



Changes in Health Care Financing & Organization (HCFO)

findings brief

How Valid are the Assumptions Underlying Consumer-Driven Health Plans?

key findings

- While consumer-driven health plans (CDHPs) do encourage information seeking behavior, these plans attract individuals who are already activated consumers.
- The financial incentives inherent in CDHPs cause consumers to decrease utilization of both high and low priority services.
- Individuals enrolled in high-deductible CDHPs are most likely to discontinue lipid lowering and antihypertensive drugs after enrolling in a CDHP.
- There is no significant difference in initiation of generic drug use across health plans, with the exception of antidepressants.

Overview

As health care costs continue to rise, individuals and payers are finding it increasingly difficult to afford health insurance; over the past decade, employer-sponsored health insurance premiums have increased at a rate greater than inflation and wages.¹ To decrease costs and instill individuals with greater responsibility for their health care decisions and behaviors, an increasing number of employers have opted to offer employees consumer-driven health plans (CDHPs). The majority of these plans are high-deductible health plans paired with either a health savings account (HSA) or a health reimbursement account (HRA) that provide greater cost, quality, and health information. The driving assumptions behind CDHPs are that consumers—faced with greater information and financial incentives—will make more cost-effective decisions.

As an increasing number of employers are offering CDHPs, debate continues as to whether CDHPs are an appropri-

ate and cost-effective insurance product. Proponents of CDHPs believe that the increased price sensitivity inherent in these plans will encourage CDHP enrollees to use information to make more appropriate and cost-effective decisions about their health care, thus lowering overall health care costs. Opponents, on the other hand, believe that increased price sensitivity will cause enrollees to forego necessary medical care. Moreover, to the extent that healthier individuals choose to enroll in CDHPs, there is concern that widespread adoption may cause market segmentation.

To inform this debate and to examine whether the underlying assumptions of CDHPs were true, Judith H. Hibbard, Dr.P.H., professor at the University of Oregon, and colleagues examined whether individuals newly enrolled in a CDHP became more active consumers—seeking information on health, cost, and quality—and made cost-effective decisions about medical care and prescription drug utilization. Hibbard states, “Our goal was to determine whether, if consumers are given incen-



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		PPO		Low-Deductible CDHP		High-Deductible CDHP	
		Individual	Family	Individual	Family	Individual	Family
2004 Annual Premium	Hourly	\$180	\$1,260	\$180	\$1,260	\$84	\$420
	Salaried	\$180-948	\$1,260-3,600	\$180-468	\$1,260-2,600	\$84-192	\$420-1,128
Deductible		\$200 in-network	\$600 in-network	\$1,000	\$2,000	\$1,500	\$3,000
		\$350 out-of-network	\$1,050 out-of-network				
HRA Contribution		N/A	N/A	\$750	\$1,500	\$750	\$1,500
Hospital Co-Insurance	In-network	20%	20%	10%	10%	10%	10%
	Out-of-network	40%	40%	30%	30%	30%	30%
Co-payment		\$15	\$15	N/A	N/A	N/A	N/A
Prescription Drug Co-payments		\$10 generic drugs \$20 preferred brand-name drugs \$30 non-preferred brand-name drugs		N/A	N/A	N/A	N/A

tives, choices, and information to support those choices, they will take charge of their health and health care and make prudent choices.”

Background

Consumer-driven health plans usually consist of high-deductible health plans paired with HSAs or HRAs. Both savings vehicles allow individuals to pay for out-of-pocket expenses on a pre-tax basis. Health reimbursement accounts, however, are owned by employers, who fund the account, while HSAs are owned by individuals and are transferable across jobs. Consumer-driven health plan enrollees pay out-of-pocket until they reach the deductible. Thus, they have greater exposure to medical and pharmaceutical prices, but greater choice in providers and medical procedures. Once individuals reach the deductible cap, they switch to a traditional health plan, which encourages enrollees to remain under the deductible limit. To assist enrollees with their health care decisions, CDHPs provide enhanced informational support on cost, quality, and health.

