

Consumer-Directed Health Care: Early Evidence About Effects On Cost And Quality

Although evidence is limited, early indications are that consumer-directed plans are having a moderating effect on costs and cost increases.

by Melinda Beeuwkes Buntin, Cheryl Damberg, Amelia Haviland, Kanika Kapur, Nicole Lurie, Roland McDevitt, and M. Susan Marquis

ABSTRACT: Demand for consumer-directed health care (CDHC) is growing among purchasers of care, and early evidence about its effects is beginning to emerge. Studies to date are consistent with effects predicted by earlier literature: There is evidence of modest favorable health selection and early reports that consumer-directed plans are associated with both lower costs and lower cost increases. The early effects of CDHC on quality are mixed, with evidence of both appropriate and inappropriate changes in care use. Greater information about prices, quality, and treatment choices will be critical if CDHC is to achieve its goals. [*Health Affairs* 25 (2006): w516–w530 (published online 24 October 2006; 10.1377/hlthaff.25.w516)]

C O N S U M E R - D I R E C T E D H E A L T H C A R E (CDHC) has emerged in recent years as one of the most potent ideas in health care reform. In the eyes of its champions, health care costs are high and quality is low because our current system of insurance fails to provide consumers with incentives to use care wisely and shop for high-value services. CDHC advocates argue that giving consumers incentives to be prudent managers of their own health and health care will engage market forces in controlling costs and improving quality and outcomes.

A number of policy changes have already been implemented to facilitate a shift toward CDHC. Legislation enacted in 2003 paved the way for tax-free health savings accounts (HSAs) to be paired with high-deductible insurance policies, an arrangement intended to make consumers cost-sensitive without subjecting them

Melinda Buntin (buntin@rand.org) is an economist at RAND in Arlington, Virginia. Cheryl Damberg is a senior policy analyst at RAND in Santa Monica, California. Amelia Haviland is an associate statistician at RAND in Pittsburgh, Pennsylvania. Kanika Kapur is a lecturer in the School of Economics, University College Dublin, Ireland, and an adjunct economist at RAND. Nicole Lurie is a senior natural scientist at RAND in Arlington. Roland McDevitt is director, health research, at Watson Wyatt Worldwide, also in Arlington. Susan Marquis is a senior economist at RAND in Arlington.

to the financial risk of a catastrophic illness.¹ The Bush administration has proposed making premiums tax-deductible for individuals purchasing HSA plans to bolster the nongroup market for consumer-directed policies and to expand coverage. Further, some policy experts have called for making all health spending tax-deductible, to reduce incentives to elect traditional employer-provided health insurance with generous up-front coverage.² In addition, advocates of CDHC are seeking to apply its principles to Medicare and Medicaid beneficiaries with chronic diseases.³

Demand for CDHC is growing, and early evidence about its effects is beginning to emerge. In this paper we first examine recent trends in CDHC enrollment and then review the literature about the potential threat posed by adverse selection between consumer-directed and comprehensive plans. We also review the literature on CDHC's effects on health care use, costs, and quality. Finally, we present supplementary data on the role of information under consumer-directed plan designs. We conclude with recommendations for policy and future research.

Background

We begin by defining *CDHC*—a term that means different things to different people. CDHC, which involves enrollment in consumer-directed health plans, refers to insurance that provides financial incentives for consumers to become involved in purchasing decisions regarding their health care.⁴ Consistent with most of the literature, we use the term “consumer-directed plan” to refer to any high-deductible insurance plan; typically, “high deductible” refers to a plan with a deductible of \$1,000 or more.⁵ In contrast, the average deductible in employer-sponsored plans in 2004 was \$220, and almost half of privately insured adults had policies with no deductible.⁶ Beneficiaries' out-of-pocket liability with a high-deductible plan is about double the liability under more traditional plans.⁷

