King County

Metropolitan King County Council
Government Accountability and Oversight Committee

STAFF REPORT

Agenda Item:	7	**Name:**	Nick Wagner
Proposed No.:	2011-B0070	**Date:**	April 19, 2011
Invited:	• Karleen Sakumoto, Project Director, Health Reform Program, Human Resources Division, Department of Executive Services • Kerry Schaefer, Strategic Planner, Benefits Unit, Human Resources Division, Department of Executive Services		

SUBJECT

Executive report on "the feasibility of offering consumer-directed health insurance options, such as health savings accounts and health reimbursement accounts, to King County employees."

SUMMARY

The Executive has submitted the attached report (pp. 11-36 of these materials) in response to the Council's request, in Motion 13343, for a study of "the feasibility of offering consumer-directed health insurance options, such as health savings accounts and health reimbursement accounts, to King County employees."

BACKGROUND

A. Continuing Escalation of Employee Health Benefit Costs

The county's employee benefit costs have risen from $158 million in 2005 to an estimated $222 million in 2010—an average annual increase of about eight percent. Although King County employees are sharing an increasing portion of their health care costs through higher co-payments and deductibles, which took effect in 2010 and are projected to save $37 million from 2010 through 2012, employee benefit costs are expected to continue to rise.

B. Consumer-Directed Health Plans (CDHPs)

Among the cost-reduction strategies that have been adopted by some public and private employers are Consumer-Directed Health Plans (CDHPs), which include Health Savings Accounts (HSAs) and Health Reimbursement Accounts (also known as Health Reimbursement Arrangements) (HRAs). Such accounts usually combine a relatively high-deductible health plan with a tax-advantaged account that enrollees can use to pay for health care expenses.

C. Motion 13343

The Council by Motion 13343 (adopted on 27 September 2010, pp. 41-43 of these materials), asked the Executive to transmit to the Council, by 1 February 2011, a report on "the feasibility of offering consumer-directed health insurance options, such as health savings accounts and health reimbursement accounts, to King County employees" and to include in the report:

1. "Any benefits and risks associated with consumer-directed health insurance options";
2. "Potential implications of federal healthcare reform on the feasibility of implementing a consumer-directed health insurance option";
3. "Analysis of potential cost savings to the county";
4. "Discussion of any impacts to King County employees";
5. "Information on how other cities, counties and states have implemented consumer-directed health insurance options and the savings achieved"; and
6. "A plan and timeframe for potentially implementing a consumer-directed health insurance option to reduce the rate of growth of King County employee healthcare costs."

THE EXECUTIVE'S REPORT

The Executive's report (Legistar No. 2011-RPT0018; pp. 11-36 of these materials) explains CDHPs, addresses feasibility issues, and then responds to the Council's specific requests for information, as described in sections A through F below.

A. What are CDHPs, and how do they work?

The CDHPs that are covered in the Executive's report typically have the following characteristics:

- one of two types of tax-advantaged spending accounts (HSA or HRA), with a rollover of any unused balance to the following year;
- a higher deductible;
- a higher employee coinsurance percentage; and
- a lower premium.

The Executive's report includes a diagram, prepared by Aetna, that depicts the elements of a CDHP (p. 15 of these materials). Those elements are described below.

1. HSA/HRA Fund

The HSA or HRA is funded at the start of each plan year to help pay for eligible out-of-pocket health care costs. HSAs can be funded by the employer or with pre-tax employee funds, or both. HRAs are funded only by the employer. When there is an eligible expense, the fund covers the cost—as long as there are funds available. Unlike

a flexible spending account, which an employee must use or lose each plan year, any remaining balance of an HSA/HRA fund that is not used during the year is rolled over into the next year's fund.[1]

2. Higher Deductible

Expenditures from the HSA or HRA fund count toward the deductible, which is set at an amount substantially higher than the amount of the fund.[2] Once the HSA/HRA fund has been exhausted, the employee must use his or her own money to pay the remaining deductible before the health plan begins making payments.

Under CDHP plans, the deductible is typically higher than under preferred provider organization (PPO) plans; however, preventive care (such as periodic routine physicals and immunizations) does not require the use of HSA/HRA funds, is not subject to the deductible, and is covered 100 percent.

3. Higher Employee Co-insurance Percentage

Once the deductible has been paid, the CDHP begins to resemble a PPO plan, in that the plan pays a percentage of the covered expenses and the employee pays the balance. The employee co-insurance percentage is not required by law to be higher in a CDHP than in a PPO plan, but it is, in fact, higher than the current KingCare co-insurance percentage in both of the "illustrative" examples that are included in Appendix 1 of the Executive's report (*see* pp. 28-29 of these materials).

If the employee's expenditures reach the out-of-pocket maximum for the year, the CDHP from that point on works the same as a PPO plan, in that 100 percent of all covered expenses over the maximum are paid by the plan.

4. Lower Premium Payments

Primarily because of the higher deductible, premium payments in CDHPs are lower than in PPO plans. This creates an incentive for employees to choose CDHPs if they are offered as an option.

5. HSAs vs. HRAs

A detailed comparison of HSAs and HRAs is provided in a table, prepared by the Mercer consulting firm, that is included in Appendix 1 to the Executive's report (*see* p. 30 of these materials).

B. How prevalent are CDHPs in the market?

The Executive's report (at p. 16 of these materials) cites findings that:

[1] There are no limits on rollovers for HSAs; indeed, when an employee reaches retirement age, he or she may use an HSA fund as retirement income.
[2] A high deductible is legally required for an HSA, though not for an HRA.

- The percentage of employers offering CDHPs increased from less than five percent in 2005 to 12-15 percent in 2009;

- Eleven percent of individuals with private health insurance were enrolled in a CDHP in 2009;

- Twelve states offered one or more CDHPs to their employees in 2009;

- A 2010 survey of mid- to senior-level benefits professionals found that 58 percent of participating employers believe that large employers will adopt CDHPs for their active employees.

C. Who chooses to enroll in CDHPs?

The Executive's report includes the following findings about those who are enrolled in CDHPs:

1. Health

The Executive found that "People who choose a CDHP over a non-CDHP are healthier—they used fewer health services in the two years before enrolling in the CDHP, reported fewer health problems and were less likely to smoke or be obese than people who enrolled in non-CDHPs." Transmittal letter, p. 37 of these materials.

2. Consumer engagement

The Executive found that "People enrolled in CDHPs were more likely to exhibit cost-conscious behavior, such as checking whether care would be covered by their plan, requesting generic drugs over brand name, talking with their provider about treatment options and costs, checking prices and developing a budget to manage health care expenses." Transmittal letter, p. 37 of these materials.

3. Other Findings

The Executive also found that CDHP enrollees are significantly more likely than non-enrollees to be "highly educated" and to "defer or avoid medical care—particularly where the enrollee had a household income below $50,000 or had a chronic health condition." *See* p. 18 of these materials.

D. Do CDHPs save money?

In its cost comparison between CDHPs and other health plans, the Executive's report focuses on premium costs (both employer and employee contributions) and relies

primarily on analysis done by Paul Fronstin of the Employee Benefit Research Institute.[3] Fronstin summarizes his key cost findings as follows:

> Generally, premiums for CDHPs were lower than premiums for non-CDHPs. A number of studies have tried to explain the differences in premiums. One found savings ranged from 15.5 percent to a low of –4.7 percent, with average savings of 4.8 percent. However, the study found that most of the savings was due to younger, healthier workers choosing CDHPs and concluded that once typical risk- and benefit-adjustment factors were taken into account, CDHPs saved only 1.5 percent. There is strong evidence that initially CDHP enrollees will be healthier than non-CDHP enrollees, but that over time the CDHP population has a significantly higher illness burden.

Fronstin emphasized the need for further research: "Despite the growing body of evidence on the effect of CDHPs on cost and quality, there are many unanswered questions about these plans."

E. Arguments for and against CDHPs

The Executive's report summarizes arguments of both supporters and critics of CDHPs:

- "Proponents [of CDHPs] contend that the plans help restrain health care spending, arguing that the high deductibles and the ability to carry over balances give employees an incentive to seek lower-cost health care services and to obtain services only when necessary. Thus, they argue, the aggregate decisions of CDHP enrollees would cap costs more effectively than top-down, conventionally managed plans have done." *See* p. 14 of these materials.

- "Critics are concerned that consumers lack the discipline and sophistication to successfully navigate an increasingly complex health care system and understand what care is truly necessary. They also believe these plans may attract healthier employees who use fewer health care services or may discourage employees from obtaining necessary care [which could later result in increased cost if those employees eventually find it necessary to visit emergency rooms or be hospitalized]. There is also a concern that CDHPs are primarily an opportunity for employers to transfer a growing portion of rising costs to employees." *See* p. 14 of these materials.

Another concern that has been expressed about CDHPs is that by using low premiums to induce the healthiest employees to leave other health plans, CDHPs tend to drive up

[3] "What Do We Really Know About Consumer-Driven Health Plans?", Issue Brief No. 345 (August 2010), Employee Benefit Research Institute (http://www.ebri.org/pdf/briefspdf/EBRI_IB_08-2010_No345_CDHP.pdf).

the per-employee cost of the other plans.[4] This has the potential to defeat one of the purposes of insurance, which is to mitigate the financial effects of illness and disease by spreading the cost over the population at large. It also is arguably unfair to employees who happen to suffer from illness or disease through no fault of their own, which would be inconsistent with one of the guiding principles in the county's strategic plan.

Eventually, if CDHPs made other health plans so expensive that they were unsustainable, CDHPs would become the only option, and they would cover all employees, regardless of their health. The question then would be to what extent the cost of CDHPs would be affected by the addition of less healthy employees to their rolls.

F. Responses to the Council's specific requests for information:

The Executive's report responds to each of the Council's six requests for information.

1. "Any benefits and risks associated with [CDHP] options"

The Executive lists the following potential benefits and risks that the county might encounter in offering a CDHP option:

Benefits

- "Nearly all studies of CDHPs show savings, at least in the short term, over traditional PPOs" (p. 21 of these materials).
- "There is evidence (in the studies that that tracked member's actual usage of health care services such as physician office visits, emergency room visits, in-patient and out-patient hospital visits) that health care use is lower for CDHPs than PPOs, although studies also indicate this may be due to healthier people choosing the CDHP" (p. 22 of these materials).
- "There is evidence that people in CDHPs exhibit more cost-conscious and wellness behavior, although it is not clear from the data whether differences in consumer engagement can be attributed to plan design differences or whether various plans designs attract a certain kind of individual" (p. 22 of these materials).

Risks and Issues

- "There is concern that the lower costs of existing CDHPs are due to having healthier populations who would use fewer health care services regardless of the plan they enrolled in" (p. 23 of these materials).

[4] *See* Written Statement of Gail Shearer, Director, Health Policy Analysis, Consumers Union, before the Health Subcommittee, Committee on Ways and Means, U.S. House of Representatives, 14 May 2008 (http://www.consumersunion.org/pdf/HSA-test-051408.pdf).

- "There is some indication in some studies that in response to higher out-of-pocket expenses enrollees avoid both unnecessary and necessary care. In particular, CDHP enrollees who had a household income below $50,000 or had a chronic health condition are more likely than enrollees in traditional plans to delay or avoid medical care" (p. 23 of these materials).[5]

- "It is not clear from the data whether the higher level of consumer engagement in CDHPs can be attributed to plan design differences or whether various plans designs attract a certain kind of individual" (p. 23 of these materials).