Although market penetration remains low, a growing number of firms have begun offering CDHPs; the number of firms offering CDHPs increased from 4 percent

in 2005 to 13 percent in 2008.² Larger firms are more likely than smaller firms to offer such plans, and CDHPs may be offered with more traditional insurance products, such as preferred provider organizations (PPOs) or indemnity plans, or as the sole insurance product.³ As CDHPs are less expensive than traditional insurance, CDHPs are sometimes an employer’s final attempt to provide health insurance before discontinuing health insurance benefits.⁴ Given the increased interest in CDHPs, it is important to examine whether these plans promote the use of information and cost-effective utilization of health care services.

Methodology

The researchers conducted a longitudinal survey of employees of a large manufacturing company to evaluate information use and activation, and analyzed employees’ health insurance claims to evaluate cost-effective behavior. The employees studied included both salaried and hourly workers as well as their dependents. In 2004, the employer began offering two CDHP products in conjunction with a PPO plan. While the structure of the CDHPs was identical, one had a high deductible and a lower premium and the other a low deductible and a higher premium. Both CDHPs included

HRAs with employer contributions to cover out-of-pocket expenses. With the exception of preventive care, all medical and pharmaceutical expenses were subject to the deductible. Detail about each plan is shown in the chart above.

To measure self-reported information and health utilization, the researchers administered a survey via telephone and Web in the summer 2004, six months after implementation of the CDHPs, and in the summer of 2005.⁵ Respondents were questioned about their use of health and cost information, health care utilization, and demographics. The researchers collected information on whether: 1) individuals use health and cost information; 2) individuals abjured or delayed medical care to save money (deemed risky behavior); and 3) individuals opted for less expensive medical procedures or switched to generic drugs to save money (deemed cost-effective behavior). The survey administered in 2004 also asked respondents about their use of information and health utilization in 2003 to serve as a baseline for comparison. The researchers used bivariate and multivariate logistic models to determine whether people with a certain plan were more likely to use information and make cost-conscious and risky utilization decisions.

To examine the impact of CDHPs on medication utilization, the researchers used claims and administrative data for employees and dependents who filled a chronic condition prescription in the second half of 2003 and the last 60 days of 2003.⁶ They examined adherence rates, discontinuation rates, and generic utilization for five drug classes before and after CDHP introduction. The researchers used bivariate analysis to examine the relationship between health plan type and adherence rates, discontinuation rates, and generic utilization, and multivariate regression models to examine the change in use controlling for Charlson Comorbidity Index, race, demographics, and employee type.

To examine whether CDHP enrollment encouraged individuals to make cost-effective and evidence-based utilization decisions, Hibbard and colleagues examined medical claims data, assessing utilization trends of high and low priority ambulatory care visits for: 1) those who remained in the PPO from 2003–2005; 2) those who enrolled in a CDHP in 2004; and 3) those who enrolled in the CDHP in 2005. The researchers classified chronic and acute ambulatory care visits as either high or low priority (ie. evidence-based versus less evidence-based) using a classification system developed by Fenton and colleagues (2006), which is based on the Oregon Health Plan's priority list.⁷ This list labels services as either high or low priority depending on their proven/expected value, morbidity, mortality, and/or quality of life. The researchers sorted claims data accordingly and calculated total office visits, high/low priority chronic visits, and high/low priority acute visits for each health plan. Using fixed effects regression models, they evaluated the impact of health plan enrollment on utilization, controlling for all measured and unmeasured individual characteristics. They also examined differences in utilization between low and high-deductible CDHPs.

