McKinsey & Company, June 2005), pp. 1–16, available at www.mckinsey.com/clientservice/payorprovider/Health_Plan_Report.pdf. The researchers reported that "companies participating in our study found that the switch to CDHPs [consumer-directed health plans] lowered their total medical costs, even when the expenses now borne by employees were included in their calculations" (p. 9). As with the Aetna and Mercer studies, it is unclear whether the firms that offered consumer-directed plans maintained or reduced the actuarial value of their coverage in the process. Nor is the comparison for the cost calculation evident—that is, whether the comparison was done relative to the prior year's costs, to a counterfactual projection of contemporary costs under the prior insurance arrangement, or to costs for firms that continued to offer only conventional coverage.

Additional data on how consumer-directed health plans affect enrollees' use of care is provided by the EBRI/Commonwealth Fund study discussed earlier in this chapter.[18] That study reported that enrollees in consumer-directed and other high-deductible health plans were "more likely to avoid, skip, or delay health care because of costs" than were enrollees in conventional health insurance plans and that those differences were "particularly pronounced among those with health problems or incomes under $50,000" (p. 1). It is not surprising that enrollees in high-deductible plans reduced their use of services; as with the similar findings of the RAND study, however, a key question is whether the health care services that were not used had benefits that would have exceeded their costs. The study did not measure the extent of the reduction and could not estimate how those differences in the use of services affected enrollees' health. Thus, it is hard to tell whether the findings buttress the concerns of critics of consumer-directed plans that enrollees will skimp on effective care or whether they instead support the arguments of advocates that enrollees in consumer-directed plans will reduce their use of marginally valuable treatments.

## Studies Published in Academic Journals

Other studies of consumer-directed health plans have appeared in recent years in academic journals. One study examined patterns of enrollment in insurance plans at a firm that began offering two consumer-directed plans; the firm happened to be the health insurance company Humana (that is, the data it published were for its own employees).[19] Those plans had fairly standard designs: a contribution of $500 to the savings account by the employer and a deductible of either $1,500 or $2,500. The plan that had a deductible of $1,500 required coinsurance of 20 percent beyond that point, up to an out-of-pocket limit of $2,000; the plan that had a deductible of $2,500 covered all costs above that amount.[20] The consumer-directed plans had one notable feature that differentiated them from a standard HRA, however: the funds in the account could not be rolled over and were forfeited if they went unused. Thus, it might be more accurate to describe the plans as providing full coverage for the first $500 worth of spending, followed by a "doughnut hole," in which enrollees paid all costs between $500 and their deductible. Because the study's authors did not try to measure the change in spending for enrollees once they had joined the consumer-directed plans, the lack of a rollover feature could have affected their reported findings only by influencing who signed up for the plans.

The authors focused on the effects of selection; thus, they primarily sought to compare the characteristics of enrollees in the various types of plans, characteristics that were observed in the year before the consumer-directed plans were made available. Researchers had access to both demographic data (including enrollees' salaries, as a proxy for their total income) and claims records for the period before and after the consumer-directed plans were added to the firm's insurance options. As noted in the study, "a number of CDHP [consumer-directed health plan] sponsors have used demographic data to suggest that these plans have not disproportionally attracted low-risk [that is, lower-cost] members" (p. 1177). By comparing the results they got based on demographic characteristics alone with their findings about prior spending levels, the authors could test whether such inferences were valid.

Their findings indicate that comparing enrollees on the basis of their demographic characteristics alone may present a misleading picture. When the researchers looked only at the demographic data, they saw little apparent difference between those who enrolled in the consumer-directed plans and those who did not. But when they compared data on prior claims and prior use of services, they found that people who later chose to

18. Fronstin and Collins, *Early Experience with High-Deductible and Consumer-Driven Health Plans*. The November 2006 survey by the Henry J. Kaiser Family Foundation that was cited earlier in this chapter reported several similar results, as did the December 2006 survey (*The 2nd Annual EBRI/Commonwealth Fund "Consumerism in Health Care" Survey 2006*) that Fronstin and Collins analyzed.

19. See Laura A. Tollen, Murray N. Ross, and Stephen Poor, "Risk Segmentation Related to the Offering of a Consumer-Directed Health Plan: A Case Study of Humana Inc.," *Health Services Research*, vol. 39, no. 4 (part II, August 2004), pp. 1167–1187.