2. "Potential implications of federal healthcare reform on the feasibility of implementing a [CDHP] option"

According to the Executive, "There are no specific issues for CDHPs posed by health reform legislation as currently written; in fact, many large employers are considering CDHPs as part of their strategy for addressing the 2018 excise tax.[6] Transmittal letter, p. 38 of these materials.

3. "Analysis of potential cost savings to the county"

According to the Executive, "Cost savings, if any, will depend on the specific CDHP design implemented, characteristics of employees who enroll, and whether CDHPs are offered in addition to, or in place of, existing plans." Transmittal letter, p. 38 of these materials.

4. "Discussion of any impacts to King County employees"

The Executive's report characterizes CDHPs as "a major change in the county's health care offerings" (p. 23 of these materials). According to the Executive, the experience of other employers suggests that the county could expect "considerable resistance to the change," stemming from:

- "the high deductibles associated with CDHP designs, particularly from employees with lower incomes and/or greater numbers of family members covered"; and

- "the more complex nature of CDHPs" – "In order to gain the benefits of a CDHP, participants must track personal accounts; do price research; use

[5] A similar concern was expressed in a recently-published Rand Corporation study, which executive staff brought to the attention of council staff and which is included at pp. 45-53 of these materials.
[6] This refers to the 40% excise tax on high cost ("Cadillac") insurance plans that will go into effect in 2018. The tax is on the cost of coverage in excess of $27,500 (family coverage) and $10,200 (individual coverage), and it is increased to $30,950 (family) and $11,850 (individual) for retirees and employees in high risk professions. The dollar thresholds are indexed with inflation; employers with higher costs on account of the age or gender demographics of their employees may value their coverage using the age and gender demographics of a national risk pool.

online tools; talk to providers about cost and quality; and make decisions about essential and non-essential care."

The Executive points out that "successful CDHPs are resource intensive—they require extensive communication, education and active leadership support; and CDHPs must provide easily accessible and understandable provider-specific cost and quality information." Transmittal letter, p. 38 of these materials.

The Executive also raises the issue of whether the reduced use of health care as a result of additional cost-sharing by employees (e.g., higher deductibles) will have a negative effect on health outcomes, in that, according to findings of the Robert Wood Johnson Foundation's Synthesis Project (p. 25 of these materials):

- "Patients do not accurately discriminate between essential and nonessential services when responding to changes in cost-sharing";
- "People with low income or chronic illness skimp on more essential care than others, resulting in more emergency room visits and hospitalizations"; and
- "CDHPs do not provide high-end medical users with any incentives to control costs once the out-of-pocket maximum is met."

"Given these facts," the Executive's report suggests (p. 25 of these materials):

> [I]n order to ensure enrollees get essential care and support in making more thoughtful choices about less essential care, the health plan design can use a tiered copay system for medical costs similar to the three-tier copay system found in many prescription drug plans. For example, Tier 1 would cover preventive and high-value services at low or no cost. Tier 2 would cover most services the way the current KingCare plan does today. Tier 3 would have additional deductibles, higher copay (for example, two times the regular copay) and higher out of pocket limits designed to reduce the use of preference sensitive or supply-sensitive services but not to impede access to essential care.

"In addition," the Executive suggests, "the health plan should include well-designed case management programs that include Centers of Excellence programs that encourage patients to use facilities with proven track records of high quality, cost effective care for certain conditions, and evidence-based disease management programs, particularly for people with multiple chronic conditions."

5. **"Information on how other cities, counties and states have implemented [CDHP] options and the savings achieved"**

The Executive's response:

- "In 2010 there were 12 states that offered some form of CDHP to their employees. More states are planning to add CDHPs in the future, including Washington. In 2009, the average CDHP participation rate was just over 2 percent." (P. 25 of these materials)

- "The State of Indiana is an exception—two CDHPs have been introduced since 2006; these plans have no premium share and include health savings accounts equal to 55 percent of the deductible; enrollment in 2010 was 70 percent of all employees. Details about the Indiana plan are covered in Appendix 3." (Transmittal letter, p. 38 of these materials)

6. "A plan and timeframe for potentially implementing a [CDHP] option to reduce the rate of growth of King County employee healthcare costs"

The Executive's response: "Implementation of a CDHP must be bargained with the Joint Labor Management Insurance Committee. The Executive intends to start bargaining for the 2013-2015 benefits package [in the] third quarter of 2011." (Transmittal letter, p. 39 of these materials)

NEXT STEPS

CDHPs are one of several health coverage options that the Executive has been assessing and will continue to assess in preparing to negotiate the next countywide benefits agreement with the Joint Labor Management Insurance Committee. The current agreement is due to expire at the end of 2012. When executive staff have completed their ongoing analysis of the available health plan options, they will be in a position to provide councilmembers with a comparative analysis of those options.

ATTACHMENTS

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King County

Consumer Directed Health Plan Feasibility Analysis

Department of Executive Services

2/1/2011

Consumer Directed Health Plan Feasibility Analysis

Introduction

As employee health care costs escalate, King County continues to explore options to improve health outcomes and make more efficient use of health care dollars over the long term by empowering employees to make information-based health and health care decisions. In keeping with that direction, the King County Council adopted Motion 13343 on September 27, 2010, that requests the executive to:

> "…[T]ransmit a report to the council on the feasibility of offering consumer-directed health insurance options, such as health savings accounts and health reimbursement accounts, to King County employees. The report shall identify the consumer-directed health insurance options available to the county and shall include:
>
> - Any benefits and risks associated with consumer directed health insurance options;
> - Potential implications of federal healthcare reform on the feasibility of implementing a consumer directed health insurance option;
> - Analysis of potential cost savings to the county;
> - Discussion of any impacts to King County employees;
> - Information on how other cities, counties and states have implemented consumer directed health insurance options and the savings achieved; and
> - A plan and timeframe for potentially implementing a consumer directed health insurance option to reduce the rate of growth of King County employee healthcare costs."

This report addresses the six requests in the council motion.

Background

Definition of a consumer directed health plan (CDHP)

In general, a consumer directed health plan (CDHP) combines a high deductible medical plan with one of two types of tax-advantaged spending accounts. The intention of this design is restrain the growth in health care costs by encouraging employees to make more informed decisions about their treatment when they become sick or injured, as well as shouldering

greater financial responsibility for their care. CDHPs typically have higher deductibles and lower premiums than do traditional health insurance plans and unused account balances may carry over from year to year.

Debate surrounding CDHPs has grown as more employers offer them to their employees. Proponents contend that the plans help restrain health care spending, arguing that the high deductibles and the ability to carry over balances give employees an incentive to seek lower-cost health care services and to obtain services only when necessary. Thus, they argue, the aggregate decisions of CDHP enrollees would cap costs more effectively than top-down, conventionally managed plans have done. Critics are concerned that consumers lack the discipline and sophistication to successfully navigate an increasingly complex health care system and understand what care is truly necessary. They also believe these plans may attract healthier employees who use fewer health care services or may discourage employees from obtaining necessary care. There is also a concern that CDHPs are primarily an opportunity for employers to transfer a growing portion of rising costs to employees[1].

The first form of CDHP was developed in 2001, when several self-insured employers began offering health reimbursement arrangements[i] (HRAs) under the then-existing tax codes. An HRA is funded and owned by the employer. Typically the employer does not specifically set aside money in individual accounts for covered individuals; instead the employer reimburses employees for eligible expenses from an employer-owned fund. In addition to paying for qualified medical expenses, an employer can allow an HRA to be used to pay for health insurance premiums. The employer can also choose whether the HRA can be rolled over from year to year. There are no IRS requirements on contribution levels. Also, there is no requirement for an HRA to be paired with high-deductible insurance plan, although that is the most common design.

Health savings accounts (HSAs) were authorized by the Medicare Prescription Drug, Improvement and Modernization Act of 2003 and were first offered in 2004. By law, an HSA is owned by the employee and may be used for the payment of current and future medical expenses, or as retirement income. HSAs can be funded on a pre-tax basis by the employee, the employer or both and are held in a custodial trust. HSA funds are fully vested, may be carried over from year to year and are portable. HSAs cannot be used to pay for health insurance premiums except in limited circumstances. HSAs must be paired with an IRS-qualified high deductible insurance plan[ii,iii] and there are limits on the maximum annual contributions allowed.

How CDHPs work

There are three parts to a typical CDHP: the fund (either HSA or HRA), the deductible and the health plan.

> **The fund –** At the start of each plan year the HSA/HRA is funded to help pay for eligible out-of-pocket health care costs. When there is an eligible expense, the fund covers the enrollee's share of the cost — as long as there are funds available. Any remaining balance not used during the year is rolled over into the next year's fund.

[i] Sometimes called health reimbursement accounts.

[ii] For 2010, a self-only high deductible health plan (HDHP) must have a deductible of at least $1,200 and a maximum out-of-pocket limit of $5,950. Family HDHPs must have deductibles of at least $2,400 and maximum out-of-pocket limits of not more than $11,900.

[iii] HDHPs are also called "HSA-eligible" plans and can be offered with or without an HSA.

The deductible - The deductible is an amount that must be paid before the health plan begins to pay for most of the eligible expenses. As the HSA/HRA fund is used, the payments reduce the deductible. Note that in the typical design the annual contribution to the fund is *less* than the annual deductible; for example, the HSA/HRA plan might have a $1,500 deductible, and a $500 employer-funded HSA/HRA. If the member's expenses exceed the $500 fund, the member pays the remaining $1,000 to meet the deductible. If the member does not spend the entire fund in one year, the unspent amount can be rolled over and used in subsequent years. (Note: there is no limit to rollovers for HSAs, but there may be limits to rollovers in an HRA.)

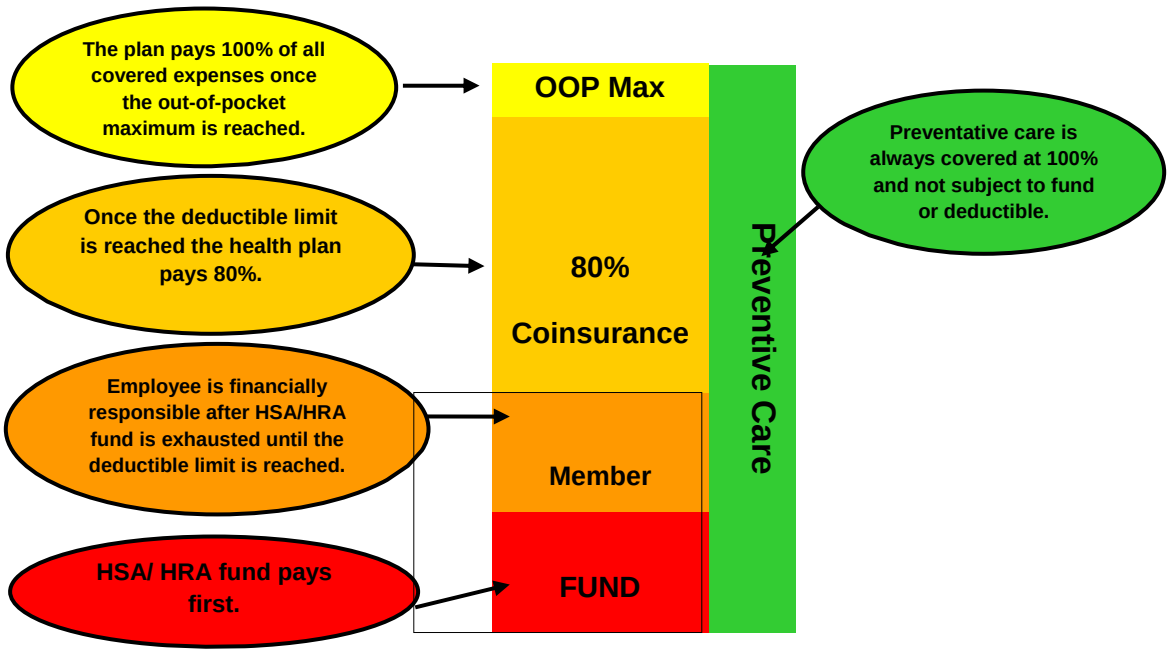
The health plan - When the deductible is met, the health plan pays for most of the eligible expenses just like a standard PPO plan with coinsurance. Most CDHPs now include two important member protections:

- ***Preventive care***. From day one, preventive care (such as routine physicals and immunizations) is covered at 100%. The member does not use the HSA/HRA to pay for these services. (Note: the Patient Protection and Affordable Care Act requires certain preventive care services to be covered at 100 percent in all health plans.)
- ***Out-of-pocket maximum.*** Members are protected by a limit on how much they pay in a year. If expenses reach this limit, remaining eligible expenses will be covered at 100% for the rest of the plan year.