High-deductible plans are sometimes coupled with personal health accounts, and some analysts use the term “consumer-directed plan” to refer only to high-deductible plans that are combined with these accounts. The two main types of personal health accounts, their attributes, and their enrollment are described in Exhibit 1.⁸ The most recent are HSAs—tax-advantaged savings accounts that may be used to pay for qualified medical expenses.⁹ HSAs must be paired with a health plan whose minimum deductible is \$1,000 for individuals or \$2,000 for families.¹⁰ Health reimbursement accounts (HRAs) are similar to HSAs but are owned by employers and do not need to be coupled with a high-deductible plan.¹¹

In 2005, only 10 percent of privately insured nonelderly American adults were enrolled in a plan with a high deductible; about 10 percent of them had an HRA or HSA.¹² One-fifth of employers offering health insurance offered a high-deductible plan, and about 4 percent offered such a plan with an HRA or HSA option.¹³

However, demand for these plans appears to be growing. The most recent and complete data available concern HSA-compatible plans. A 2006 survey of these

EXHIBIT 1
Characteristics Of Personal Health Accounts

| | Health savings account (HSA) | Health reimbursement arrangement (HRA) |
|--------------------------------|--|--|
| Overview | Tax-free account designed to pay for qualified medical expenses, encourage efficient spending, and serve as a retirement savings account | Employer-funded account designed to reimburse employees' qualified medical expenses |
| Account funders | Employee, employer, or both | Employer |
| Account ownership | Employee | Employer |
| Annual limits on contributions | Federally set limit of up to 100% of the deductible, not to exceed \$2,700 for self-only or \$5,450 for families in 2006 ^a | No federal limits, employers can set |
| Tax treatment of contributions | Employee contributions are tax-deductible; employer contributions are excluded from gross income and not subject to taxes | Employer contributions are excluded from gross income and not subject to taxes |
| Rollover provisions | Yes | Yes; unused funds revert to employer if employee leaves or retires |
| Penalties for nonmedical use | Taxed as income plus 10% additional tax if used for nonmedical expenses | Nonmedical expenses not allowed |
| Required companion plan | Must be paired with a high-deductible companion plan (min. \$1,050 for self-only, \$2,100 for families in 2006) | No specific companion-plan requirements |
| Enabling legislation | Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003 | Authorized by the Treasury Department Revenue Ruling 2002-41 in 2002, and IRS Guidance 2002-45 |
| 2006 enrollment | 3.2 million ^b | 2.9 million ^c |

SOURCES: Authors' analysis except where indicated.

^aU.S. Department of the Treasury, "Indexed Amounts for Health Savings Accounts," Press Brief no. js-2996, 28 October 2005, <http://www.ustreas.gov/press/releases/js2996.htm> (accessed 3 April 2006).

^bAmerica's Health Insurance Plans, Center for Policy and Research, "January 2006 Census Shows 3.2 Million People Covered by HSA Plans," January 2006, <http://www.ahipresearch.org/pdfs/HSAHDHPReportJanuary2006.pdf> (accessed 20 March 2006). Members of America's Health Insurance Plans (AHIP) constitute the vast majority of insurers selling these products.

^cS. Davis and J. Gutman, "CDH Enrollment Increases to 4.9 Million; HSA-qualified HDHPs Gain on HRA Plans," *Inside Consumer-directed Care*, 27 January 2006. Figure includes HRA enrollees who are in both high- and low-deductible plans.

plans found that enrollment had more than tripled since early 2005, reaching 3.2 million.¹⁴ Predictions for future growth in the HSA market are also impressive: One recent forecast is that the market will expand to fifteen to thirty million enrollees over the next five to ten years.¹⁵ Moreover, 26 percent of firms that do not offer a plan with an HRA say that they are likely to do so in the next year, and 27 percent say that they are likely to offer an HSA-compatible plan.¹⁶

All of these figures must, however, be kept in context: The millions enrolled in HSA- and HRA-based plans by 2006 still represent only about 3 percent of the commercial insurance market, although it represents a substantial increase over the 1 percent reported for 2005.¹⁷ Nonetheless, these gains in enrollment and the administration's embrace of consumer-directed plans raise critical questions. Will favorable selection into consumer-directed plans lead to fewer choices, which will

burden the sick and the poor? Will CDHC spur patients to make prudent health care choices or lead to cutbacks in appropriate and necessary care? Will this constrain overall health care cost growth or drive needed improvements in quality?

