Consumer-Oriented Health Care Reform Strategies: A Review of the Evidence on Managed Competition and Consumer-Directed Health Insurance

THOMAS C. BUCHMUELLER

University of Michigan

Context: For many years, leading health care reform proposals have been based on market-oriented strategies. In the 1990s, a number of reform proposals were built around the concept of “managed competition,” but more recently, “consumer-directed health care” models have received attention. Although price-conscious consumer demand plays a critical role in both the managed competition and consumer-directed health care models, the two strategies are based on different visions of the health care marketplace and the best way to use market forces to achieve greater systemwide efficiencies.

Methods: This article reviews the research literature that tests the main hypotheses concerning the two policy strategies.

Findings: Numerous studies provide consistent evidence that consumers’ health plan choices are sensitive to out-of-pocket premiums. The elasticity of demand appears to vary with consumers’ health risk, with younger, healthier individuals being more price sensitive. This heterogeneity increases the potential for adverse selection. Biased risk selection also is a concern when the menu of health plan options includes consumer-directed health plans. Several studies confirm that such plans tend to attract healthier enrollees. A smaller number of studies test the main hypothesis regarding consumer-directed health plans, which is that they result in lower medical spending than do more generous plans. These studies find little support for this claim.

Conclusions: The experiences of employers that have adopted key elements of managed competition are generally consistent with the key hypotheses underlying that strategy. Research in this area, however, has focused on only

Address correspondence to: Thomas C. Buchmueller, Ross School of Business, University of Michigan, 701 Tappan Street, Ann Arbor, MI 48109 (email: tbuch@bus.umich.edu).

a narrow range of questions. Because consumer-directed health care is such a recent phenomenon, research on this strategy is even more limited. Additional studies on both topics would be valuable.

Keywords: Health insurance, managed competition, consumer-directed, incentives.

FOR MANY YEARS, CONSUMER-ORIENTED STRATEGIES HAVE BEEN at the center of health policy debates in the United States. In the 1990s, the concept of “managed competition” was the basis of a number of prominent reform proposals, and in the 2000s, the concept of “consumer-directed” health care gained prominence. Although price-conscious consumer demand plays a critical role in both the managed competition and consumer-directed health care models, the two strategies are based on different visions of the health care marketplace and the best way to use market forces to achieve greater systemwide efficiencies. In the managed competition model, consumers choose on the basis of price and quality from a menu of managed care plans. If they are willing to switch from more costly to less costly plans, insurers will have an incentive to reduce costs in order to compete on price. In the consumer-directed model, which is built around high-deductible insurance products, price-sensitive demand for medical services, rather than for insurance, is the key driver. The fundamental idea is that exposing consumers to greater cost-sharing at the time that care is received will lead to economically efficient treatment decisions.

Although neither approach has been enacted as part of a major federal policy in the United States, large employers have adopted key features of the managed competition and consumer-directed models.¹ The experiences of these employers provide important evidence regarding consumers’ health care decisions, which can be used to test the key hypotheses on which these consumer-oriented strategies are predicated. Accordingly, research using data from these real-life examples offers important information for public policy.

This article reviews and synthesizes the research on consumers’ price sensitivity in settings similar to those proposed by advocates of managed competition and consumer-directed health care. For managed

competition, I focused on studies published since the comprehensive review by Scanlon, Chernew, and Lave (1997). The scope of my article is narrower than that earlier review, as it looks at only the effect of price rather than at all determinants of consumer health plan choices. But this emphasis on price is not meant to imply that it is the only variable that does or should matter to consumers' health insurance decisions. Information about the quality of health plans also is critical to the managed competition model. The effects of quality reporting on consumer health care decisions have been reviewed elsewhere (Kolstad and Chernew 2008).

The literature on consumer-driven health care is more recent but is growing rapidly. Here I examine studies that address two questions central to policy debates. The first is whether consumer-directed health plans benefit from favorable risk selection when offered on the same menu as plans with less cost-sharing. The second question is whether enrollment in a consumer-directed plan results in lower health spending relative to that of other plan designs. My review does not include studies that look at more narrow measures of health care utilization—for example, preventive care and “high-priority” versus “low-priority” care—or more subjective outcomes such as enrollees' satisfaction.

My review also is limited to studies published in peer-reviewed journals. I used PubMed, ProQuest, EconLit, the Social Science Citation Index, Google Scholar, and the websites of specific health services and health policy journals to identify potentially relevant articles. My search terms included “managed competition,” “health plan choice,” “consumer-directed health,” and “consumer-driven health,” and the references in and citations to these papers helped me identify other relevant studies. Most of the empirical research in these areas uses data from employer-sponsored health benefit programs that have adopted the main principles of the managed competition or consumer-directed models. The best of these studies are based on clean, natural experiments that allow researchers to isolate the effects of key variables while controlling for other factors that affect consumers' decisions. The principal limitation of studies using such data is external validity. But by synthesizing the results of multiple case studies, it is possible to determine which findings are consistent and robust and to identify open questions that are important topics for future research.