In the CDHP illustrated in Figure 1 below, the health plan benefit has an 80 percent coinsurance on covered services.

Figure 1

Illustration of General Consumer Directed Health Plan Design



Source: Aetna

A more detailed summary of HSAs and HRAs is included in Appendix 1.

Prevalence of CDHPS in the market

In his 2010 report, "What Do We Really Know About Consumer-Driven Health Plans", Paul Fronstin of the Employee Benefit Research Institute (EBRI) reviewed estimates of numbers of employers offering CDHPs and numbers of enrollees made by the Kaiser Family Foundation, Mercer, America's Health Insurance Plans, the Association of Preferred Provider Organizations, the Consumer Driven Market Report and the EBRI/MGA Consumer Engagement in Health Care Survey to determine the prevalence of CDHPs in the market place. Fronstin concludes that "[E]mployers offering CDHPs increased from less than 5 percent in 2005 to between 12-15 percent by 2009" and "Overall, 19.1 million, or 11 percent of individuals with private insurance, were enrolled in a CDHP in 2009."[2] In 2009, 12 states offered one or more CDHPs to their employees.

Looking to the future, a 2010 Towers Watson survey of 650 mid- to senior-level benefits professionals regarding health care reform found that 58 percent of participating employers believe that health care reform will drive large employers to adopt replacement CDHPs for their active employees.[3]

Participant preferences between HRAs and HSAs

Fronstin notes that research shows that when employees are offered a choice between an HRA and an HSA, they are more likely to choose the HRA. He speculates that employees might be more likely to choose the HRA because they do not have to contribute their own money. [4]

Findings

Who chooses to participate in a CDHP—Characteristics of CDHP Enrollees

A long-standing concern regarding CDHPs has been whether they generate "adverse selection"—that is, people who perceive they will need less care will be attracted by the lower premiums relative to the higher out-of-pocket expenses of CDHPs, while people who perceive they will need more care may be more likely to focus on the potential higher out-of-pocket costs relative to the premium savings. As a result, CDHPs could end up with a disproportionate number of people in relatively good health, while more comprehensive benefit plans end up with a disproportionate number of people in relatively poor health. This difference in health status among enrollees would in turn affect the claims costs for CDHPs as compared with other products, and also affect premiums unless they are adjusted to reflect the risk differences between enrollees in the different products.

There is, in fact, strong evidence that the population enrolled in CDHPs is different from the population enrolled in more traditional coverage, at least initially. For example, the GAO, in its 2010 report, "Consumer Directed Health Plans: Health Status, Spending, and Utilization of Enrollees in Plans Based on Health Reimbursement Arrangements" notes that, "Our review of published studies generally found that HRA and other CDHP enrollees tend to be healthier than enrollees in traditional plans. Specifically, of the 21 studies that assessed health status of HRA

and other CDHP enrollees, 18 found that they were healthier than traditional plan enrollees based on utilization of health care services, self-reported health status, or the prevalence of certain diseases or disease indicators."[5]

The GAO study went on to report that in the specific study of one public employer and one private employer it found that, on average, enrollees in the HRA groups of both employers spent less and generally used fewer health care services before they switched into the HRA in 2003 than those who remained in the PPO, suggesting that the HRA groups were healthier. The average annual spending per enrollee for the public employer's HRA group was $1,505 lower than the PPO group for the 2-year period prior to switching, and the average annual spending per enrollee in the private employer's HRA group spent $566.[6]

In the 2010 EBRI report on CDHPs results, Fronstin lists a number of other studies that indicate that employees with self-reported excellent or very good health were significantly more likely than those with worse self-reported health to choose a CDHP, and those reporting greater utilization were significantly less likely to choose a CDHP.[7]

In terms of specific health behaviors, the 2010 EBRI survey on consumer engagement found that adults in CDHPs were significantly less likely to smoke than were adults in traditional plans, and were less likely to be obese.

In summary, people who choose CDHPs are healthier:

- People in CDHPs, on average, used fewer health care services then people in non-CDHPs in the years immediately prior to enrolling in a CDHP.
- Adults in CDHPs were significantly less likely to have a health problem than were adults in traditional plans.
- Adults in CDHPs were significantly less likely to smoke than were adults in traditional plans, and they were significantly more likely to exercise.
- People in CDHPs were also less likely to be obese compared with adults enrolled in a traditional health plan.

Consumer engagement differences between CDHP and non-CDHP enrollees

Controlling costs is one major goal for CDHPs; encouraging employees to make better informed decisions about their health and health care choices is the second goal. In EBRI's 2010 consumer engagement survey", Fronstin found that compared to enrollees in traditional plans, enrollees in CDHPs were more likely to exhibit a number of cost-conscious and wellness behaviors.[8] For example,

- CDHP enrollees were more likely to say that they had checked whether their plan would cover care; asked for a generic drug instead of a brand name; talked to their doctor about treatment options and costs; developed a budget to manage health care expenses; and used an online cost-tracking tool.

- When provided cost and quality information, CDHP and non-CDHP enrollees were equally likely to report that they made use of the information. However CDHP enrollees

were more likely to try to find information about their doctor's cost and quality from sources other than the health plan.

- CDHP enrollees were more likely than traditional plan enrollees to take advantage of the health risk assessments and health promotion programs.

- Although CDHP enrollees were more likely than traditional plan enrollees to report that they would be interested in using select networks of high-quality doctors when combined with lower cost sharing, when it came to switching doctors if their doctor was not in the network, there was no difference by plan type.

Finally, the EBRI study of consumer engagement concludes that "It is not clear from the data whether differences in consumer engagement can be attributed to plan design differences or whether various plans designs attract a certain kind of individual."

In summary, with regards to consumer engagement, CDHP enrollees:

- Exhibit more cost-conscious behavior, such as checking whether care would be covered by their plan, requesting generic drugs over brand name, talking with their provider about treatment options and costs, checking prices and developing a budget to manage health care expenses.
- Are more engaged in health risk assessments and health promotion programs.

Other significant differences between CDHP and non-CDHP-enrollees

The EBRI consumer engagement survey also found that compared to non-CDHP enrollees, CDHP enrollees are also significantly more likely to

- Be highly educated.
- Defer or avoid medical care—particularly where the enrollee had a household income below $50,000 or had a chronic health condition.[9]

Cost comparisons between CDHPs and non-CDHPs

The cost of offering a CDHP includes premium costs (both employer and employee contributions) and employer contributions to HSAs. These costs do not include employer cost for HRAs, as those are notional accounts[iv] and are not funded. Fronstin reviewed the average growth in premiums reported by the Kaiser Family Foundation for HRAs, HSA-eligible, and non-CDHP plans for employee-only coverage. He found that in each year during 2005-2009, premiums for HRA-based plans and HSA-eligible plans were below premiums for non-CDHPs. Between 2006 and 2008, premiums for HSA-eligible plans increased less than premiums for non-CDHPs.[10]

[iv] An HRA is an IOU that an employer gives to each eligible employee; the employee can turn that IOU into cash only by incurring certain health plan out-of-pocket expenses.

However, as Fronstin notes, using premiums from the Kaiser study does not control for other factors that might be affecting premiums. For example, the CDHP population could be healthier, as discussed in the previous section, which might be reflected in the respective costs. Also, the cost experience an employer sees may depend upon whether the CDHP is offered alongside other plans or is a full replacement.

Fronstin then discusses several CDHP studies from insurance carriers that report "standardized" results. Below are excerpts from Fronstin's analysis of these studies[11]:

> **Cigna:** Cigna has received considerable attention regarding its 2009 study comparing its CDHPs to its non-CDHPs. In this study Cigna created a standard index that accounts for differences in health status mix in order to more accurately compare the experience across all types of plans. This study showed that in each of the four years after the introduction of the CDHPs, costs increased faster for the non-CDHP groups than for the CDHP groups.
>
> However, after careful review of the data, Fronstin raises several questions about the study's results and conclusions. For example, he notes that:
>
> > "[A]n important question that is not addressed in the report is why the cost trend is increasing for the CDHP group, when the cost trend is decreasing for the non-CDHP group. If these trends continue on the almost straight-line path they are taking, after another five or seven years, CDHP costs will be increasing faster than non-CDHP costs. CDHP costs will still be below non-CDHP costs, but with CDHP costs growing faster than non-CDHP costs, it is only a matter of time before those costs are comparable again."
>
> In addition, he says:
>
> > "The Cigna study raises a number of other questions. First, the study uses data from 425,000 HMO and PPO enrollees. Yet the chart that compares CDHP and non-CDHP costs is labeled "Projected Costs." It is unclear how projected costs differ from actual experience. Second, Cigna excludes all claims above $50,000 and capitated services from its study. It is unclear from the study if excluding these claims changes the differences in costs and cost trends between CDHPs and non-CDHPs. According to Employee Benefit Research Institute estimates from the 2006 Medical Expenditure Panel Survey, only 0.5 percent of adults ages 18−64 incurred $50,000 or more in health care claims that year, but those claims accounted for about 14 percent of total claim costs. HSA-eligible plans have statutory maximum out-of-pocket limits. In 2010, the maximum out-of-pocket limit was $5,950 for individual coverage and $11,900 for family coverage. In contrast, 41 percent of HMO enrollees, 14 percent of PPO enrollees, and 19 percent of point-of-service plan enrollees did not have an out-of-pocket limit in 2009. Hence, cost sharing may differ substantially for very high users of health care services by plan type. Ultimately, understanding how high-cost claims affect overall cost differences is important, especially when cost sharing faced by individuals with high cost claims varies by plan type."
>
> **Aetna:** Aetna presents separate analysis for employers that offer a CDHP as an option and for those that provide the CDHP as the only option. Where the CDHP is the only

option, costs decline in the first year then increase. Aetna projects that PPO costs would have increased every year for a total of 43 percent over 5 years. The cost increase for the CDHP over those same 5 years was 31 percent. However the cost increase for the CDHP in years two, three and four is higher than the projected growth rate for the PPO. It is not until year five that the CDHP costs increase slower than expected PPO costs The projected PPO cost increases ranged from 6.7 percent to 8.2 percent over the five-year period, whereas actual CDHP cost increases were negative year one and then ranged from 4.3 percent to 16.2 percent.