20. The deductibles and out-of-pocket limits for family coverage were larger. The consumer-directed plans also had provider networks, and enrollees faced different deductibles, cost-sharing requirements, and out-of-pocket limits for out-of-network care. Coverage for prescription drugs and mental health benefits was "carved out." It was not clear from the study whether the out-of-pocket limit in the first plan included spending covered by the account contribution.

enroll in the consumer-directed plans "were healthier than those electing to remain in more traditional coverage . . . with prior total claims less than 50 percent of [the] average" (p. 1167). Examining hospital and maternity admissions, they found that the use of those services by enrollees who subsequently joined a consumer-directed plan was less than 30 percent of the overall average. Even when they focused on the enrollees who were admitted to the hospital and compared the average length of stay (which served as a crude measure of each admission's complexity) under each plan design, the researchers found that enrollees in the consumer-directed plans had substantially shorter hospital stays.

Taken together, those findings suggest that high-deductible plans coupled with some sort of contribution by employers toward up-front costs may generate substantial favorable selection. Because those results are comparisons of health care spending and the use of services before the consumer-directed plans were introduced, they reflect the health and preferences of enrollees in each plan—not the response of the enrollees in the consumer-directed plans to the new incentives they faced once they joined those plans. Yet some caution is warranted in interpreting those results because the study's data included only about 500 enrollees in the consumer-directed plans who accounted for about 6 percent of the pool of employees (and dependents) that was analyzed.

More recently, Humana has released its own analysis of the impact on spending of adding those new consumer-directed designs to its package of health plan options.[21] In the first year that the new options were introduced (affecting about one-third of employees), the firm experienced substantially lower growth in health care costs: 4.9 percent growth, compared with an "expected claims trend of 19.2 percent" (p. 4). About two-thirds of the resulting savings were attributed to reductions in the use of services, particularly for inpatient care. (The remainder was due to reductions in benefits and in the overall share of employees who enrolled.) Humana also reported savings for its other clients—compared with marketwide trends in the growth of health care spending—from adopting the new package of health plans.

The study's methodology raises several issues. Among its own employees, Humana found that the healthier members were the first ones to enroll in the consumer-directed plans. The study thus noted that "if the results of only the consumer-driven plan are compared to the results of the entire group before introduction of the consumer-driven plan, the analysis will be flawed because a healthier group of employees [is] being compared with average employees" (p. 4). To keep the effects of such favorable selection from skewing the results, the firm presented the cost trends for enrollees in all of its health care plans combined—whether they chose the consumer-directed options or more conventional HMO and PPO plans that were offered at the same time. Although that approach addresses the problems that stem from favorable and adverse selection, it complicates efforts to estimate the specific effect that the new consumer-directed options had on health care spending. As noted above, the study by Laura Tollen, Murray Ross, and Stephen Poor found that only 6 percent of enrollees chose the consumer-directed designs.[22] Humana also reported that a subsequent expansion of the program to its remaining employees achieved similar savings, even though the share of those employees who chose the consumer-directed designs was 20 percent.

It seems unlikely that the simple addition of consumer-directed options would have had such a large effect on all health care spending by the firm's employees—including spending under the conventional plans—so other explanations need to be considered. Some of the reported effect on the growth of costs may simply reflect the statistical phenomenon known as regression to the mean. That is, if firms that are experiencing the most rapid cost growth are also the first ones to adopt those new insurance options, then some of the reduction in spending that is observed in the next year would probably have happened even if the new options had not been adopted—simply because some of the factors that were causing above-average growth in health care costs for those firms were likely to have been temporary. The study by Tollen, Ross, and Poor also indicates that cost sharing increased in the HMO and PPO plans that most enrollees chose;

21. Humana Inc., *Health Care Consumers: Active or Passive?* (Louisville, Ky.: Humana Inc., June 2005), pp. 1–14, available at http://apps.humana.com/marketing/documents.asp?file=519272. Note that this study was not published in an academic journal and so was not subject to the peer review process. The first year of operation for the new package of plans ran from July 1, 2001, to June 30, 2002.

22. Tollen, Ross, and Poor, "Risk Segmentation Related to the Offering of a Consumer-Directed Health Plan."

the responses of enrollees to those changes might have accounted for an important share of the total savings.