Managed Competition

Basic Principles

In the managed competition model consumers choose from a menu of health insurance options during a periodic open enrollment period. The model is most closely associated with the work of Alain Enthoven (1993b). In his formulation, the plan options consist of integrated delivery systems—for example, vertically integrated managed care organizations, like Kaiser—although for many real-world examples and policy proposals, the menu has a broader range of plan types. The market is regulated by a sponsor—employers in these examples, the government or an independent quasi-governmental agency, such as a “health insurance exchange,” in different reform proposals—that determines the plan choices available to consumers and contributes to the cost of coverage. An important feature of this model is that the sponsor’s premium contribution is set to expose consumers to competing plans’ different costs. In the model’s simplest form, the sponsor contributes a fixed amount based on the premium charged by the least expensive plan in the market. According to this contribution rule, consumers must pay the full incremental cost of their plan choices, which in turn creates an incentive for insurers to control costs in order to compete on price.

The Effect of Price on Health Plan Choices

The success of the managed competition strategy depends on the price elasticity of demand for health insurance. Estimating this elasticity requires data on the menu of insurance options available to a set of consumers, the price of each option, and consumers’ actual choices. To identify the effect of price, we must be able to control for the plans’ benefit design and other factors that may affect choices. Because such detailed information is not available in representative surveys, research in this area uses data from large employers that have incorporated the model’s main elements in their health benefits programs.

The University of California (UC) provides one such “case study.” For many years, the UC’s health benefits program resembled the managed competition model in all important respects but one: the university’s contribution policy (Enthoven 1993a). Its contribution was determined by the premiums charged by the four plans with the greatest number

of UC enrollees. Because this group included a “high option” fee-for-service plan, the amount of the contribution was more than the total premium charged by any of the HMOs. As a result, price was not a factor in the decisions of those consumers inclined to choose an HMO, and those consumers preferring the fee-for-service plan did not face the full incremental cost of selecting it. This changed in 1994, however, when in response to a budget crisis, the UC implemented a fixed dollar contribution. Specifically, the UC’s contribution was set equal to the premium charged by the least expensive plan available statewide; employees were then required to pay the difference between this amount and the full premium for their chosen plan. Because some plans, but not others, increased employees’ premiums, this reform created a good natural experiment for estimating the effect of price on consumers’ demand for health insurance.

The plans chosen during the November 1993 open enrollment period (when the 1994 plans were selected) revealed a highly elastic demand (Buchmueller and Feldstein 1996, 1997). Roughly a third of HMO enrollees facing a price increase of \$20 per month switched insurers, compared with only 5 percent of individuals in plans that remained “free.” The premium increases were greatest for the “high option” plan. Roughly half the employees who were initially enrolled in that plan switched, compared with about 5 percent of those in the most similar free plan, a PPO. The UC employees’ switching behavior in response to the price changes implies an “insurer-perspective” price elasticity of demand of -2.5 (Strombom, Buchmueller, and Feldstein 2002). In other words, a health plan that raised its premium by 10 percent while its competitors held their premiums constant could expect to lose 25 percent of its initial enrollment. Limiting the analysis to employees selecting managed care plans yielded a higher demand elasticity of -5.3 .

Studies based on other employer-sponsored programs obtained comparable results. For example, at about the same time, Harvard University instituted a similar policy change that significantly raised the price of the least tightly managed plan on the menu, a PPO. Cutler and Reber (1998) analyzed the response of employees to the resulting price changes. Their results imply a price elasticity of demand of -2 , which is quite close to the UC results for the most comparable sample. Royalty and Solomon (1999) analyzed data from Stanford University, which at that time offered a menu that included some of the same HMOs available to

UC employees. Their results imply demand elasticities of -2 or greater. An earlier study using data from several Twin Cities (Minneapolis and St. Paul) employers found similar price sensitivity (Feldman et al. 1989).

The Effect on Plans' Premiums

Adopting a fixed dollar premium can reduce health spending by shifting enrollment from more expensive to less expensive health plans. Even more money can be saved if consumers' price-elastic demand leads to more vigorous price competition among the health care plans. Several of the case studies provide evidence of such an effect.

Under the UC's old contribution policy, HMOs participating in the program had little incentive to compete on price. This lack of incentive and the HMOs' pricing behavior changed, however, when the UC moved to the fixed dollar contribution. In the first year of the new policy, the HMOs in the program lowered their premiums in an attempt to be the least expensive plan on the menu, and the plan that had the lowest premium gained significant market share in the first year. As a result, the HMOs reduced their premiums even further in the next two years. Overall, in the first three years that the policy was in effect, these premium reductions and the shift of enrollment away from the more costly indemnity plan resulted in a 24 percent reduction in per-employee spending (Buchmueller 1998). At Harvard, the shift to a fixed dollar contribution also appears to have induced HMOs to compete more aggressively on price. Cutler and Reber (1998) estimated that the change in the contribution policy caused insurers to reduce their premiums by between 5 and 10 percent, depending on the plan. Enthoven and Talbott (2004) argued that Stanford University had similar success with its version of managed competition.

Given the case study nature of these examples, it is impossible to completely disentangle the effects of a fixed dollar contribution or other program specifics from other factors affecting health insurance premiums. The changes in the UC's and Harvard's policies occurred at a time of heightened competition in the health insurance market, so it is likely that they would have benefited from this competition even if they had not altered their programs' incentives. But the fact that premiums fell more for the UC and Harvard than for other employers in their respective markets suggests that when setting premiums, the health

insurers in those programs did take account of the incentives facing consumers.

These case studies provide evidence regarding competition among a set of health plans on the same menu. In the managed competition model, plans also compete to be on the menu in the first place. Vistnes, Cooper, and Vistnes (2001) developed a theoretical model that accounts for both stages of competition. It predicts that premiums will be lower when employers offer a greater choice of plans and provide strong incentives for employees to choose less expensive plans, for example, when they use a fixed dollar contribution policy. The results of their empirical analysis, based on data from a national employer survey, are consistent with both this prediction and the results from the case studies using data from individual employers.