As for employers who offered CDHP as one of a number of health coverage options, the CDHP increased every year, but the actual increase was less than projected PPO costs for the same population. After five years CDHP costs were up 34 percent, while the projected cost increase for the population, had it remained in a PPO, was 44 percent. Year by year increases in the CDHP was at or lower than the increase projected for the PPO.

UnitedHealthcare: The five-year comparisons between its PPO and its HRA-based plan found first year costs in the HRA were 10 percent higher than those in the PPO, thereafter the CDHP realized savings every year over the PPO.

Milliman: Fronstin notes: **"**Actuaries at Milliman studied six employers with roughly 225,000 workers, 30,000 of whom were enrolled in a CDHP. The Study found actual savings ranged from a high of 15.5 percent to a low of -4.7 percent. Average savings was 4.8 percent. *However, the study found that most of the savings was due to the fact that younger, healthier workers choose CDHPs and concluded that once typical risk- and benefit-adjustment factors were taken into account, CDHPs saved only 1.5 percent*. [Emphasis added]."

Research conducted by other groups reach similar conclusions:

GAO: The GAO conducted a detailed review of published studies of CDHPs and an in-depth analysis of result from two HRA plans—one offered by a public employer and one offered by a private employer. In a high-level summary of the results the report notes:

> For the public and private employers we reviewed, health care spending and utilization of health care services for the HRA groups generally increased by a smaller amount or decreased compared with the PPO groups, from the period before to the period after switching. Additionally, the majority of the studies we reviewed that examined total or medical spending and controlled for differences in health status or other characteristics of enrollees reported lower spending among enrollees in HRAs and other CDHPs relative to traditional plans.[12]

Summary of costs across studies:

- Both total cost to the employer and year-over-year cost increases are generally lower for CDHPs compared to non-CDHPs, at least for periods of up to five years.
- The Milliman study found that savings ranged from 15.5 percent to a low of -4.7 percent with an **average savings of 4.8 percent.**
- However Milliman also found that most of the savings were due to younger, healthier employees choosing CDHPs and concluded that **once typical risk- and benefit-adjustments were taken into account, CDHPs saved only 1.5 percent.**
- Both the EBRI studies and the GAO study note is strong evidence that initially CDHP enrollees will be healthier than non-CDHP enrollees, but over time the CDHP population has a significantly higher illness burden. This, coupled with the EBRI finding that CDHP enrollees who have household incomes less than $50,000 and/or who have chronic illnesses tend to avoid or defer medical expenses, leads EBRI study to conclude that **eventually CDHPs are likely to cost more than PPOs**

Case Studies

See Appendix 2 *Results from the GAO study of CDHPs, 2010* and Appendix 3 *Results from the State of Indiana CDPH* for specific public sector case studies.

Applying Marketplace Experience to King County

The Council motion asks for CDHP options available to the county. As an employer, the county is permitted to offer one or more CDHPs in addition to, or in replacement of, the existing PPO and HMO plans. The choices the county makes regarding CDHP will affect the benefits and risks.

The responses to the six specific points covered in the Motion are listed below.

1. **Any benefits and risks associated with consumer directed health insurance options;**

   Below is a brief summary of potential benefits and risks the county might encounter in offering a CDHP option.

   Benefits:

   - ***Nearly all studies of CDHPs show savings**, **at least in the short term, over traditional PPOs.***

- Both total cost to the employer and year-over-year cost increases are generally lower for CDHPs compared to non-CDHPs, at least for periods of up to five years.
- **The Milliman study found that savings ranged from 15.5 percent to a low of -4.7 percent with an average savings of 4.8 percent.**
- However Milliman also found that most of the savings were due to younger, healthier employees choosing CDHPs and concluded that **once typical risk- and benefit-adjustments were taken into account, CDHPs saved only 1.5 percent.**
- There is strong evidence that initially CDHP enrollees will be healthier than non-CDHP enrollees, but over time the CDHP population has a significantly higher illness burden. This, coupled with the EBRI finding that CDHP enrollees who have household incomes less than $50,000 and/or who have chronic illnesses tend to avoid or defer medical expenses, means that **eventually CDHPs are likely to cost more than PPOs**

See the case study for the State of Indiana in Appendix 3 as an example of a CDHP program that has been successful in its first four years of operation.

- ***There is evidence (in the studies that tracked member's actual usage of health care services such as physician office visits, emergency room visits, in-patient and out-patient hospital visits) that health care use is lower for CDHPs than PPOs, although studies also indicate this may be due to healthier people choosing the CDHP.***

  - People in CDHPs, on average, used fewer health care services then people in non-CDHPs in the years immediately prior to enrolling in a CDHP.
  - Adults in CDHPs were significantly less likely to have a health problem than were adults traditional plans.
  - Adults in CDHPs were significantly less likely to smoke than were adults in traditional plans, and they were significantly more likely to exercise.
  - People in CDHPs were also less likely to be obese compared with adults enrolled in a traditional health plan.

- ***There is evidence that people in CDHPs exhibit more cost-conscious and wellness behavior, although it is not clear from the data whether differences in consumer engagement can be attributed to plan design differences or whether various plans designs attract a certain kind of individual.***

  - CDHP enrollees exhibit more cost cost-conscious behavior, such as checking whether care would be covered by their plan, requesting generic drugs over brand name, talking with their provider about treatment options and costs, checking prices and developing a budget to manage health care expenses.
  - CDHP enrollees are more engaged in health risk assessments and health promotion programs.

Risks and issues:

As noted above, studies of existing CDHPs indicate that each of the benefits includes an inherent risk.

- ***CDHPs have been in existence for a relatively short time and cover relatively few, generally healthier, more educated people. It is not clear if initial savings found in most studies will continue.***

    - There is concern that lower costs existing CDHPs are due to having healthier populations who would use fewer health care services regardless of the plan they enrolled in.
    - There is some indication in some studies that in response to higher out-of-pocket expenses enrollees avoid both unnecessary and necessary care. In particular, CDHP enrollees who had a household income below $50,000 or had a chronic health condition are more likely than enrollees in traditional plans to delay or avoid medical care.
    - It is not clear from the data whether the higher level of consumer engagement in CDHPs can be attributed to plan design differences or whether various plans designs attract a certain kind of individual.

2. Potential implications of federal healthcare reform on the feasibility of implementing a consumer directed health insurance option;

The PPACA regulations that would affect a new CDHP created by the county are the same as for any other health plan design, and thus there is no specific negative impact. HRAs may get a boost under the PPACA once the Secretary of H. H. S. completes the standards and mandates for "essential benefits" as required by the PPACA.

As noted in the report, a 2010 Towers Watson survey indicates that survey of 650 mid- to senior-level benefits professionals regarding health care reform found that 58 percent of employers believe that health care reform will drive large employers to adopt replacement CDHPs for their active employees as a way to address the excise tax implications in 2018.

3. Analysis of potential cost savings to the county;

Potential cost savings are dependent on the specific plan design(s) implemented and whether the CDHP(s) are offered in addition to, or as a replacement for, the existing PPO and HMO plans. For example, the county could offer a PPO, an HMO and a CDHP; or a CDHP and an HMO; just a CDHP; or other combinations of plans.

4. Discussion of any impacts to King County employees;

The introduction of a CDHP will be a major change in the county's health care offerings. Experience from other employers who have implemented CDHPs show that there is considerable resistance to the change—particularly given the more complex nature of CDHPs. The resistance is further driven by the introduction of new concepts around price research, use of online tools and the need to have discussion with providers around cost and quality. There is also considerable complaint about the high deductibles associated with CDHP designs, particularly from employees with lower incomes and or greater numbers of family members covered. Finally, there is research that indicates the relatively "blunt

instrument" approach to shifting more costs to employees used by CDHPs has some unintended consequences.

These points are discussed in more detail below.

- ***CDHPs are, by their nature, complex.***
  Members must understand an entirely new formula for cost sharing on the deductible, and be able to track their account balances. To benefit the most from the CDHP, they must grapple with new concepts around price research, use of online tools, and the need to have discussion with providers around cost and quality.

  To reduce the impact of the very high deductibles, many CDHPs offer health promotion programs where members can earn additional dollar credits to their account balances. Although these programs help reduce the impact of deductibles for members at all income levels, they add even more complexity to explaining how the plan works and how participants can best use resources when choosing health care.

- ***Successful implementation and operation of a CDHP is resource intensive***

  - ***Participants will need easily accessible and understandable provider-specific cost and quality information.*** Every effort needs to be made to provide accurate and complete cost and quality information, out-of-pocket cost calculators for employees and treatment decision tools. The most effective way to provide these tools to members is on-line—***thus the county will need to expand computer access (especially for employees who work in the field, such as transit operators and truck drivers) and training to all employees, so that they can participate effectively in any CDHP offerings.***

  - ***Active leadership support and extensive employee education and communication are critical to the successful implementation of a CDHP.*** A recent survey regarding employer-sponsored CDHPs conducted by Watson Wyatt Worldwide and RAND notes that 90 percent of employers that offer CDHPs cited employee communication as their greatest challenge in introducing the CDHP.

    Employers reporting successful CDHPs also point to a high visibility role for their leadership. For example, Indiana Gov Mitch Daniels and his family sent signal to state employees by being the first in Indiana's state government to open a state HSA. In addition, the governor's office sent state employees a personal letter outlining the benefits of consumer directed health plans, encouraging them to look closely at this option. Indiana started their information campaign in 2005 for the CDHP plan that was implemented 2006, and held hundreds of seminars statewide to explain the new program.

- ***The cost-sharing aspects of CDHPs, in and of themselves, may not be the most effective means of stemming the growth of health care costs.*** The Robert Wood Johnson Foundation's Synthesis Project[13] recently examined how cost-sharing affects the use of services, whether some patients are more sensitive to cost-sharing than others, and whether reduced use of services as a result of cost-sharing has an effect on health outcomes. Specifically, the Project found:

- Patients do not accurately discriminate between essential and nonessential services when responding to changes in cost-sharing.
- People with low income or chronic illness skimp on more essential care than others, resulting in more emergency room visits and hospitalizations.
- CDHPs do not provide high-end medical users with any incentives to control costs once the out-of-pocket maximum is met.

Given these facts, in order to ensure enrollees get essential care and support in making more thoughtful choices about less essential care, the health plan design can use a tiered copay system for medical costs similar to the three-tier copay system found in many prescription drug plans. For example, Tier 1 would cover preventive and high-value services at low or no cost. Tier 2 would cover most services the way the current KingCare[SM] plan does today. Tier 3 would have additional deductibles, higher copay (for example, two times the regular copay) and higher out of pocket limits designed to reduce the use of preference sensitive or supply-sensitive services but not to impede access to essential care. Examples of service that might be placed in Tier 3 include emergency room visits; arthroscopy; hip and knee replacement; magnetic resonance imaging, computed tomography, and positron emission tomography scans; upper endoscopy; and spinal surgery. (Examples based on the value-based insurance design recently negotiated with State of Oregon public employees.)[14]

In addition, the health plan should include well-designed case management programs that include Centers of Excellence programs that encourage patients to use facilities with proven track records of high quality, cost effective care for certain conditions, and evidence-based disease management programs, particularly for people with multiple chronic conditions.