Results

Information seeking

Overall, CDHP enrollees were more likely than PPO enrollees to use information prior to enrolling in a CDHP and to initiate information seeking behavior once enrolled in the CDHP. Individuals enrolled in the low-deductible CDHP in 2004 were most likely to report using information in 2003 followed by high-deductible CDHP and PPO enrollees, respectively. Only a few respondents indicated that they initiated using information in 2004. Of those who did, most were enrolled in the low deductible CDHP. Individuals enrolled in the PPO were least likely to initiate health and cost information seeking behavior. In 2005, the number of individuals reporting that they began seeking information increased; however, the difference between plans was less pronounced. While overall CDHP enrollees were more likely than PPO enrollees to begin using health information, PPO enrollees were just as likely as low-deductible CDHP enrollees to use prescription drug cost information. High-deductible CDHPs were least likely to use prescription drug cost information. The multivariate analyses confirmed these results.

Risky behaviors

In 2003, about 10 percent of individuals indicated that they postponed or delayed receiving medical care to save money and 18 percent indicated that they did not go to a physician when appropriate to save money. Individuals enrolled in CDHPs were no more likely than those in the PPO to report this behavior prior to the introduction of the CDHPs. In 2004, only a small number of individuals reported initiating risky behavior; those enrolled in the high-deductible CDHP were most likely to report delaying care or abjuring from seeing a physician when appropriate. Low-deductible CDHP enrollees were more likely than PPO enrollees, but less likely than high-deductible CDHP enrollees to report this behavior. In 2005, there was no reported difference in behavior between plans. The results from the multivariate analyses were similar, but found that in 2005, high-deductible CDHP

enrollees were most likely to forgo seeing a physician, followed by low-deductible CDHP enrollees. Interestingly, the multivariate analysis also found that while the likelihood that PPO and low-deductible CDHP enrollees initiated risky behavior was similar in 2004, low-deductible CDHP enrollees were more likely to initiate such behavior in 2005.

Cost-conscious decisions

Prior to the introduction of CDHPs, about 60 percent of respondents reported using generic drugs and only about 5 percent reported choosing less costly diagnostic tests. Individuals who enrolled in the low-deductible CDHP in 2004 were more likely to report using generic drugs in 2003, while those in the high-deductible CDHP were the least likely to report using generic drugs. In both 2004 and 2005, there was no significant difference in the initiation of generic drug use across plans. The majority of health plans incorporate generic substitution into the benefit design; thus, there is little capacity to initiate generic drug use. While the multivariate analysis found that those enrolled in the high-deductible CDHP were more likely than those in the other plans to choose less costly tests, the results were not significant.

Prescription drug utilization

The chronic prescription drug claims analysis supported the survey results, concluding that high-deductible CDHPs do not significantly increase cost-effective and evidence-based behavior. The researchers found that after the introduction of CDHPs, individuals enrolled in the high-deductible CDHP were significantly more likely to discontinue antihypertensives and lipid lowering drugs. The discontinuation rates for hypertensive and lipid lowering drugs for individuals enrolled in the low-deductible CDHP and PPO were similar. In addition, there was no significant difference in adherence rates and generic drug use across plans and drug classes, with the exception of antidepressants. Individuals in all plans increased use of generic antidepressants following CDHP introduction, and this result was greatest for individuals

enrolled in high-deductible CDHPs. Use of antihypertensive generic drugs by individuals enrolled in the PPO and low-deductible CDHP were similar.

Cost-effective, evidence-based behavior

The researchers found that utilization for those enrolled in the PPO remained the same from 2003 to 2005. Those that enrolled in the CDHP in 2004 decreased utilization relative to those in the PPO during the first year of enrollment; however, during the second year, their utilization returned to the baseline. Utilization for those who enrolled in a CDHP in 2005 also decreased. The fixed effects analysis examined changes in utilization between 2004 and 2005, holding 2003 utilization levels constant. Overall, CDHP enrollees were more likely than PPO enrollees in both years to decrease both high and low priority visits; however, the difference in utilization levels was smaller the second year. These findings suggest that CDHPs have their greatest impact on utilization immediately after enrollment.