Consumer Heterogeneity and Risk Selection

The price elasticity results just described can be interpreted as representing the average effect of price across all employees in these programs. Because the cost of providing coverage varies substantially among consumers, it is important to understand whether and how price sensitivity varies with individual health risk.

Theoretically, price sensitivity may be correlated with health risk because it is more costly for higher-risk consumers to switch health plans. One reason is that with managed care, switching health insurers often means having to switch medical providers as well. Such changes will be more costly for higher-risk individuals who may be reluctant to switch providers and risk interruptions in care. Similarly, for several reasons, switching costs may be positively correlated with the length of time that an individual has been enrolled in a particular plan. Over time, enrollees develop ties to providers affiliated with the plan, and considering and ultimately choosing a new alternative will entail search costs and uncertainty, factors that will give rise to "status quo bias" in health plan choices (Neipp and Zeckhauser 1985; Samuelson and Zeckhauser 1988). Based on the importance of these switching costs, we would expect the inclination to switch health plans in response to a change in relative prices to decrease with age, the amount of time an individual has been choosing from a menu of plans, and expected health expenditures.

The results from several studies support these predictions. Strombom, Buchmueller, and Feldstein (2002) combined data from the UC's health benefits program with data from a statewide cancer registry and a hospital discharge database in order to estimate separate price elasticities for eighteen different groups of employees, defined according to age, job tenure, and health risk. Although they found significant price effects for all groups, the magnitude of the estimated effects varied considerably. Consistent with the switching-cost hypothesis, the results indicate that young, low-risk employees who had recently joined the university were the most price sensitive and that older, high-risk employees with long job tenure were the least price sensitive. Likewise, in their analysis of data on Stanford employees, Royalty and Solomon (1999) discovered a more elastic demand for younger employees and those describing their health as good or excellent, compared with older employees and those reporting fair or poor health. Beaulieu (2002) detected similar differences in price sensitivity related to age, and Wedig and Tai-Seale (2002) also found that new employees were substantially more price sensitive than those with longer job tenure. Other studies revealed that Medicare-eligible retirees were less price sensitive than were active employees, although price still had a negative and statistically significant effect for this population (Atherly, Dowd, and Feldman 2004; Buchmueller 2000, 2006; Dowd, Feldman, and Coulam 2003).

The link between health risk and price sensitivity has important implications for insurers' strategies, risk selection, and market stability. In most markets, switching costs give established firms in a market an advantage over new entrants. But in the case of health insurance, if those consumers with the greatest "brand loyalty" are also the most expensive to insure, switching costs may have greater benefits for plans that are new to a market. If new entrants know that they will attract relatively less expensive enrollees, they can set lower prices. More generally, the threat of "adverse retention" can increase the incentive to compete on price, as insurers that allow their price to rise relative to the competition will lose market share and their costs will increase as well. Without adequate risk adjustment, this effect can result in a "death spiral" that will drive some plans from the market, thereby reducing the benefits of offering a choice of plans.

This was the result at both the UC and Harvard as well as several other employer groups that have been the subject of academic studies: the Group Insurance Commission of Massachusetts, an organization that

provides insurance for state employees (Altman, Cutler, and Zeckhauser 1998; Cutler and Zeckhauser 1998); the Health Insurance Plan of California (HIPC), a state-sponsored purchasing pool for small employers that was designed according to the principles of managed competition (Yegian et al. 2000); and a large academic employer (Pauly, Mitchell, and Zheng 2007/2008). In all these cases, the least tightly managed plans on the menu were unable to compete on price with the HMOs. As the relatively lower cost enrollees left the higher-cost plans, these insurers had to raise their premiums, which led to a further exodus of enrollees and a further worsening of the risk pool. In several of these examples, those plans offering enrollees a greater choice of provider were driven from the market.

Note that even when certain types of plans attract a disproportionate share of high risks, such adverse selection need not lead to a complete death spiral. As Feldman and Dowd (1991, 2000) showed, the effect of biased selection on the market shares of different types of plans depends on the joint distribution of consumers' health risks and preferences regarding each plan's characteristics. The fact that some plans are relatively more attractive to high-cost enrollees does not by itself guarantee that such plans will be driven from the market. In principle, risk-adjusting premiums to compensate plans that attract more expensive enrollees should further reduce the potential for death spirals. At the time that Harvard and the UC adopted their fixed dollar contribution policies, neither university was using risk adjustment. In contrast, adverse selection occurred in the HIPC and the university analyzed by Pauly, Mitchell, and Zheng (2007/2008) despite the use of risk adjustment.

When adverse selection drives some types of plans from the menu, individuals who value that coverage and are willing to pay the full incremental cost lose the most. Cutler and Reber (1998) estimated that the welfare cost of adverse selection associated with Harvard's adoption of a fixed (community-rated) premium contribution was equal to between 2 and 4 percent of the university's baseline spending on health insurance. In contrast, Pauly, Mitchell, and Zheng (2007/2008) took a more benign view of the similar result in the case they studied. They contend the real story was not that the generous indemnity plan that lost enrollment was an innocent victim of adverse selection but that it had an inefficient and outdated benefit design that consumers no longer valued.