5. Information on how other cities, counties and states have implemented consumer-directed health insurance options and the savings achieved; and

In 2010 there were 12 states that offered some form of CDHP to their employees. More states are planning to add CDHPs in the future, including Washington. In 2009, the average CDHP participation rate was just over 2 percent; in contrast, in 2010 the CDHP participation rate in the State of Indiana is over 70 percent. Only 3% have opted to switch back to a standard PPO offering after enrolling with an HSA. Please see the case study for the State of Indiana in Appendix 3.

6. A plan and timeframe for potentially implementing a consumer-directed health insurance option to reduce the rate of growth of King County employee healthcare costs."

Implementation of a CDPH must be bargained with the Joint Labor Management Insurance Committee. The Executive intends to start bargaining for the 2013-2015 benefits package third quarter of 2011.

Endnotes

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[8] See http://www.ebri.org/pdf/briefspdf/EBRI_IB_12-2010_No352_CEHCS.pdf

[9] See http://www.ebri.org/pdf/briefspdf/EBRI_IB_12-2010_No352_CEHCS.pdf

[10] See http://www.ebri.org/publications/ib/index.cfm?fa=ibDisp&content_id=4612

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[14] Kapowich, Joan M. Oregon's Test Of Value-Based Insurance Design In Coverage For State Workers *Health Affairs*, 29, no.11 (2010):2028-2032 http://content.healthaffairs.org/content/29/11/2028.full.html

Appendix 1

MERCER

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Consulting. Outsourcing. Investments.

October 19, 2010

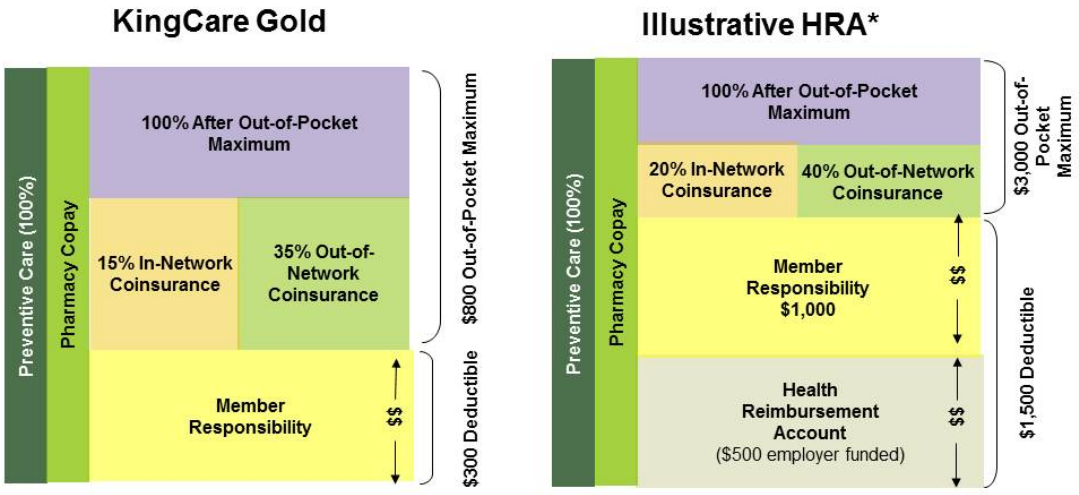
King County
Consumer Directed Health Plans

www.mercer.com

What are Consumer Directed Health Plans (CDHPs), Health Saving Accounts (HSAs) and Health Reimbursement Accounts (HRAs)?

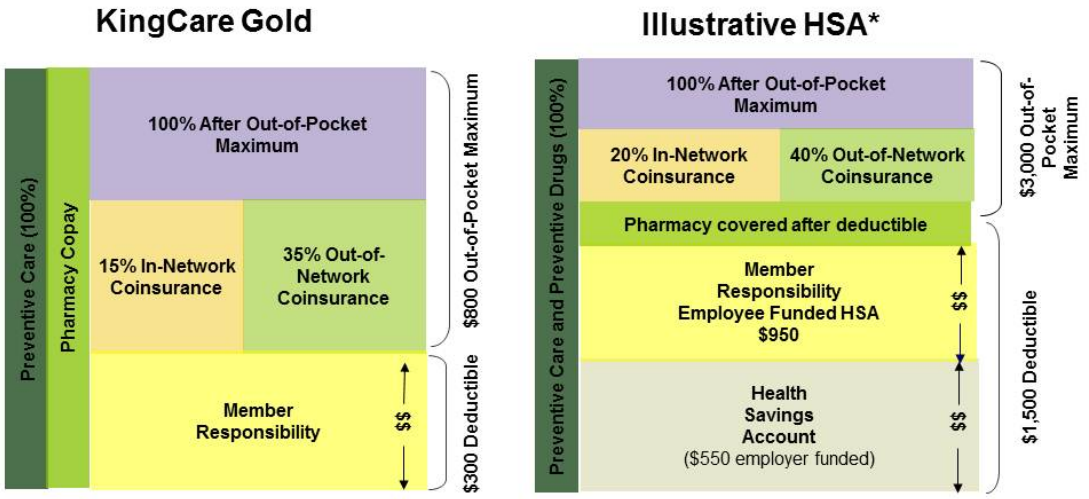
- CDHPs
  - A high deductible health plan
    - Employees spend money from HRAs or HSAs to purchase routine services directly
    - Non-routine expenses are covered by traditional insurance after members meet high deductible
  - Online health and financial tools are typically provided
- HSAs and HRAs
  - Personal health accounts
  - IRS approved tax-favored status
  - Used to pay for medical expenses
  - Funds roll over from year to year (No use it or lose it rule)

KingCare Gold Compared to Health Reimbursement Account



* Based on an average HRA plan design from Mercer's Survey of National Employer-Sponsored Health plans

KingCare Gold Compared to Health Savings Account



* Based on an average HSA plan design from Mercer's Survey of National Employer-Sponsored Health plans

Comparison of HSAs and HRAs

	HSA	HRA
Eligibility	Individuals (employees) with HDHP	Employees whose employers make available
Ownership	Employee-owned	Employer-owned
Health insurance requirement	Qualified HDHP required; 2011 minimum deductible – $1,200/$2,400; maximum out-of-pocket – $5,950/$11,900	None except by employer plan design
Contributions	Employer, employee, or both; employee contributions are pre-tax	Employer only
Annual contribution limits	For 2011, IRS annual limit: $3,050/$6,150 Catch-up contributions of $900 age 55+	None legally required; employer sets contribution amounts
Funding	Account is fully funded, can be invested and earns interest (tax-free)	Notional account or promise to pay; typically is not "credited" with interest
Funds rollover	Allowed	Allowed, employer can establish limits
Portability	Fully portable, can take to new employer	Employer discretion (typically no), COBRA rights apply
Qualifying expenses	Miscellaneous IRC 213(d) expenses, limited health premium reimbursements	Miscellaneous IRC 213(d) expenses, unlimited health premium reimbursements, *employer determined*
Nonqualified withdrawals	Yes, but taxable, plus 20% penalty No penalty after age 65, death, or disability	Not allowed
Combine with FSA	FSA must be a "limited purpose" FSA	Order of fund use must be established by employer
Claims Substantiation	Not required (only on IRS audit) *[House bill passed on 4/15/08 that would apply to distributions post 12/31/10]*	Required
Financial partner	Required	Not required
Claim processing	Debit card or automatic (best vendors)	Automatic (best vendors)

More on Qualifying Expenses for HSAs

- HSAs allow tax-free distributions for qualified medical expenses
  - No HDHP coverage required at time of distribution
  - Qualified expenses are not defined by employer or trustee, but include any 213(d) qualified expense
  - Can be used for HSA owner, spouse and dependents as long as qualified expenses were not paid by another plan
  - No employer/trustee substantiation required *(although House bill passed on 04/15/08 requiring substantiation post 12/31/10)*
- Premium payments are generally not allowed; limited exceptions:
  - COBRA
  - Coverage while on unemployment compensation
  - Premiums paid after age 65 (except Medigap)
  - Long-term care insurance premiums
- All other distributions are permitted, but taxable as ordinary income
  - Generally a 20% penalty (starting 2011)
  - Penalty does not apply if account holder dies, is disabled or reaches age 65

What are the Desired Results for Offering a CDHP?

- Financial
  - Reduce trend/inflation to a lower rate over a 3- to 5-year timeframe
  - Enable employees to accumulate savings (for retirement)
  - Provide a tax vehicle for highly compensated employees
- Behavior change
  - Increase employee satisfaction by providing more control and choice
  - Change consumer behavior
  - Reduce employer involvement in health decisions
  - Raise employee awareness and participation in the cost of care
  - Shift employee expectations – greater self-reliance and use of self-service

Appendix 2

Results from GAO study of Consumer Directed Health Plans, 2010

Debate surrounding CDHPs has grown as more employers offer them to their employees. Proponents contend that the plans can help restrain health care spending, arguing that the high deductibles and ability to carry over balances give enrollees an incentive to seek lower-cost health care services and to obtain services only when necessary. Critics are concerned that these plans may attract healthier enrollees who use fewer health care services or may discourage enrollees from obtaining necessary care.

Many employers, including the federal government, now have several years' experience offering CDHPs, particularly the HRAs that were introduced first. Given this experience and the potential role of CDHPs as health care reforms are implemented, there is interest in the health status of those selecting HRAs and how these plans affect enrollees' health care spending and utilization compared with traditional plans. For enrollees who switched into an HRA compared with enrollees who stayed in a traditional plan, the GAO assessed (1) differences in health status and (2) changes in spending and utilization of health care services. To do this, the GAO conducted an analysis of an HRA and a traditional health plan for two large employers and supplemented our work with the results of several published studies.

What the GAO found

- **On average, enrollees in the HRA groups of both employers GAO reviewed spent less and generally used fewer health care services before they switched into the HRA in 2003 than those who remained in the PPO, suggesting that the HRA groups were healthier.**
    - Average annual spending per enrollee for the public employer's HRA group was $1,505 lower than the PPO group for the 2-year period prior to switching. (Spending for the public employer was based on analysis of both medical and pharmacy claims.)
    - Likewise, the private employer's HRA group spent $566 less per enrollee for the 2-year period prior to switching than the PPO group (we were not able to examine pharmacy claims for the private employer).
    - Similarly, of the 21 studies GAO reviewed that assessed the health status of HRA and other CDHP enrollees, 18 found they were healthier than traditional plan enrollees based on utilization of health care services, self-reported health status, or the prevalence of certain diseases or disease indicators. Other demographic differences may also explain spending and utilization differences including those policyholders in the HRA group were younger than those in the PPO group.

- **Spending and utilization for enrollees in HRAs generally increased by a smaller amount or decreased compared with those in traditional plans that GAO reviewed.**

    - *Public employer.* From the 2-year period before switching—2001 to 2002—to the 5-year period after switching—2003 to 2007—average annual spending for the HRA group increased by $478 per enrollee compared with $879 for the PPO

group. This smaller increase for the HRA group was partially driven by decreases in spending for prescription drugs. Additionally, average annual utilization of services per enrollee increased by a smaller amount or decreased for the HRA group compared with the PPO group for six out of eight services GAO reviewed.