When comparing utilization by type of CDHP, the researchers found that the difference in utilization between high-deductible CDHP and PPO enrollees was greater than the difference in utilization between low-deductible CDHP and PPO enrollees. Individuals enrolled in the low-deductible CDHP experienced a significant decrease in utilization of both high and low priority visits in 2004 compared to PPO enrollees. In 2005, however, individuals enrolled in the low-deductible CDHP had higher utilization of high-priority chronic care visits than those in the PPO. In 2004, individuals enrolled in the high-deductible CDHP also experienced a decline in utilization of high and low priority visits, which persisted in 2005.

Discussion and Policy Implications

While information seeking behavior increased slightly for those who enrolled in the CDHPs, the low-deductible CDHP attracted individuals who were already acti-

vated or that were likely to become activated. These individuals were more likely to report using health and cost information as well as generic prescriptions prior to enrollment in the CDHP.

This evidence of selection by more activated consumers into a plan that provides enhanced health, quality, and cost information, suggests that CDHPs do not foster consumer activation but provide an environment that supports activated consumers.

Moreover, while CDHP enrollees do respond to the financial incentives inherent in CDHPs, they do not always do so in a cost-effective manner. Both high and low-deductible CDHP enrollees initiated risky behaviors and reduced utilization of high and low priority services; however, these findings were more pronounced for high-deductible CDHP enrollees. Moreover, individuals in the high-deductible CDHP were most likely to discontinue two classes of chronic condition prescription drugs. These results suggest that high-deductible CDHP enrollees are more sensitive to costs and therefore, high-deductible CDHPs may not be an appropriate insurance plan for individuals who require chronic prescription drugs or frequent physician services.

The findings suggest that high-deductible CDHP enrollees are not using informational resources appropriately or require more information to make cost-effective health care decisions. To facilitate evidence-based and cost-effective decision-making, policymakers and health plan administrators could decrease cost-sharing for chronic disease prescription drugs or alter CDHP design to promote the use of evidence-based and cost-effective behavior. Value-based insurance design, which uses financial incentives to steer individuals toward cost-effective and evidence-based care, could encourage individuals to adopt such behaviors.

Conclusion

Evidence supporting the assumptions of CDHPs is mixed. Consumer-driven health plans do not appear to foster consumer activation nor cost-effective choices; however, they do decrease utilization of health care services through greater price exposure. Hibbard states, “Even though CDHPs do not appear to foster activation, they may provide a supportive environment for those who are more activated to better manage their health. Overall, the findings suggest that a more efficient approach may be to move away from generalized financial incentives toward more targeted approaches that only discourage non-evidence-based care.”

For More Information

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Endnotes

- 1 “Trends in Health Care Costs and Spending,” *Fact Sheet*, Kaiser Family Foundation, March 2009. Also see www.kff.org/insurance/upload/7692_02.pdf.
- 2 “2008 Summary of Findings,” *Employer Health Benefits*, Kaiser Family Foundation and Health Research & Educational Trust, 2008.
- 3 Ibid.
- 4 Tynan, A. and J.B. Christianson. “Consumer-Directed Health Plans: Mixed Employer Signals, Complex Market Dynamics,” *Issue Brief*, Center for Studying Health System Change, No. 119, March 2008.
- 5 For more information on the methodology and findings see Dixon, A. et al. “Do Consumer-Directed Health Plans Drive Change in Enrollees’ Health Care Behavior?” *Health Affairs*, Vol. 27, No. 4, July/August 2008.
- 6 For more information on the methodology and findings see Greene, J., et al. “The Impact of Consumer-Directed Health Plans on Prescription Drug Use,” *Health Affairs*, Vol. 27, No. 4, July/August 2008.
- 7 For more information on the methodology and findings see Hibbard, J.H., et al. “Does Enrollment in a CDHP Stimulate Cost-Effective Utilization?” *Medical Care Research and Review*, Vol. 65, No. 4, August 2008.