Consumer-Directed Health Plans

Basic Principles

Consumer-directed health plans (CDHPs) combine a high-deductible insurance plan with a tax-free spending account that can be used to pay for expenses incurred before reaching the deductible. The two main types of plans are health reimbursement accounts (HRAs), which were authorized by a 2002 Internal Revenue Service ruling, and health saving accounts (HSAs), which were established in 2003 as part of the Medicare Modernization Act. The main differences between these two models relate to the rules that apply to the spending account. The spending account portion of an HSA can be funded by contributions from either an employer or the employee. Either way, dollars that accumulate in the account belong to the employee and are fully portable if he or she leaves the firm. For an HRA, in contrast, only the employer can contribute to the spending account and also retains ownership of the funds in the account when the employee leaves the firm. Another difference is that HRAs do not need to be coupled with a high-deductible insurance plan. In that sense, an HRA is similar to a flexible spending account (FSA), which is funded by employees' contributions. One important difference between HRAs and FSAs is that HRA funds can be rolled over from one year to the next, whereas money deposited in an FSA is subject to a "use-it-or-lose-it" rule.

The potential savings from CDHPs come from the way that the high-deductible plans and the health savings accounts change consumers' incentives. That is, CDHPs replace the supply-side controls used by managed care plans with demand-side incentives (Robinson 2005). The basic idea is that CDHPs encourage patients to be more prudent purchasers of health care by giving them "skin in the game." Or as Jon Gabel and colleagues put it, whereas managed care controls costs by having a third party (the plan, the physician) say no to patients, consumer-directed plans try to get the patients to say no to themselves (Gabel, LoSasso, and Rice 2002).

Because CDHPs are such a recent phenomenon, the research on employers' experiences with them is limited. So far, the existing literature provides more evidence on who enrolls in these plans than on how the financial incentives in these plans affect health care utilization and spending.

Consumer Choice and Risk Selection

High-deductible plans offer consumers a trade-off between lower premiums and greater exposure to out-of-pocket costs at the time the care is received. The terms of this trade-off vary according to health risk. Younger, healthier consumers are most likely to find it attractive, since their total expected spending—that is, premiums plus out-of-pocket costs—is likely to be lower with a high-deductible plan. For many, this savings will more than compensate for the additional financial risk they bear with a high-deductible plan. In contrast, for older and sicker consumers, high-deductible plans can mean higher expected costs plus greater financial risk. Several studies that simulated out-of-pocket spending under different insurance arrangements concluded that low-risk consumers are more likely to favor plans with a CDHP design and that high-risk consumers are better off financially remaining in plans offering more comprehensive coverage (McNeill 2004; Nichols, Moon, and Wallin 1996; Zabinski et al. 1999). In light of these simulation results, one criticism of CDHPs is that they will lead to adverse selection vis-à-vis other types of plans, which will reduce the degree of pooling in those plans and can destabilize the insurance market (Davis 2004). Some of the early studies of consumer-directed health plans examined whether such plans, in fact, attracted better risks.

Typically, studies in this area analyze the selection that follows the introduction of a consumer-directed plan to the menu of plans in an employer-sponsored health benefits program. They compare the characteristics of those employees who chose the new option with those who remained in the plans that were available previously. In some cases, the comparison is limited to demographic characteristics or information on health status from an employee survey. The stronger studies use claims data to compare utilization before the introduction of the new plan and to identify those individuals with chronic conditions.

In a study using data on employees of the University of Minnesota, Parente, Feldman, and Christianson (2004a) conducted a survey that included a question asking whether the employee or an immediate family member had a chronic condition. Finding no difference in this variable between HSA and HMO enrollees, they concluded that the HSA did not benefit from favorable selection. This result may be explained by the fact that the employees' premium contribution required for the HSA option was actually higher than the cost to them of enrolling in one of

the HMOs. Because there was no financial gain from enrolling in the HSA, there is little reason to expect the plan to attract low-risk enrollees away from the HMO.

Other research suggests that when CDHPs are added to a menu of health plan options, they benefit from favorable selection. One example is another study by Parente, Feldman, and Christianson (2004b) that analyzed data from a firm that introduced a CDHP to a menu already including an HMO and a PPO. Their analysis compared employees who switched from these plans to the newly offered CDHP with those who remained in their existing plan. Because this study used claims data, it provided a stronger test for biased selection than the more limited data available on University of Minnesota employees. Parente and colleagues found that the CDHP enrollees spent 16 percent less the previous year than did the HMO and PPO enrollees. A comparison of these groups using a case mix index also suggests that the CDHP enrollees were healthier than average (although over time, the case mix index for this group worsened relative to the other plans).

Three different studies analyzed the introduction of two CDHPs to Humana Inc.'s employee health benefits program (Fowles et al. 2004; LoSasso et al. 2004; Tollen, Ross, and Poor 2004). Unlike the case of the University of Minnesota, Humana's two consumer-directed plans were the least expensive ones on its menu. In the first year they were available, about 6 percent of Humana employees selected one of the high-deductible plans. Switchers were significantly less likely to have one or more chronic conditions and were more likely to report their health as excellent (Fowles et al. 2004). An analysis of claims data showed that in the previous year, the switchers had lower claims for prescription drugs, physician visits, and hospital care than did other Humana employees (LoSasso et al. 2004; Tollen, Ross, and Poor 2004). Other studies using data from different employers also found that employees who switched to high-deductible consumer-driven plans tended to have higher incomes, better health, and fewer previous medical claims than did those who remained in more comprehensive plans (Barry et al. 2008; Dixon, Greene, and Hibbard 2008; Greene, Hibbard, and Dixon 2006).