- *Private employer.* From the 2-year period before switching—2001 to 2002—to the 3-year period after switching—2003 to 2005—average annual spending for the HRA group increased by $152 per enrollee compared with $206 for the PPO group. This smaller increase for the HRA group was partially driven by smaller increases in spending for physician office visits and decreases in spending for emergency room services. Additionally, average annual utilization of services per enrollee increased by a smaller amount or decreased for the HRA group compared with the PPO group for four out of seven services GAO reviewed.

Similarly, GAO's review of published studies found that seven out of eight students that examined spending and controlled for differences in health status or other characteristics reported lower spending among HRAs and other CDHP enrollees relative to traditional plans.

Appendix 3

Results from the State of Indiana Consumer Directed Health Plan, 2010

Goals

Among the State of Indiana's goals for embracing the CDHP-HSA concept and providing a sizable incentive are to 1) encourage improvement in the long-term health of the employee population and their families, 2) efficiently utilize personal funds for the purchase of medical services, and 3) lower the state's ever-increasing government spending trend.

History of implementation

2005—offered two HMOs and two PPO options to 30,000 employees and their dependents. Legacy plans were very generous and shielded employees from the actual cost of health care.

2006—offered first CDHP (CDHP1) alongside the four existing plans; 4% of all eligible employees chose the CDHP.

2007—introduced the second CDHP (CDHP2) with lower participant cost sharing and the two PPOs were consolidated into one PPO plan.

2008—the primary HMO with almost a third of the State's enrollment was terminated at the end of 2007 when M-Plan withdrew from the market.

2009--the governor authorized prefunding of one-half of the state's contribution at the time of each employee's first paycheck in January. Employees receive the other half in equal biweekly installments.

2010—70% of eligible employees have opted for the HSA. Only 3% have opted to switch back to a standard PPO offering after enrolling with an HSA. (The average CDHP participation in other states is 2 percent.) *Note: Chris Atkins, general counsel and policy director for the Indiana Office of Management and Budget, explains Gov. Mitch Daniels was able to achieve such a high employee participation rate by rescinding collective bargaining rights for state employees at the outset of his administration.*

Employee Education/Communication

In 2006, Gov. Daniels and his family sent a signal to state employees by being the first in Indiana's state government to open a state HAS. The governor also sent state employees a personal letter outlining the benefits of CDHPs, encouraging them to look closely at this option.

Indiana's state personnel director followed up on Daniel's promotion of the HSA plan with several communication pieces and nearly 200 educational meetings were conducted around the state to provide information to all employees about the plan. Representatives from the state's

medical plan third party administrator and the bank that holds the HSAs were available at the meetings to answer employee questions.

Plan design

CDHP1 is a "traditional health plans with a health savings account tied to it. The plan's deductibles are $2,500 for individual coverage, and $5,000 for a family plan. Preventive services are not subject to the deductible. Employees pay nothing toward the plan's premium. The state deposits $1,500 for individual and $3,000 for families into the employee's health savings account every year. Employees are encouraged to make additional tax-free contributions into their accounts.

Results

According to an analysis conducted by Mercer in 2010:

- The total average cost to the state for the PPO per employee per year was $12,317, compared with $5,462 for CDHP1 and $9,444 for CDHP2.
- The two CDHPs had a combined savings of 10.7 percent per year and are projected to save $17-$23 million for the state in 2010.
- Additionally, state employees and their families enrolled in the CDHPs are projected to save $7 to $8 million in 2010.
- Both CDHPs had lower than average age populations, but higher average family size compared to the PPO.
- The actuarial values of the CDHPs were somewhat lower that the PPO plans, meaning that employees would pay more out-of-pocket than if they enrolled in the PPO. However the CDHPs were not significantly lower in value:
    - CDHP1 to PPO: 0.926 to 1.00
    - CDPH2 to PPO: 0.996 to 1.00
- Individuals who moved to either CDHP option had reduced utilization and intensity of services.
- Mercer found no evidence that participants in CDHPs are avoiding care.
    - The state funds the employee's HSA in the amount of 55 percent of their deductible, with half of the state's contribution prefunded in the first paycheck of the year; employees can contribute their own pre-tax dollars, allowing the build-up of a reserve and access to a safety net of funds.
    - The majority of employee who enrolled in CDHPs in 2009 have significant HSA balances, averaging $2,072 for the CDHP1 and $1,196 for the CDHP2.
    - Twenty percent of employees have HSA balances exceeding $3,500 in CDHP1 and $2,000 in DHP2.
    - Employees were not reluctant to use the accounts—82 percent accessed their accounts to make tax-preferred payment.

    - Sources for savings appear to be coming from better use of health care resources and more cost-conscious decision making. Among the major factors leading to reduced cost were:
        - Substituting generics for brand drugs.
        - Avoiding unnecessary visits to the emergency room.
        - Using primary care physicians more frequently than specialists.
- Mercer concludes that these results are consistent with other studies of CDHPs that suggest savings are due to:
    - Increased awareness of the need to take responsibility for making health care decisions
    - Improvements in consumer skills and abilities to access health information, research health conditions and treatment alternatives, and understanding the associated costs and quality impact of those alternatives.
    - Increased awareness of personal health status, factors affecting health status and means of reducing risks.

Savings: The state estimates it has saved $42 million since introducing CDHPs to their employees.

January 31, 2011

The Honorable Larry Gossett
Chair, King County Council
Room 1200
C O U R T H O U S E

Dear Councilmember Gossett:

I am pleased to transmit a report on the feasibility of consumer directed health plans as requested by the Council's September 27, 2010 adoption of Motion 13343. The motion specified that the report shall identify the consumer directed health insurance options available to the county and shall include information on six specific points.

The attached report provides an overview of the elements of consumer directed health plans (CDHPs); their prevalence; characteristics of employees who choose CDHPs; and costs of CDHPs in comparison to non-CDHPs.

In 2010, approximately 19 million people (11 percent of people with private insurance in the US) were enrolled in a CDHP. Twelve states offered one or more CDHPs to their employees, with approximately two percent of employees in state benefits programs offering CDHPs choosing to enroll. Other key findings include:

- People who choose a CDHP over a non-CDHP are healthier—they used fewer health services in the two years before enrolling in the CDHP, reported fewer health problems and were less likely to smoke or be obese than people who enrolled in non-CDHPs.
- People enrolled in CDHPs were more likely to exhibit cost-conscious behavior, such as checking whether care would be covered by their plan, requesting generic drugs over brand name, talking with their provider about treatment options and costs, checking prices and developing a budget to manage health care expenses.
- The national actuarial firm, Milliman, found both the total cost to the employer and year over year costs increases are generally lower for CDHPs than non-CDHPs. Savings ranged from a high of 15.5 percent to a low of -4.7 percent, with an average

savings of 4.8 percent. However, Milliman concluded that when risk and benefits adjustments were taken into account, CDHPs saved only 1.5 percent.

Below is a summary of report responses to the six specific points requested in the motion.

1. Benefits and risks associated with CDHPs:
    - Benefits— nearly all studies of CDHPs show savings, at least in the short term; there is evidence health care use is lower, although it may be due to healthier people choosing CDHPs; and people in CDHPs exhibit more cost-conscious, wellness behavior (but this may be due to healthier people, not plan design.)
    - Risks—it is not clear that the savings trend will continue because there is evidence that CDHP enrollees may delay needed care, and the cost advantage of CDHPs will decrease in plans that include less healthy people than the early adopters.

2. Potential implications of federal health care reform on CDHPs:
    - There are no specific issues for CDHPs posed by health reform legislation as currently written; in fact, many large employers are considering CDHPs as part of their strategy for addressing the 2018 excise tax.

3. Potential cost savings for the county:
    - Cost savings, if any, will depend on the specific CDHP design implemented, characteristics of employees who enroll, and whether CDHPs are offered in addition to, or in place of, existing plans.

4. Potential impacts on King County employees:
    - CDHPs are very complex—in order to gain the benefits of a CDHP, participants must track personal accounts; do price research; use online tools; talk to providers about cost and quality; and make decisions about essential and non-essential care.
    - Successful CDHPs are resource intensive--they require extensive communication, education and active leadership support; and CDHPs must provide easily accessible and understandable provider-specific cost and quality information.

5. Information about other public employer plans
    - In 2010, 12 states had CDHPs with an average enrollment of 2 percent of all employees.
    - The State of Indiana is an exception—two CDHPs have been introduced since 2006; these plans have no premium share and include health savings accounts equal to 55 percent of the deductible; enrollment in 2010 was 70 percent of all employees. Details about the Indiana plan are covered in Appendix 3.

6. Timeframe for potential implementation of a CDHP
    - Implementation of a CDHP must be bargained with the Joint Labor Management Insurance Committee; bargaining for the 2013-2015 benefits package is slated to begin towards the end of the second quarter of 2011.

The estimated staff time and cost to produce this report was 120 hours or $7,200 dollars in direct salary costs. If you have any questions about the report, please contact Karleen Sakumoto, Employee Health and Well-Being Program Manager, at 206-296-8579.

Sincerely,

Dow Constantine
King County Executive

Enclosures

cc: King County Councilmembers
ATTN: Tom Bristow, Chief of Staff
Anne Noris, Clerk of the Council
Fred Jarrett, Deputy County Executive, King County Executive Office (KCEO)
Rhonda Berry, Assistant Deputy County Executive, KCEO
Patti Cole-Tindall, Director, Office of Labor Relations, KCEO
Dwight Dively, Director, Office of Performance, Strategy, and Budget
Caroline Whalen, County Administrative Officer, Department of Executive Services (DES)
Anita Whitfield, Director, Human Resources Division (HRD), DES
Karleen Sakumoto, Employee Health and Well-Being Program Manager, HRD, DES

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King County

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

September 28, 2010

Motion 13343

Proposed No. 2010-0431.1

Sponsors Phillips, Dunn, Lambert, Patterson, Hague and Drago

A MOTION requiring the executive to transmit a report on the feasibility of and potential savings from offering consumer-directed health insurance options, such as health savings accounts, to King County employees.

WHEREAS, King County is experiencing sustained fiscal challenges resulting in a $60 million shortfall in the amount of funding needed to sustain the current level of general operations in 2011, and

WHEREAS, King County employee benefits costs rose from $158 million in 2005 to a projected cost of $222 million in 2010, a forty-one percent increase, driven by growing medical claim costs, and

WHEREAS, the cost of providing benefits to employees has increased by an average of eight percent annually since 2004 compared to a national inflation rate of three percent, and

WHEREAS, continued increases in employee benefits costs are anticipated despite increases in employee cost sharing through higher copays and deductibles that took effect in 2010 and are projected to save $37 million from 2010 through 2012, and

WHEREAS, other jurisdictions and private sector employers have begun offering consumer-directed health plans to help reduce the cost of providing health coverage for employees, and

WHEREAS, Mercer Consulting's nationwide survey on employer-sponsored health benefits found that the predicted 2009 cost growth for surveyed employers offering consumer-directed health plans, such as health savings accounts, was four and one-half percent compared to six and four-tenths percent for employers not offering such plans;

NOW, THEREFORE, BE IT MOVED by the Council of King County:

A. The executive is requested to transmit a report to the council on the feasibility of offering consumer-directed health insurance options, such as health savings accounts and health reimbursement accounts, to King County employees. The report shall identify the consumer-directed health insurance options available to the county and shall include:

1. Any benefits and risks associated with consumer-directed health insurance options;

2. Potential implications of federal healthcare reform on the feasibility of implementing a consumer-directed health insurance option;

3. Analysis of potential cost savings to the county;

4. Discussion of any impacts to King County employees;

5. Information on how other cities, counties and states have implemented consumer-directed health insurance options and the savings achieved; and

6. A plan and timeframe for potentially implementing a consumer-directed health insurance option to reduce the rate of growth of King County employee healthcare costs.