We examine what the early evidence has to say about these questions below. We drew upon the research literature as well as reports from carriers and employers offering health insurance. We selected studies that provided quantitative estimates and that compared consumers' experiences with CDHC to a control group using cross-sectional data or panel data. To obtain a broad look at these new experiences, we did not restrict our review to studies that employed rigorous analytic methods. In few cases do the analyses attempt to control for confounding factors; in some cases, the analytic methods are not completely described, and in no cases are the findings able to cover much more than the plans' initial implementation periods. Therefore, we focus on consistent patterns across the studies rather than on specific results, and we couple this information with relevant results from the RAND Health Insurance Experiment (HIE). Our analysis contrasts outcomes for those in high-deductible plans with those in more comprehensive traditional plans, because many policy concerns center on forgone care from switching the insured to less comprehensive coverage.¹⁸

The Challenge Of Adverse Selection

Many policymakers are greatly concerned about adverse selection—whereby low-deductible insurance is more attractive to sicker people and consumer-directed plans are more attractive to healthy people—and its implications for access to and quality of care for the sick. If healthier families leave traditional plans, the cost of these plans for those remaining in them might increase. This could lead to lower levels of insurance for them and to underuse of care; ultimately, it might cause the number of uninsured Americans to rise further. Simulation studies have concluded that selection might be a concern with very-high-deductible plans but is less likely to be an issue when deductibles are modest.¹⁹

The new evidence about the extent of selection from comparisons of CDHC enrollees to those in traditional plans is shown in Exhibit 2.²⁰ The studies generally find little difference in the average age of subscribers between those in consumer-directed and other plans, but they find that CDHC participants have higher incomes than those in other plans. Those in CDHC also appear to be in somewhat better health. This latter conclusion was also reached by Laura Tollen and colleagues, who report that use by CDHC enrollees prior to switching was less than use by those remaining in traditional plans.²¹ In sum, there may be some modest favorable health selection among early adopters of CDHC that warrants monitoring.

Effects Of High Deductibles And Personal Accounts

■ **Health care use.** The best source of information about the effect of high deductibles on health care spending continues to be the RAND HIE.²² Exhibit 3 sum-

EXHIBIT 2
Evidence On Selection Into Consumer-Directed Health Plans

| Type of selection measure/source | Populations compared | Measure of selection | CDHP | Comparison |
|----------------------------------|---|-----------------------------------|------|------------|
| Age | | | | |
| Parente et al., 2004 | Enrollees in CDHP vs. PPO, 1 employer | Age of subscriber | 41 | 42 |
| Parente et al., 2004 | Enrollees in CDHP vs. HMO, 1 employer | Age of subscriber | 41 | 40 |
| GAO, 2006 | FEHB in CDHP vs. all other plans | Age of subscriber | 41 | 47 |
| Income | | | | |
| Tollen et al., 2004 | Enrollees in CDHP vs. other plans, 1 employer | Age of subscriber | 38 | 38 |
| eHealthInsurance, 2005 | Enrollees in HSA vs. other plans sold by eHealthInsurance | Percent over age 40 | 35% | 49% |
| Fronstin and Collins, 2005 | Those in high-deductible vs. other plans ^a | Percent over age 45 | 58% | 45% |
| Income | | | | |
| Parente et al., 2004 | Enrollees in CDHP vs. PPO, 1 employer | Percent in top quartile | 36% | 27% |
| Parente et al., 2004 | Enrollees in CDHP vs. HMO, 1 employer | Percent in top quartile | 36% | 20% |
| GAO, 2006 | FEHB in CDHP vs. all other plans | Percent earning >\$75,000 | 43% | 23% |
| Lo Sasso et al., 2004 | Enrollees in CDHP vs. other plans, 1 employer | Percent with income >\$80,000 | 6.4% | 3.7% |
| Tollen et al., 2004 | Enrollees in CDHP vs. other plans, 1 employer | Average salary group ^b | 2.6 | 2.2 |
| Fronstin and Collins, 2005 | Those in high-deductible vs. other plans ^a | Percent with income >\$100,000 | 16% | 18% |
| Health | | | | |
| Parente et al., 2004 | Enrollees in CDHP vs. PPO, 1 employer | Case-mix index ^b | 6.5 | 7.1 |
| Parente et al., 2004 | Enrollees in CDHP vs. HMO, 1 employer | Case-mix index ^b | 6.5 | 6.8 |
| Fronstin and Collins, 2005 | Those in high-deductible vs. other plans ^a | Report excellent/very good health | 48% | 45% |
| Fowles et al., 2004 | Those in HRA vs. other plans | Report excellent/very good health | 82% | 61% |

SOURCES: See Note 20 in text.