A final set of academic studies comes from Stephen Parente, Roger Feldman, and Jon Christianson, who published two papers on consumer-directed plans in 2004, each of which examined the experiences of a specific employer that added an HRA option. One study looked only at who chose a consumer-directed plan when given a choice between it, a health maintenance organization, a PPO, and one other insurance product.[23] The authors found, on the basis of a survey of employees, that the "CDHP was not chosen disproportionately by the young and healthy, but [that] it did attract the wealthy and those who found the availability of providers more appealing" (p. 1091). The researchers also asked employees about their interest in using online tools to help manage their own health care and found that it was not a significant factor in the choice of the consumer-directed plan. But as the authors themselves noted, the small number of respondents to their survey and the possibility that those respondents were not representative of all employees both raise questions about whether their results would apply more broadly to other enrollees in consumer-directed plans.

The second study by Parente, Feldman, and Christianson looked at the actual health care claims of employees at another firm that had offered an HMO and a PPO in 2000 and then added the option of a consumer-directed plan for 2001 and 2002.[24] Examining who enrolled in each type of plan, they found that the "two largest differences between the CDHP population and other cohorts at baseline were income and case-mix" (p. 1198). In other words, high-income employees were more likely to enroll in the consumer-directed plan, low-income employees disproportionately avoided enrollment in it, and enrollees in the consumer-directed plan reported fewer health problems in the year before they joined the plan than other employees did. Turning to health care costs, the authors found that by 2002, enrollees in consumer-directed plans had "higher expenditures than the HMO cohort" in that year and incurred "lower total expenditures than PPO enrollees, but higher utilization of resource-intensive hospital admissions" (p. 1189).

A closer examination of the authors' data provides a mixed picture of the consumer-directed plan's impact on health care costs. For reasons that remain unclear, all three plans experienced very rapid growth of costs from 2000 to 2001 (increases of about one-fifth in the study's raw data and about one-third in its adjusted figures). Subsequently, the PPO plan and, in particular, the consumer-directed plan that they studied both experienced an extremely fast rise in costs between 2001 and 2002 (costs for the consumer-directed plan grew by one-half as measured in the raw data and by one-third as measured in the adjusted amounts).[25] Hospital expenditures for enrollees in the consumer-directed plan were lower in 2000—the year prior to enrollment, consistent with there being some favorable selection in that plan—and comparable with those in the other plans in 2001; however, in 2002, hospital expenditures in the consumer-directed plan ended up dramatically higher.

Those somewhat curious results indicate that either spending by enrollees in consumer-directed plans experienced regression to the mean relatively quickly or their enrollment in the consumer-directed plan induced them to use more health care—or some combination of the two phenomena occurred. The authors' own analysis indicated that regression to the mean might explain some of the increase in costs for consumer-directed plan enrollees between 2000 and 2001 but did not contribute to the change between 2001 and 2002. Another noteworthy finding was that the costs covered by the insurer were actually greatest for the consumer-directed plan in 2002 but that those enrollees had been less costly to the employer than the other two groups in 2000 and 2001. (Out-of-pocket costs for enrollees also varied among the three plans but by smaller dollar amounts.) As indicated earlier, however, it may be unwise to draw overly firm conclusions about the effects of those plan designs—whether favorable or adverse—until a much more robust set of studies is available for review.

23. Stephen T. Parente, Roger Feldman, and Jon B. Christianson, "Employee Choice of Consumer-Driven Health Insurance in a Multiplan, Multiproduct Setting," *Health Services Research*, vol. 39, no. 4 (part II, August 2004), pp. 1091–1111.

24. Stephen T. Parente, Roger Feldman, and Jon B. Christianson, "Evaluation of the Effect of a Consumer-Driven Health Plan on Medical Care Expenditures and Utilization," *Health Services Research*, vol. 39, no. 4 (part II, August 2004), pp. 1189–1209.

25. Ibid., Table 3, p. 1200. The authors adjusted the raw data to control for confounding factors by using "annual trends, health plan choice, health plan choice interacted with annual trends, age, gender, case mix, income, number of covered lives in contract, [and] use of a healthcare flexible spending account." Overall, for the two-year period, raw costs increased by 97 percent for the consumer-directed plan, 73 percent for the PPO, and 19 percent for the HMO; adjusted costs increased by 85 percent, 60 percent, and 36 percent, respectively.