B. The executive is requested to transmit the requested report by February 1, 2011. The report shall be transmitted in electronic form, along with one paper copy, to

the clerk of the council, who will electronic forward copies to each councilmember and to the lead staff for the government accountability and oversight committee or its successor.

Motion 13343 was introduced on 8/23/2010 and passed by the Metropolitan King County Council on 9/27/2010, by the following vote:

Yes: 9 - Ms. Drago, Mr. Phillips, Mr. von Reichbauer, Mr. Gossett, Ms. Hague, Ms. Patterson, Ms. Lambert, Mr. Ferguson and Mr. Dunn
No: 0
Excused: 0

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Robert W. Ferguson, Chair

ATTEST:

Anne Noris, Clerk of the Council

Attachments: None

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Healthcare Spending and Preventive Care in High-Deductible and Consumer-Directed Health Plans

Melinda Beeuwkes Buntin, PhD; Amelia M. Haviland, PhD; Roland McDevitt, PhD; and Neeraj Sood, PhD

Objective: To investigate the effects of high-deductible health plans (HDHPs) and consumer-directed health plans (CDHPs) on healthcare spending and on the use of recommended preventive care.

Study Design: Retrospective study.

Methods: We analyzed claims and enrollment data for 808,707 households from 53 large US employers, 28 of which offered HDHPs or CDHPs. We estimated the effects of HDHP or CDHP enrollment on healthcare cost growth between 2004 and 2005 using a difference-in-difference method that compared cost growth for families who were enrolled in HDHPs or CDHPs for the first time in 2005 with cost growth for families who were not offered HDHPs or CDHPs. Control families were weighted using propensity score weights to match the treatment families. Using similar methods, we examined the effects of HDHP or CDHP enrollment on the use of preventive care and the effects of HDHP or CDHP offering by employers on the mean cost growth.

Results: Families enrolling in HDHPs or CDHPs for the first time spent 14% less than similar families enrolled in conventional plans. Families in firms offering an HDHP or a CDHP spent less than those in other firms. Significant savings for enrollees were realized only for plans with deductibles of at least $1000, and savings decreased with generous employer contributions to healthcare accounts. Enrollment in HDHPs or CDHPs was also associated with moderate reductions in the use of preventive care.

Conclusions: The HDHPs or CDHPs with at least a $1000 deductible significantly reduced healthcare spending, but they also reduced the use of preventive care in the first year. This merits additional study because of concerns about enrollee health.

(Am J Manag Care. 2011;17(3):222-230)

For author information and disclosures, see end of text.

Curbing increases in healthcare costs is a top priority for policy makers and for employers. Many believe that high-deductible health plans (HDHPs), also known as consumer-directed health plans (CDHPs), when coupled with personal savings accounts, might be one way to hold down costs. These plans, intended to make patients more cost conscious, are becoming increasingly popular, and healthcare reform may foster further growth in enrollment. As of 2009, 20% of Americans with employer coverage were enrolled in a plan with a deductible high enough to be eligible for a health savings account. Among those purchasing coverage directly, 47% had a deductible at least this high.[1] A survey of large employers at the beginning of 2010 found that more than 54% offered at least 1 CDHP option, and another 7% were planning in 2011 to adopt one.[2] Growth is expected from 2 sources, namely, CDHPs with low premiums offered through health insurance exchanges and more CDHP offerings in the employer market because of taxes placed on generous "Cadillac" plans.

Despite growing enrollment, little is known about the effects of HDHPs or CDHPs on healthcare costs and on the use of necessary care. Even less is known about the influence of specific HDHP or CDHP provisions, including deductible levels and account offerings.[3] Both questions are of key importance for those who are newly insured through exchanges and for those who are selecting plans in the employer or individual market. Part of the problem is the lack of good pre-post data for persons enrolling in diverse HDHP or CDHP and conventional plans. Most evidence is limited to studies with data from a single carrier, a single employer, or a single year; therefore, the findings may not apply outside of those settings. A review of these studies concluded that moving consumers from traditional plans to high-deductible plans could result in significant savings; however, coupling these plans with funded personal accounts could reduce this effect.[4] More recent work suggests that some CDHP plan designs might lead to higher spending over time, to discontinuation of chronic disease medications by patients, and to decreased use of office visits, hospitalizations, and emergency department care.[5-8] Other peer-reviewed studies[9-11] have found instances in which CDHP enrollment has no discernible effect on the use of preventive care. Reviewing a set of industry studies, the American

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Full text and PDF
Web exclusive
eAppendices 1 to 5

Academy of Actuaries[12] concluded that CDHP plans saved 12% to 20% in their first year compared with control plans, with no evidence that this was due to a reduction in necessary care.

This study is the first to date to use longitudinal data from a diverse set of carriers, employers, and HDHP or CDHP designs to investigate the first-year effects on healthcare spending and on the use of preventive care. It also is the first study to examine the differential effects on these outcome measures of deductible levels, personal accounts, and employer account contributions.

Take-Away Points

The effect of enrollment in high-deductible health plans (HDHPs) or consumer-directed health plans (CDHPs) on healthcare spending and on the use of preventive care was assessed across multiple employers, insurance carriers, and plans in a 2-year retrospective study.

- Families enrolling in HDHPs or CDHPs and firms offering HDHPs or CDHPs spent less on healthcare.
- Significant savings were realized only for enrollees in plans with deductibles of at least $1000, and savings decreased with generous employer contributions to healthcare accounts.
- Enrollment in HDHPs or CDHPs was associated with moderate reductions in the use of preventive care, despite the fact that these plans waived the deductible for preventive care.

METHODS

Study Design

We constructed a unique data set that included 2 years of enrollment and healthcare claims information for employees of 53 large US employers, 28 of which offered HDHPs or CDHPs to their employees. These employers offered health plans from all major and many smaller US insurance carriers. We defined a high deductible as $500 or more for single coverage and $1000 or more for family coverage in 2005, resulting in plans with a range of deductible levels and account provisions.

We estimated the differences between HDHP or CDHP and non–HDHP or CDHP enrollees using a difference-in-difference propensity score–weighted method. We compared the 2004 to 2005 change in healthcare costs for families who first enrolled in HDHPs or CDHPs in 2005 (treatment families) with the change in healthcare costs for families who remained in conventional plans (control families). Therefore, the analysis controls for all time-invariant differences across treatment and control families such as inherent propensity to use healthcare or trust in physicians and modern healthcare. However, our results might be confounded if treatment and control families had different cost growth trajectories. To address this, we took 3 additional steps. First, we only included families as controls if they were not offered an HDHP or a CDHP. Those who were offered and declined an HDHP or a CDHP were excluded from the analysis. Second, we used propensity score weights to produce a control group similar to the treatment group based on a rich set of observed characteristics, including family type, geocoded income and educational levels, presence of major diagnoses, actuarial value of the health plan before enrollment, and industry of employment.[13,14] Third, to account for residual confounding, we used these observed characteristics as covariates in multivariate regression models.

We also conducted an intent-to-treat analysis to estimate the effects on healthcare cost growth of the employer decision to offer HDHPs or CDHPs. Using difference-in-difference methods, we compared the 2004 to 2005 healthcare cost increases for employers who offered HDHPs or CDHPs in 2005 versus for employers who did not. We also estimated separate effects among employers who completely replaced their conventional plans with HDHPs or CDHPs.

Data Sources and Study Population

The study population consisted of active full-time employees and their dependents who were continuously enrolled for 2 full plan-years. A small proportion (0.4%) were dropped because of errors or omissions in their claims data. A slightly larger proportion (3.1%) were dropped because of errors in their enrollment information. This resulted in 808,707 families for analysis related to the effects of HDHP or CDHP enrollment and 981,973 families for analysis related to the effects of HDHP or CDHP offer.

The employers entered the study from 2 routes. One group of employers was recruited because they offered an HDHP or a CDHP during the period from 2003 to 2007. These employers were selected to encompass a range of geographic regions, employee income levels, proportion of employees enrolling in HDHPs or CDHPs, and HDHP or CDHP characteristics. The other group of employers was from the Thomson Reuters (New York, New York) MarketScan database. These employers were selected to match the geographic, size, and industry distribution of the recruited employers. In the 2004-2005 cohort used for this analysis, employers from both sources contributed to the treatment and control samples (83% of HDHP or CDHP–enrolled families are from recruited firms). The enrollment and claims data from insurers were standardized into a modified MarketScan format. An expert independent of the study organizations certified that the analysis data files received by the research team were deidentified, and the Human Subjects

Protection Committee at RAND Corporation approved the study.

Study Variables

Families are the unit of analysis, with additional variables indicating a single employee, employee plus spouse, and additional tiers. For the effect of HDHP or CDHP enrollment analysis, treatment families were those who first enrolled in an HDHP or a CDHP in 2005. For the effect of HDHP or CDHP offer analysis, the treatment families included all insured families in firms that first offered an HDHP or a CDHP in 2005. In both cases, the treatment group was restricted to those who worked for employers where at least 3% of employees enrolled in an HDHP or a CDHP. Control families worked for employers that did not offer high-deductible plans.

High-deductible health plans are classified into the following 4 types by individual deductible and by employer contribution to personal medical accounts: (1) moderate deductible ($500-$999), (2) high deductible (≥$1000) with no account, (3) high deductible with low employer account contribution of less than $500, and (4) high deductible with generous employer account contribution of at least $500 (the last 2 are also known as CDHPs); the types represented 44%, 11%, 33%, and 13% of the treatment sample, respectively. Almost all of these high-deductible plans waived the deductible for preventive care, as established by employer survey and interview data.

We derived plan cost-sharing provisions for all plans based on payment patterns in the claims data combined with employer survey data if available. We included in our analysis only plans with at least 100 employees to ensure sufficient observations to make reliable estimates of the deductible, which is used to assign treatment status. We validated our claims-based cost-sharing provisions by comparing them with survey responses from 27 employers about 138 plans they offer with a total enrollment of 1.1 million members in 2005. Comparing the treatment classification based on the 2 sources, we found agreement for 93% of enrollees. In addition, all high-deductible plans identified for this analysis were confirmed by survey data or other communication with the employer.

We calculated annual family costs for medical care (insurance and patient payments for care received) and divided these by 12 to obtain the mean monthly expenditures. Parallel calculations resulted in the mean monthly expenditures in each of the following 4 healthcare settings: outpatient, inpatient, emergency department, and prescription drugs.

The following 6 preventive care outcomes were created based on Healthcare Effectiveness Data and Information Set (HEDIS) measure definitions[15]: 2 child immunization measures, receipt of mammography, cervical and colorectal cancer screening, and glycosylated hemoglobin (A1C) testing for patients with diabetes mellitus. Dichotomous measures were created at the annual family level indicating whether some or none of the eligible family members had obtained the recommended care. We adapted HEDIS 2008 specifications to conform to the single-year windows in our analysis framework (discussed further in the **eAppendices**, available at **www.ajmc.com**). We created 2 child immunization measures indicating whether a child was on track to obtain the full set of recommended immunizations. Counting only care received in the current year caused these measures to be lower than typical HEDIS measures but consistently so in each year and across the treatment and control groups.