NOTES: CDHP is consumer-directed health plan. PPO is preferred provider organization. HMO is health maintenance organization. FEHB is Federal Employees Health Benefit plan. HSA is health savings account. HRA is health reimbursement arrangement.

^a High-deductible is \$1,000 single or \$2,000 family; includes enrollees in plans with savings accounts and in plans without accounts.

^b Higher indicates worse health/higher salary.

marizes the results of several studies that have used HIE results to simulate the effect of moving the population from a plan typical of those now offered by employers to a plan with a high deductible.²³ The studies by Emmett Keeler and colleagues (1996 and 1988) use a simulation model based on the HIE to assess changes in the number and costs of health care episodes that occur when a person exceeds the insurance deductible or the maximum limit, or both.²⁴ Larry Ozanne (1996) estimated savings using the overall price elasticity of demand from the HIE.²⁵ The other two studies in Exhibit 3 are based on actuarial pricing models that use a range of estimates of the elasticity of demand from the literature—including the HIE esti-

EXHIBIT 3 Predictions Of Reduced Health Care Spending From Moving To High-Deductible Health Plan

| Source | Base plan ^a | | High-deductible plan ^a | | Estimated reduction in total spending (%) | Reduction in spending if coupled with savings account (%) ^b |
|----------------------|------------------------|----------------------------|-----------------------------------|----------------------------|---|--|
| | Deductible (\$) | Out-of-pocket maximum (\$) | Deductible (\$) | Out-of-pocket maximum (\$) | | |
| Keeler et al., 1988 | 300 | 3,000 | 1,000 | 3,000 | 5 | 2.5 |
| Keeler et al., 1996 | 335 | 2,000 | 2,000/4,000 ^c | 2,000/4,000 ^c | 6 | 3 |
| Ozanne, 1996 | 275 | 1,400 | 2,800 | 2,800 | 4–8 | 2–4 |
| Lee and Tollen, 2002 | 270 | 1,600 | 1,070 | 3,210 | 13 | 6.5 |
| Nichols et al., 1996 | 350 | 1,825 | 3,000 | 3,000 | 15 | 7.5 |

SOURCES: See Notes 24, 25, and 26 in text.

^aThe parameters of the plans examined in each study are inflated to 2003 dollars in the exhibit using the medical care component of the Consumer Price Index.

^bAssuming savings account offsets the effect of the high deductible by 50 percent, based on Keeler et al., 1996 and Ozanne, 1996.

^cIndividual/family deductible.

mates.²⁶ All told, the studies in Exhibit 3 suggest that moving everyone from a traditional plan to a high-deductible plan would result in a one-time reduction in use of about 4–15 percent. Another recent study also concluded that CDHC will have only modest effects because many with high spending would actually see a decrease in cost sharing under some consumer-directed plan designs.²⁷

The availability of personal spending accounts (HRAs or HSAs) coupled with a high-deductible plan may affect spending incentives and offset some of these gains. For example, if consumers view the accounts as earmarked for current spending, they might feel that there is no need to constrain spending despite the deductible, at least until they have exhausted the account. HSAs' tax benefit makes current consumption of medical care below the plan deductible somewhat less expensive than current consumption of other goods and services; this mitigates the effects of a high-deductible plan.