Effects on Utilization and Medical Spending

The results of the RAND Health Insurance Experiment (HIE) provide a strong empirical basis for the argument that higher cost-sharing will

result in lower total medical spending (Newhouse 2004). In the HIE, families were randomly assigned to insurance plans that differed in their degree of cost-sharing. At one extreme was a plan with no cost-sharing at all (the “free care” plan), and at the other was a plan with a 95 percent coinsurance rate up to a deductible of \$1,000. Individuals in the high-deductible plan used 25 to 30 percent fewer services than did those in the free-care plan. The high-deductible enrollees had an average of two fewer physician visits and were significantly less likely to be hospitalized. These results were driven by an effect of coinsurance on the decision to seek care, rather than on the cost per episode. Individuals in the high-deductible plan were no more likely than those with more comprehensive insurance to choose providers charging lower fees or to choose a primary care physician rather than a specialist (Marquis 1985).

In the mid-1990s when medical savings accounts were being promoted as a solution to rising health care costs, simulation studies using data from the HIE predicted that a shift to high-deductible plans would reduce health spending by only 4 to 6 percent relative to conventional insurance (Keeler et al. 1996; Ozanne 1996). One reason that these estimated effects are so modest is the well-known fact that every year, a small percentage of high-cost individuals account for the bulk of health care spending (Berk and Monheit 2001). Since most of their spending comes after they have exceeded their deductible, the financial incentives of a consumer-directed plan are largely irrelevant to their behavior.

The savings from switching to a CDHP might be smaller for several reasons. Even at the time these simulation analyses were conducted, the type of unmanaged indemnity insurance held by the HIE participants was on the wane. Today, the relevant benchmark for evaluating consumer-directed health plans is not the traditional insurance of the 1970s but the substantially more efficient managed care plans that now dominate the market. In other words, the relevant question is not the one that was the focus of the HIE—What is the effect of patient cost-sharing?—but whether high deductibles are more effective at controlling utilization than the supply-side techniques used by managed care plans. Also, more and more managed care plans have nontrivial cost-sharing (Reed et al. 2009; Robinson 2002). In addition to higher copayments and deductibles, many plans now use three-tier pharmacy benefits that provide a financial incentive to choose less expensive prescription drugs, which makes it more difficult for consumer-directed plans to produce savings relative to their competition.

Other differences between the HIE's high-deductible plan and contemporary consumer-directed plans may further reduce their ability to reduce health spending. One difference is that with HSAs, out-of-pocket expenditures can be made with pretax dollars. This means that care received before the deductible is met is purchased at a discount: a dollar's worth of medical care costs $1 - t$ dollars, where t is a worker's marginal tax rate. A consistent finding from the early empirical literature on HSAs is that they tend to be favored by higher-income consumers, for whom the tax subsidy is greatest because they face a higher marginal tax rate. Also, for many consumer-directed products, exposure to out-of-pocket costs is further reduced by the fact that preventive care is fully covered before the deductible is reached.

Because of these considerations, the marginal or average price of medical care facing consumers is not always higher under an HSA compared with other types of insurance. Remler and Glied (2006) conducted simulations to determine the out-of-pocket payments that individuals with different levels of total health spending would face under a prototypical HSA and a prototypical PPO. Their results indicated that more people would see a *decrease* in out-of-pocket costs if they switched from a PPO to an HSA than would see their out-of-pocket costs *increase*. Individuals who are unlikely to exceed the deductible of a typical PPO are most likely to see their out-of-pocket costs fall by moving to an HSA, because their out-of-pocket costs receive a tax subsidy under the HSA but not under the PPO.

Because the products are so new, few rigorous studies have looked at how the shift from a managed care plan to a CDHP affects total spending. In one of the studies mentioned earlier, Parente, Feldman, and Christianson (2004b) tried to answer this question by analyzing spending patterns for people enrolled in a CDHP and those enrolled in POS and PPO plans. Recall that their analysis of risk selection in this program indicated that before the new plan option was introduced, those employees who chose the consumer-directed plan had lower-than-average claims. Because of this favorable selection, comparing the level of spending of CDHP enrollees and individuals in other plans tends to overstate the savings caused by the CDHP incentives. Changes in spending for the two groups thus will be more informative.

The results reported by Parente, Feldman, and Christianson (2004b) indicate that spending increased *more* for the CDHP group than for the "control group" of employees who stayed in their original plans.

In fact, two years after the CDHP was introduced, mean expenditures were almost \$1,000 higher than the mean for HMO enrollees and only slightly lower than the mean for the PPO. In a follow-up study, the same authors found that after three years, those individuals in the consumer-directed plan continued to have higher expenditures than did the HMO enrollees (Feldman, Parente, and Christianson 2007). In another article focusing on prescription drug spending, Parente, Feldman, and Chen (2008) found no difference between the CDHP and the other plans.

Although these results contradict the most basic claims made about consumer-directed plans, they are consistent with the arguments outlined here. First, the demand-side incentives embodied in many CDHPs are actually not as strong as implied by the standard rhetoric regarding these plans. For instance, the plan studied by Parente, Feldman, and Christianson (2004b) provides 100 percent coverage for preventive care and only minimal cost-sharing after the deductible. Consistent with the simulations by Remler and Glied (2006), out-of-pocket spending was actually lower in the consumer-directed plan than in the PPO. Second, even though a consumer-directed plan provides strong incentives for price-sensitive utilization decisions, these incentives may be no more effective than the managed care plans' mix of strategies. For example, the analysis by Parente, Feldman, and Chen (2008) of prescription drug spending found that the managed care plans, which use a three-tier pharmacy benefit, were better at promoting the use of generic drugs. Another study by Greene and colleagues (2008) discovered similar rates of generic use for CDHP enrollees and individuals in managed care plans with three-tier drug plans.