Estimates are that personal health accounts might offset the 4–15 percent reduction in spending expected from a high-deductible plan by about half, so that high-deductible plans combined with personal accounts would reduce use by 2–7 percent (Exhibit 3).²⁸ However, in addition to the tax-favored status of current contributions, the interest on HSAs is not taxed as earned, which could boost HSAs' cost containment incentives. Still, experts believe that the reduction in spending by a person with an HSA would be less than the reduction with a high-deductible plan alone.²⁹

The emerging evidence that the new consumer-directed plans affect total health care use is summarized in Exhibit 4. The eight reports summarized in the exhibit include comparisons of a population before and after adopting CDHC and

**EXHIBIT 4
Comparisons Of Total Health Services Use In Consumer-Directed Health Plans And Other Plans**

| Type of comparison/ source | Populations compared | Measure of use or spending (increase) | Adjusted for pop. | CDHP | Comparison |
|---|--|---|----------------------|---------|----------------|
| Cross-sectional spending | | | | | |
| Parente et al., 2004 | Enrollees in CDHP vs. PPO, 1 employer | 2-year average spending | Yes | \$7,152 | \$7,714 |
| Parente et al., 2004 | Enrollees in CDHP vs. HMO, 1 employer | 2-year average spending | Yes | \$7,152 | \$6,986 |
| Lo Sasso et al., 2004 | Enrollees in CDHP vs. other plans, 1 employer | 2002 spending | No | \$1,492 | \$2,837 |
| Premium increase | | | | | |
| PriceWaterhouseCoopers, 2005 ^{a,b} | Sample of CDHP vs. non-CDHP plans | Late 2004–early 2005 increase | No | 3.4% | 9.6% |
| Ehrbeck and Packard, 2005 | Test sample of plans of 1 carrier | 2003 increase | No | 2.0% | 16.0% |
| Deloitte, 2005 ^{a,b} | Sample of large employers, CDHP vs. PPO | 2006 increase | No | 2.6% | 7.5% |
| Spending increase | | | | | |
| Parente et al., 2004 | Enrollees in CDHP vs. PPO, 1 employer | 2-year total spending increase | Yes | 85.3% | 60.2% |
| Parente et al., 2004 | Enrollees in CDHP vs. HMO, 1 employer | 2-year total spending increase | Yes | 85.3% | 36.2% |
| Humana, 2005 | Enrollees in carrier product vs. market average ^c | 1-year claims cost increase vs. market average | Yes ^d | 5.6% | 14.1% |
| Leach, 2004 ^a | Employees after full replacement, no control | 1-year change | – ^e | –18.7% | – ^e |
| Utilization increase | | | | | |
| Downey, 2004 | Enrollees in CDHP vs. other plans, 1 carrier | Hospital admissions, 1-year change | Yes | –5.2% | 11.7% |
| Downey, 2004 | Enrollees in CDHP vs. other plans, 1 carrier | Primary care visits, 1-year change | Yes | –10.9% | 3.5% |
| Downey, 2004 | Enrollees in CDHP vs. other plans, 1 carrier | Emergency room visits, 1-year change | Yes | –2.6% | 4.2% |
| Humana, 2005 | Enrollees in carrier product vs. market average ^c | Hospital days vs. market average, 1-year change | Yes ^d | –4% | –2% |
| Humana, 2005 | Enrollees in carrier product vs. market average ^c | Office visits vs. market average, 1-year change | Yes ^d | –1% | 3% |

SOURCES: See Note 30 in text.

NOTE: Unless otherwise noted, consumer-directed health plans (CDHPs) have a deductible of \$1,000 or higher. PPO is preferred provider organization. HMO is health maintenance organization.

^aSize of CDHP deductible not specified.

^bNot specified whether CDHP enrollees had personal spending accounts.

^cCDHP experience includes all employees in the carrier offerings, not just those enrolling in the plan.

^dComparison is all enrollees with the carrier, but it does not control for selection into the carrier.

^eNot applicable.

case studies of the experience of enrollees in consumer-directed plans compared with those in traditional plans.³⁰

The favorable selection noted above confounds simple comparisons: Exhibit 4 notes when the contrasts control for selection or secular trends. Although the ex-

hibit reflects experiences in a limited number of consumer-directed plans, the early evidence, consistent with the HIE, suggests that higher deductibles reduce total health care use and spending. Two cross-sectional studies of a single employer found lower levels of health spending (including out-of-pocket payments and plan spending) among enrollees in consumer-directed plans than among those in other plans.³¹ However, in one of these, rates of increase in premiums were higher in the consumer-directed than in traditional plans, even though levels of spending were lower in the former. In a recent set of case studies of seven consumer-directed plans with spending accounts, plans reported reduced service use following the introduction of the consumer-directed option (data not shown).³² In addition, six studies shown in Exhibit 4 report lower rates of increase in costs or use in consumer-directed than in other plans.

Anecdotal reports in the trade literature tend to support the view that CDHC helps lower costs. Estimates of at least 10 percent savings relative to expected trends for employers introducing high-deductible plans are typical, with some reporting 20–25 percent savings.³³ Some of these anecdotal reports refer to employer savings and some, to reductions in total health care resources, and it is not always clear which is being reported. In the former case, savings could represent a shift in costs from employer to employee rather than real spending reductions. But on balance, early evidence suggests that CDHC may help lower costs and lower cost increases—although larger studies with rigorous designs are needed to confirm these findings and to establish whether these differences can be sustained.

■ **Quality of care.** Claims that CDHC will encourage patients to reduce inappropriate and unnecessary use instead of making indiscriminant cuts are more problematic. Although the HIE found that greater patient cost sharing reduces use, it also concluded that reductions occurred both in care that is considered efficacious and in services that are less effective.³⁴ There were a few exceptions. Cost sharing reduced use of the emergency room for less urgent problems to a greater extent than for more urgent problems. And cost sharing did not reduce use of care regarded as highly effective for nonpoor children.

Changes have occurred since the HIE that might promote more-appropriate care choices among consumers who have financial incentives to choose wisely. First, many consumer-directed plans include financial incentives to encourage participation in programs such as health risk appraisals, disease management programs to develop self-management skills for chronic diseases, and wellness initiatives. Second, many insurers and employers offer consumer-directed plans that waive or reduce the deductible for preventive care. A 2005 national survey of employers found that 60 percent of employees in a high-deductible plan with an HRA and one-third of those with an HSA had some preventive services paid for before the deductible was met.³⁵ Finally, there are efforts to couple the new plan designs with tools to help consumers make better choices about the health care they use, which we discuss below.

Nonetheless, the evidence about CDHC's effects on quality remains mixed (Exhibit 5).³⁶ Several studies report increased use of preventive care in consumer-directed plans and increased compliance with prescribed treatment regimens. One study also finds that those in such plans are more likely than others to forgo care for less serious health problems but are not more likely than others to forgo

EXHIBIT 5
Comparison Of Quality Indicators And Satisfaction In Consumer-Directed Health Plans And Other Plans

| Source | Comparison populations | Measure | Adjusted | CDHP | Comparison |
|--|--|---|------------------|-------|----------------|
| Quality indicators based on use | | | | | |
| Downey, 2004 | Enrollees in CDHP and other plans, 1 carrier | Increase in use of preventive exams, 2-year | Yes | 23.1% | 8.3% |
| Humana, 2005 | Enrollees in 1 carrier product with CDHP vs. traditional product groups ^a | Compliance indicator ^b | Yes ^a | 76.8 | 62.7 |
| Agrawal et al., 2005 | CDHP enrollees with chronic conditions vs. others with chronic conditions | Report likely to follow condition treatment regimen | No | 55% | 44% |
| Agrawal et al., 2005 | CDHP enrollees vs. others in other products | Report forgone care for not very serious problem | No | 11% | 5% |
| | | Report forgone care for very serious problem | No | 2% | 3% |
| Greene et al., 2005 | Enrollees in CDHP vs. PPO, 1 employer | Report failed to see doctor as needed | Yes ^c | 16% | 11% |
| | | Report failed to get lab test | Yes ^c | 7% | 4% |
| Davis et al., 2005 | CDHP = deductible of \$500+; other = deductible of <\$500 | Report failed to get prescriptions | No | 21% | 17% |
| | | Report failed to see specialist as needed | | 12% | 7% |
| | | Report skipped test or follow-up | | 19% | 10% |
| | | Report failed to see doctor as needed | | 24% | 9% |
| Fronstin and Collins, 2005 | Those in high-deductible plans vs. other plans ^a | Delayed or avoided getting care due to cost | No | 31% | 17% |
| Quality indicators based on patient satisfaction | | | | | |
| Agrawal et al., 2005 | CDHP enrollees before and after CDHP | Satisfied with CDHP | - ^d | 44% | - ^d |
| Fronstin and Collins, 2005 | Those in high-deductible plans vs. other plans ^a | Extremely or very satisfied with plan | No | 34% | 63% |
| Christianson et al., 2004 | CDHP enrollees vs. other plans, 1 employer | Satisfaction index (10 = high satisfaction) | No | 7.46 | 7.55 |