Another possible explanation for the finding that spending was higher in the CDHP than in the HMO is that risk selection may not be as simple as the data on case mix and prior expenditure imply. Interest in consumer-directed health care grew in part from dissatisfaction with the way that managed care interfered with the physician-patient relationship. Thus, CDHPs—especially generous ones, as in the case studied by Parente, Feldman, and Christianson (2004b)—might have attracted people who wanted greater freedom in their utilization decisions (e.g., broader provider panels and the ability to self-refer to specialists). Once free from the constraints of managed care, such individuals may have used more medical care than would have been predicted by their utilization under managed care.

Summary of Findings and Directions for Future Research

Multiple studies have found that when health benefits programs are structured to emphasize price differences among competing health plans, employees prefer less costly plans and are willing to switch plans when prices change. Several of these studies reviewed in this article provide suggestive evidence supporting the argument that this price-sensitive consumer behavior leads health plans to compete more vigorously on price. These results are consistent with the arguments made by advocates of the managed competition approach.

Despite this success, the diffusion of this approach has been limited. Most of the research on managed competition uses data from the 1990s, when the managed care plans that are a key feature of the model were ascendant. Although the rise of managed care may have temporarily slowed the growth of health insurance premiums, patients and providers have become disenchanted with the supply-side strategies used by HMOs to control utilization. This “managed care backlash” undermined support for the managed competition strategy and contributed to the rise of consumer-directed health plans.

While well-informed, price-sensitive consumers are at the center of managed competition and consumer-directed health care, the two strategies reflect different views on what is the most appropriate locus for consumer incentives. This difference, however, does not imply that the two approaches are incompatible. Although the managed competition system envisioned by Alain Enthoven involved competition among vertically integrated managed care organizations like Kaiser Permanente, in most real-world examples the menu of options includes a range of plan types, including traditional indemnity insurance, PPOs, and various forms of HMOs. There are no major conceptual barriers to expanding the choice set to include consumer-directed plans. Indeed, the early research on these plans comes from large employers that added HSAs or HRAs to their multiple-option benefits programs. Future research using data from such programs would provide evidence on the willingness to make trade-offs between monthly premiums and various features of plan benefit design. The cases studies that are the basis of the existing literature do not offer sufficient variation in plan features to estimate such effects.

Another competitive approach that combines features of managed competition and consumer-directed health care is competition among

care systems that are tiered on the basis of price, so that consumers are required to pay higher copayments for more expensive care systems. The most prominent examples come from Minnesota: the Buyers Health Care Action Group (BHCAG), which is organized by a coalition of large private purchasers, and the Advantage Health Plan, which is offered to state employees. Much of the research on this model has focused on consumers' use of quality information (Abraham et al. 2006; Feldman, Christianson, and Schultz 2000; Schultz et al. 2001). Research on the effect of price incentives in this setting would be valuable.

An important issue that arises when the menu of health plan options includes different plan types is that certain types will be relatively more attractive to high-risk consumers and that others will attract a healthier-than-average mix of employees. In several of the case studies reviewed here, traditional indemnity or PPO plans experienced adverse selection and were ultimately driven from the menu. The early studies of CDHPs suggest that these plans tended to attract consumers with lower-than-average prior utilization. For this initial selection to translate into a competitive advantage, however, it is necessary that CDHP enrollees continue to use less care than do individuals who opt for plans that entail less cost-sharing. To date, because the evidence on how patients respond to CDHP incentives is limited and because the design of these plans is still evolving, the question of how CDHPs affect risk selection within a multiple option health insurance program still has not been answered.

Both the nature of risk selection and the ability of CDHPs to control spending depend on the details of the plan's design. Although the early studies by Parente, Feldman, and Christianson provide clear evidence on spending differences among the plans in the case they studied, that case may not generalize to other settings. As plan designs change, it will be important to understand how demand-side and supply-side incentives can be combined to encourage the efficient use of medical resources.

Endnote

1. The managed competition strategy has been implemented to a certain extent at the state level. Several states, including California, Massachusetts, and Minnesota, have taken this approach in their state employee benefits programs (Enthoven 1994; Feldman and Dowd 1994; Hill and

Wolfe 1997). In 1993, California also established a purchasing cooperative based on the principles of managed competition as part of broader small group health insurance reforms (Yegian et al. 2000). Since the late 1980s, managed competition has influenced policy developments in the Netherlands, and in 2006, the Dutch government enacted a major health care reform based on the managed competition model (Enthoven and van de Ven 2007).