SOURCES: See Note 36 in text.

NOTES: CDHP is consumer-directed health plan. PPO is preferred provider organization.

^a Comparison is for all enrollees with the carrier group, not just those in the CDHP, but does not control for group selection to carrier.

^b Based on the Medication Possession Ratio [*Journal of Managed Care Pharmacy* 6, no. 6 (2000): 499–506].

^c Unadjusted result shown, but adjustment confirmed finding.

^d Not applicable.

needed care. On the other hand, several studies find that those in consumer-directed plans are significantly more likely to adopt cost-saving behavior that might have adverse consequences. Patient satisfaction is also an indicator of quality; Exhibit 5 shows that consumer-directed plan enrollees are less satisfied with their health coverage than those in other types of plans and frequently are less satisfied with their consumer-directed plan than with their previous plan.

The Potential Roles Of Information And Technology

CDHC is predicated on the idea that when choices “hit people in their pocket-books,” people will demand to know more about the cost and quality of their care. So the fact that most consumers don’t know what medical care costs or how to assess quality would seem to represent a major obstacle to CDHC. Surveys of plans in 2003 and early 2004 concluded that only a minority of consumer-directed plans provide comparative price data.³⁷

New sources of information and information tools, however, are appearing. Aetna has begun a pilot program in Cincinnati to report the fees it has negotiated for the most common medical procedures.³⁸ CIGNA has introduced a nationwide plan to provide information about prices for prescription drugs—including patients’ out-of-pocket costs.³⁹

Insurers are arming patients with questions to ask when choosing providers. They are also partnering with health information organizations to provide personalized Web sites that combine health risk assessment tools, personal health records, and health information. In a recent Forrester Research study, a majority of employers reported that they intend to provide employees with information about provider quality.⁴⁰

Just as important, there are indications that consumers in consumer-directed plans are using this information. Enrollees in such plans are more likely than those in comprehensive plans to ask providers about cost, to identify and consider treatment alternatives, and to pay attention to wellness and prevention practices.⁴¹ They are also more likely to check plan coverage before seeking care, discuss costs and options with physicians, ask for less costly drugs, check quality ratings, and ask about service prices.⁴²

Aetna indicates that its consumer-directed plan enrollees access information at twice the rate of other members.⁴³ Those in such plans are more likely to use nurse hotlines to decide whether to seek care or self-treat, more likely to seek out alternative treatment methods, and more likely to choose less expensive and less extensive treatment (such as going to an urgent care center rather than an emergency room).⁴⁴

Nonetheless, consumer-directed plan enrollees feel that they lack sufficient information to support their decisions, particularly in the area of costs.⁴⁵ Less than a sixth of enrollees said that information was available to help them with choices, and only half of those said that they used it to make decisions.⁴⁶

Some plans are using network design to convey information to patients. For example, tiered-provider networks include all or most available hospitals and health systems in their plans, placing them in different tiers with different cost-sharing requirements. This provides consumers with choices while sending signals that not all providers are equally cost-effective.

Still, the information available to consumers about provider cost and performance, and about the effectiveness of treatment alternatives, is sparse. Cost information in particular is difficult for even assertive consumers to extract from providers. Consumers are also handicapped by the lack of standardization in measurement and reporting across providers and treatments.

Similarly, physicians often do not have the information systems they need to help consumers make informed choices. This may be part of the reason why almost half of patients now report that physicians do not involve them in decision making.⁴⁷ Clearly, this situation is a far cry from the patient-centered health care system that is one of the six aims for improving the quality of health care recommended by the Institute of Medicine (IOM).

Given this, there are mounting calls for more and better information technology (IT) for both patients and providers. Supporters of CDHC argue that patient financial responsibility will produce demand for information and even serve as the impetus for comprehensive electronic health records (EHRs). All of this points to the substantial but as yet unrealized potential of IT in the health sector, especially if CDHC continues to grow.

Discussion And Conclusions

The evidence needed to draw firm conclusions about CDHC's overall effects does not yet exist. The evidence to date focuses on early adopters, is limited to selected case studies, often does not control for confounding factors, and in some cases is purely anecdotal. Despite this, experiences to date are consistent with effects predicted by earlier analyses and the HIE findings; they suggest that CDHC is associated with modest favorable health selection, one-time reductions in use and costs, and mixed effects on quality. Nonetheless, more research is needed that examines a broad range of benefit designs, includes sufficient sample to test for different effects of CDHC among vulnerable populations, measures changes in patterns of use, and adopts rigorous analytic techniques and methods that will produce reliable and generalizable conclusions.

■ **Input from experts.** Moreover, the early evidence and the prior literature cannot tell us how stakeholders and policymakers can encourage “consumerism” and spur more fundamental changes in the health care system. To assess this, we interviewed twenty-five people representing insurers, employers, and provider groups who are involved with CDHC. The experts with whom we spoke were unanimous in agreeing that increased consumer engagement is important to improved decision making, adherence, and outcomes and that financial incentives could be important

in bringing about this engagement. But most experts agreed that providing appropriate incentives to physicians is also important.

All experts with whom we spoke agreed that existing IT is inadequate. They cited a need for standardized measures to compare quality among providers; better data-sharing systems; state-of-the-art evidence-based-medicine and technology assessment information; and cost-effectiveness measures. Better measures of quality would aid in network design and support better individual choices. Once such information is available, research needs to continue to assess whether and how it is used and how it affects longer-term cost and quality outcomes.

■ **Policies to promote quality in consumer-directed plans.** We found a striking degree of unanimity among the experts we interviewed about the role that public policy should play. All of them saw CDHC continuing into the foreseeable future, and many cited a need for regulations that allow greater flexibility in plan design to provide incentives for appropriate use and to protect vulnerable populations. Some would like to see regulations that allow HSAs to be paired with benefit designs that permit variation in deductibles or cost sharing, depending on place of service, type of provider choice, and treatment choice. Some employers would like greater flexibility to tailor cost sharing or account contributions to the needs of specific employees, varying amounts based on income or health status. There are indications that such flexibility might soon be forthcoming. A Treasury official recently stated that employers will probably soon be allowed to make contributions to HSAs based on factors such as age and income.⁴⁸

The public sector could also further quality improvements by developing standard metrics for assessing quality. A lack of uniform quality metrics has led to many different systems, rendering comparisons across plans and groups difficult if not impossible.

Valid performance measurement requires the ability to score a provider on a substantial number of events. An important role for government is in facilitating mechanisms to generate the data needed for valid measurement. One approach is to use Medicare data to measure performance, as is occurring in a limited way through pilot projects. Another is to remove legal challenges to releasing data publicly and to pooling data across private insurers that arise from Health Insurance Portability and Accountability Act (HIPAA) concerns. Similarly, steps need to be taken to increase the amount of information available to consumers about prices, to increase the competitiveness of the provider market.

Many experts believe that EHRs have the potential to improve health care quality, promote continuity of care, and help doctors and patients make better choices. They believe that a more aggressive public-sector role is needed to support and promote this development and to find ways to make the return on investment sufficient for small practices to participate. Using the Medicare system to develop incentives to adopt electronic records could be one way to do this.

Finally, some cited a role for the public sector in raising the level of health liter-

acy. About half of all Americans now have difficulty understanding health information, which could affect their ability to obtain high-quality care.⁴⁹ The public sector can help develop measures of health literacy, monitor trends in health literacy, and develop programs and standards for improving health literacy.

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NOTES

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