References

- Abraham, J.M., R. Feldman, C. Carlin, and J. Christianson. 2006. The Effect of Quality Information on Consumer Health Plan Switching: Evidence from the Buyers Health Care Action Group. *Journal of Health Economics* 25(4):762–81.
- Altman, D., D.M. Cutler, and R.J. Zeckhauser. 1998. Adverse Selection and Adverse Retention. *American Economic Review* 88(2):122–26.
- Atherly, A., B. Dowd, and R. Feldman. 2004. The Effect of Benefits, Premiums and Health Risk on Health Plan Choice in the Medicare Program. *Health Services Research* 39(4):847–64.
- Barry, C., M.R. Cullen, D. Galusha, M.D. Slade, and S.H. Busch. 2008. Who Chooses a Consumer-Directed Health Plan? *Health Affairs* 27(6):1671–79.
- Beaulieu, N.J. 2002. Quality Information and Consumer Health Plan Choices. *Journal of Health Economics* 21(1):43–63.
- Berk, M., and A.C. Monheit. 2001. The Concentration of Health Care Expenditure, Revisited. *Health Affairs* 20(2):9–18.
- Buchmueller, T.C. 1998. Does a Fixed Dollar Premium Contribution Lower Spending? *Health Affairs* 17(6):228–35.
- Buchmueller, T.C. 2000. The Health Plan Choice of Retirees under Managed Competition. *Health Services Research* 35(5):949–75.
- Buchmueller, T.C. 2006. Price and the Health Plan Choices of Retirees. *Journal of Health Economics* 25(1):81–101.
- Buchmueller, T.C., and P.J. Feldstein. 1996. Consumers' Sensitivity to Health Plan Premiums: Evidence from a National Experiment in California. *Health Affairs* 15(1):143–51.
- Buchmueller, T.C., and P.J. Feldstein. 1997. The Effect of Price on Switching among Health Plans. *Journal of Health Economics* 16(2):231–47.
- Cutler, D., and S. Reber. 1998. Paying for Health Insurance: The Trade-off between Competition and Adverse Selection. *Quarterly Journal of Economics* 113(2):433–66.
- Cutler, D., and R.J. Zeckhauser. 1998. Adverse Selection in Health Insurance. *Frontiers in Health Policy Research* 1(2):1–31.

- Davis, K. 2004. Consumer-Directed Health Care: Will It Improve Health System Performance? *Health Services Research* 29(S1):1219–34.
- Dixon, A., J. Greene, and J. Hibbard. 2008. Do Consumer-Directed Health Plans Drive Change in Enrollees' Health Care Behavior? *Health Affairs* 27(4):1120–31.
- Dowd, B., R. Feldman, and R. Coulam. 2003. The Effect of Health Plan Characteristics on Medicare+ Choice Enrollment. *Health Services Research* 38(1):113–35.
- Enthoven, A.C. 1993a. Health Care Costs: A Moral and Economic Problem. *California Management Review* 35(2):134–51.
- Enthoven, A.C. 1993b. The History and Principles of Managed Competition. *Health Affairs* 12(S1):24–48.
- Enthoven, A.C. 1994. The Effects of Managed Competition: Theory and Real World Experience. In *Health Policy Reforms: Competition and Controls*, edited by R.B. Helms, pp. 218–27. Washington, D.C.: AEI Press.
- Enthoven, A.C., and B. Talbott. 2004. Stanford University's Experience with Managed Competition. *Health Affairs* 23(6):136–40.
- Enthoven, A.C., and W. van de Ven. 2007. Going Dutch: Managed Competition and Health Insurance in the Netherlands. *New England Journal of Medicine* 357(24):2421–23.
- Feldman, R., J. Christianson, and J. Schultz. 2000. Do Consumers Use Information to Choose a Health Care Provider System? *The Milbank Quarterly* 78(1):47–77.
- Feldman, R., and B. Dowd. 1991. Must Adverse Selection Cause Premium Spirals? *Journal of Health Economics* 10(3):349–57.
- Feldman, R., and B. Dowd. 2000. Risk Segmentation: Goal or Problem? *Journal of Health Economics* 19(4):499–512.
- Feldman, R., and B. Dowd. 1994. The Effectiveness of Managed Competition in Reducing the Costs of Health Insurance. In *Health Policy Reforms: Competition and Controls*, edited by R.B. Helms, pp. 176–217. Washington, D.C.: AEI Press.
- Feldman, R., M. Finch, B. Dowd, and S. Cassou. 1989. The Demand for Employment-Based Health Insurance Plans. *Journal of Human Resources* 24(1):115–42.
- Feldman, R., S.T. Parente, and J.B. Christianson. 2007. Consumer Directed Health Plans: New Evidence on Spending and Utilization. *Inquiry* 44(1):26–39.
- Fowles, J.B., E.A. Kind, B.L. Braun, and J. Bertko. 2004. Early Experience with Employee Choice of Consumer-Directed Health Plans and Satisfaction with Enrollment. *Health Services Research* 39(4, pt. 2):1141–58.

- Gabel, J.R., A.T. LoSasso, and T. Rice. 2002. Consumer-Directed Health Plans: Are They More Than Talk Now? *Health Affairs* (web), no. 2:w395–w407.
- Greene, J., J.H. Hibbard, and A. Dixon. 2006. Which Consumers Are Ready for Consumer-Directed Health Plans? *Journal of Consumer Policy* 29(3):247–62.
- Greene, J., J.H. Hibbard, J.F. Murray, S.M. Teutsch, and M.L. Berger. 2008. The Impact of Consumer-Directed Health Plans on Prescription Drug Use. *Health Affairs* 27(4):1111–19.
- Hill, S.C., and B.L. Wolfe. 1997. Testing the HMO Competitive Strategy: An Analysis of Its Impact on Medical Care Resources. *Journal of Health Economics* 16(3):261–86.
- Keeler, E., J. Malkin, D.P. Goldman, and J.L. Buchanan. 1996. Can Medical Savings Accounts Reduce Non-elderly Health Care Costs? *Journal of the American Medical Association* 275(21):1666–71.
- Kolstad, J., and M. Chernew. 2008. Quality and Consumer Decision Making in the Market for Health Insurance and Health Care Services. *Medical Care Research and Review* 66(1):28S–52S.
- LoSasso, A.T., T. Rice, J. Gabel, and H. Whitmore. 2004. Tales from the New Frontier: Pioneers' Experiences with Consumer-Driven Health Care. *Health Services Research* 39(4, pt. 2):1071–90.
- Marquis, M.S. 1985. Cost Sharing and Provider Choice. *Journal of Health Economics* 4(2):137–57.
- McNeill, D. 2004. Do Consumer-Directed Health Benefits Favor the Young and Healthy? *Health Affairs* 23(1):186–93.
- Neipp, J., and R.J. Zeckhauser. 1985. Persistence in the Choice of Health Plans. In *Advances in Health Economics and Health Services Research*, vol. 6, edited by R.M. Scheffler and L.F. Rossiter, pp. 47–72. Greenwich, Conn.: JAI Press.
- Newhouse, J.P. 2004. Consumer-Directed Health Plans and the RAND Health Insurance Experiment. *Health Affairs* 23(6):107–13.
- Nichols, L., M. Moon, and S. Wallin. 1996. Tax-Preferred Medical Savings Accounts, and Catastrophic Health Insurance Plans: A Numerical Analysis of Winners and Losers. Research report, Urban Institute, April 1.
- Ozanne, L. 1996. How Will Medical Savings Accounts Affect Medical Spending? *Inquiry* 33(3):225–36.
- Parente, S.T., R. Feldman, and S. Chen. 2008. Effects of a Consumer-Driven Health Plan on Pharmaceutical Spending and Utilization. *Health Services Research* 43(5):1542–56.
- Parente, S.T., R. Feldman, and J.B. Christianson. 2004a. Employee Choice of Consumer-Driven Health Insurance in a Multiplan, Multiproduct Setting. *Health Services Research* 39(4, pt. 2):1091–1112.

- Parente, S.T., R. Feldman, and J.B. Christianson. 2004b. Evaluation of the Effect of a Consumer-Driven Health Plan on Medical Care Expenditures and Utilization. *Health Services Research* 39(4, pt. 2):1189–1210.
- Pauly, M.V., O.S. Mitchell, and Y. Zheng. 2007/2008. Death Spiral or Euthanasia? The Demise of Generous Group Health Insurance Coverage. *Inquiry* 44(4):412–27.
- Reed, M., V. Fung, M. Price, R. Brand, N. Benedetti, S.F. Derose, J.P. Newhouse, and J. Hsu. 2009. High Deductible Health Insurance Plans: Efforts to Sharpen a Blunt Instrument. *Health Affairs* 28(4):1143–53.
- Remler, D.K., and S.A. Glied. 2006. How Much More Cost Sharing Will Health Savings Accounts Bring? *Health Affairs* 25(4):1070–78.
- Robinson, J.C. 2002. Renewed Emphasis on Consumer Cost Sharing in Health Insurance Benefit Design. *Health Affairs* (web):w139–w154.
- Robinson, J.C. 2005. Health Savings Accounts—The Ownership Society in Health Care. *Journal of the American Medical Association* 353(12):1199–1202.
- Royalty, A., and N. Solomon. 1999. Health Plan Choice: Price Elasticities in a Managed Competition Setting. *Journal of Human Resources* 34(1):1–41.
- Samuelson, W., and R.J. Zeckhauser. 1988. Status Quo Bias in Decision Making. *Journal of Risk and Uncertainty* 1(1):7–59.
- Scanlon, D., M. Chernew, and J.R. Lave. 1997. Consumer Health Plan Choice: Current Knowledge and Future Directions. *Annual Review of Public Health* 18(1):507–28.
- Schultz, J., K. Thied Call, R. Feldman, and J. Christianson. 2001. Do Employees Use Report Cards to Assess Health Care Provider Systems? *Health Services Research* 36(3):509–30.
- Strombom, B.A., T.C. Buchmueller, and P.J. Feldstein. 2002. Switching Costs, Price Sensitivity and Health Plan Choice. *Journal of Health Economics* 21(1):86–115.
- Tollen, L.A., M.N. Ross, and S. Poor. 2004. Risk Segmentation Related to the Offering of a Consumer-Directed Health Plan: A Case Study of Humana. *Health Services Research* 39(4, pt. 2):1167–88.
- Vistnes, J.P., P.F. Cooper, and G.S. Vistnes. 2001. Employer Contribution Methods and Health Insurance Premiums: Does Managed Competition Work? *International Journal of Health Care Finance and Economics* 1(2):159–87.
- Wedig, G., and M. Tai-Seale. 2002. The Effect of Report Cards on Consumer Choice in the Health Insurance Market. *Journal of Health Economics* 21(6):1031–48.

- Yegian, J.M., T.C. Buchmueller, M.D. Smith, and A.F. Monroe. 2000. The Health Insurance Plan of California: The First Five Years. *Health Affairs* 19(5):158–65.
- Zabinski, D., T. Selden, J.F. Moeller, and J. Banthin. 1999. Medical Savings Accounts: Microsimulation Results from a Model with Adverse Selection. *Journal of Health Economics* 18(2):195–218.

Acknowledgments: The author thanks the Center for Health Care Management and Policy at the University of California Irvine for financial support of this project.