Covariates for analyses were derived from enrollment, claims, and geocoded location. Enrollment files provided family type, age of head of household, family size, geographic region, metropolitan statistical area status, and employer's industry type. Claims data supplied prospective relative risk scores based on diagnostic cost group[16,17] summed to the family level and indicators for whether a family received care in each of 23 major diagnostic categories. Actuarial values (percentage of allowed charges paid by the plan) were calculated for each plan using the plan provisions to simulate payment of claims for a standard population. The zip code–level geocoded characteristics are the median household income, percentage of adults with high school and college degrees, percentage unemployed, and percentage of Hispanic, black, and non-Hispanic white race/ethnicity.

Statistical Analysis

For the cost-outcome models of the effects of enrollment in HDHPs or CDHPs, we used propensity score weighting to balance the distributions of numerous characteristics observed in 2004 between treatment and control families.[18,19] Logistic regression analysis was used to model the odds of being a treatment family as a function of characteristics that predict both health plan selection and healthcare use (discussed further in the eAppendices). Predicted probabilities (propensity scores) were used to derive individual family weights for control families proportional to the conditional probability of being a treatment family. To check the adequacy of the propensity score model, we evaluated the balance of the weighted means of the measured characteristics. When balance is obtained, weighted analyses adjust for potential confounding owing to measured characteristics.

When estimating the effects for different types of high-deductible plans, treatment families were divided into different subgroups. Each subgroup was propensity score weighted to match the distribution of characteristics of the entire treatment sample (discussed further in the eAppendices).

Table 1. Selected Baseline Characteristics of HDHP/CDHP and Control Families

Characteristic	HDHP/CDHP (n = 36,211)	Control (n = 772,496)	Weighted Control (n = 772,496)
Family type, %			
Single male policyholder	17.0	14.4	17.0
Employee, spouse, children	26.4	34.2	26.2
Age of head of household, mean (SD), y	38.81 (11.98)	42.36 (10.74)	38.76 (18.82)
Prospective relative risk score summed for family, mean (SD)	2.03 (2.06)	2.41 (2.36)	2.04 (2.39)
Median household income, mean (SD), $	48,175 (20,964)	48,075 (22,376)	48,216 (27,879)
Area 4-year college degree, %	26.8	25.6	26.9
Area non-Hispanic white race/ethnicity, %	72.7	69.4	72.8
Region, %			
Northeast	15.4	15.0	15.6
North Central	31.2	39.3	31.3
South	42.3	36.5	41.9
West	11.1	9.2	11.2
Actuarial value of plan held in 2004, mean (SD)	0.82 (0.05)	0.83 (0.06)	0.82 (0.09)

HDHP/CDHP indicates high deductible health plan/consumer-directed health plan.

Most of the covariates included in the propensity score model were also included in the weighted outcome models to provide estimates that are more efficient and "doubly robust" to misspecification of either model.[20] We tested a range of generalized linear model specifications (identity and log links and constant, proportional to the mean, and proportional to the mean squared variance functions) to address the skewness and truncation at zero in healthcare costs.[21,22] None of the other models tested outperformed the identity link and constant variance; hence, this is the model specification we use. Robust standard errors that account for clustering of family over time were used in all models. To estimate the effects of the employer decision to offer HDHPs or CDHPs on healthcare cost growth, we used parallel models but without propensity score weighting of those families not offered HDHPs or CDHPs.

For the HEDIS immunization outcomes, we computed unadjusted difference-in-difference estimates and then performed logistic regression analysis using the same framework and set of regressors as in the cost models aforedescribed.[23,24] Unlike in the cost regression analysis, the same sets of families are not eligible for each measure in the pre-post years. For the remainder of the HEDIS outcomes, we stratified the sample into those who did or did not receive the recommended care in 2004 and within strata compared the rates of receiving the recommended care in 2005 by treatment status, both unadjusted and controlling for the same set of regressors as the prior models. The stratification was to address concerns that families who are about to transition into a high-deductible plan will try to obtain care that they anticipate needing before the transitions; that is, they will try to "stock up" on care.

Analyses were performed using commercially available statistical software (SAS version 9.1; SAS Institute, Cary, North Carolina; and STATA version 10; StataCorp Inc, College Station, Texas). We report statistical significance levels from 2-sided tests without adjustment for multiple testing. Full results are provided in the eAppendices.

RESULTS

Study Population

Enrollees in high-deductible plans were more likely to be single men, were younger, had lower risk scores (better baseline health), and lived in areas with higher percentages of college graduates and non-Hispanic whites than families enrolled in control plans. After weighting using propensity scores, the samples have similar measured characteristics (Table 1 and eAppendix 1, available at **www.ajmc.com**).

At baseline, both groups were enrolled in plans with actuarial values that averaged 82%. The baseline monthly costs of the treatment and weighted control groups are given in Table 2 and eAppendix 2 (available at **www.ajmc.com**): both groups had similar monthly family healthcare costs of just over $500 and a distribution of costs by service type typical of those with employer-provided insurance. Before weighting, cost growth for the control group was 13%, similar to estimates for other data sources covering this period. Differences in the growth

Table 2. Monthly Household Costs and Cost Growth of HDHP/CDHP and Control Families[a]

	HDHP/CDHP (n = 36,211)	Weighted Control (n = 772,496)	
2004 Baseline Costs, $			
Total healthcare	513.89	516.55	
Outpatient	275.49	279.74	
Inpatient	121.8	100.42	
Emergency department	17.40	19.92	
Prescription drug	99.20	116.47	
Cost Growth From 2004 to 2005, $			**Between-Group Point Estimate (95% CI) Mean Difference**
Total healthcare	20.69	105.71	−85.03 (−102.34 to −67.71)[b]
Outpatient	10.00	55.88	−45.88 (−54.58 to −37.18)[b]
Inpatient	−0.84	34.89	−35.73 (−48.97 to −22.49)[b]
Emergency department	4.28	4.16	0.13 (−0.92 to 1.17)
Prescription drug	7.24	10.78	−3.54 (−6.90 to −0.18)[b]

CI indicates confidence interval; HDHP/CDHP, high-deductible health plan/consumer-directed health plan.
[a]After propensity score weighting and regression-based covariate adjustment for all variables described in the "Study Variables" subsection of the "Methods" section.
[b]Significant difference at $P = .05$.

for the control group after weighting reflect the alignment of the controls to match those who enroll in treatment plans.

Effects of HDHP or CDHP Enrollment on Cost Growth

Costs grew for both the treatment families and the control families, but they grew more slowly in the higher-deductible group (Table 2). The monthly costs of the households enrolled in higher-deductible plans grew by $85 less than the comparable controls; in percentage terms, the expenditures of the control group grew by 20%, while the expenditures of the treatment group grew by 4%. Consequently, in the first year after enrolling in an HDHP or a CDHP, spending was 14% (95% confidence interval, 11.3%-16.9%) lower than that for comparable families in control plans (difference in the post-year mean monthly costs for treatment and control families divided by the mean post-year costs for control families). This was due to lower growth in inpatient, outpatient, and prescription drug costs. Growth in expenditures for emergency department care did not differ significantly between the 2 groups.

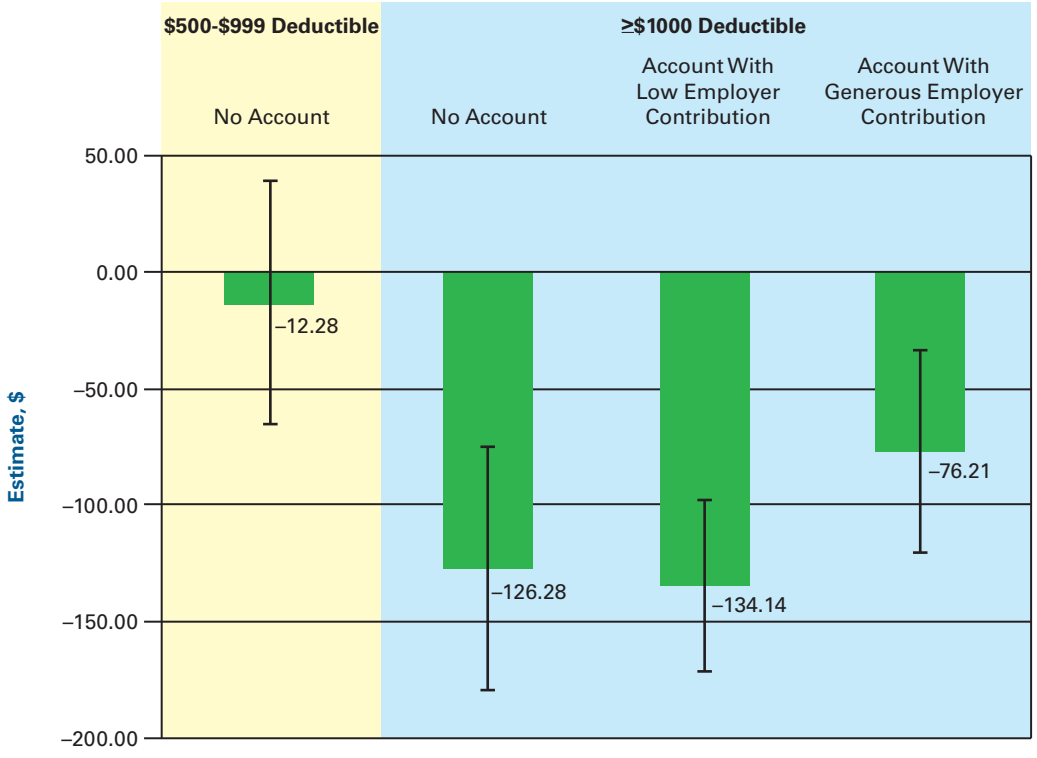
As shown in the **Figure**, cost growth for families in plans with moderately high deductibles ($500-$999) did not differ significantly from costs of those in control plans. However, cost reductions were greater (and significant) for families in plans with deductibles of $1000 or more. These cost reductions were maintained at a similar level when an account option was added with a low employer contribution (<$500 [mean, $399.32]). However, these cost reductions were attenuated when employers made generous contributions (≥$500 [mean, $768.38]) to the accounts. This pattern of results across plan characteristics held for each of the individual care settings as well (discussed further in the eAppendices).

Some evidence was observed of increases in healthcare costs in the final quarter of 2004 among families who were about to enter an HDHP or a CDHP in 2005 (not significant for the treatment group as a whole but significant for those with deductibles ≥$1000), suggesting possible stocking up by those about to change insurance. Because the opportunity for stocking up is limited by the timing of information on health plan offerings for the upcoming year, insurance restrictions on the frequency of many procedures, and uncertainty about future health needs, we assume that any stocking up of services would occur near the time of the insurance change and would include services that would otherwise be obtained early at the start of the new plan-year. As a robustness check (discussed further in the eAppendices), we compared cost growth using the same framework but using only costs from the second and third quarters of 2004 and 2005. We obtained similar results.

Effects of HDHP or CDHP Offer on Cost Growth

Costs in 2004 were similar for firms that offered HDHPs or CDHPs in 2005 and firms that offered only conventional health plans (**Table 3** and **eAppendix 3**, available at **www.ajmc.com**). However, between 2004 and 2005, monthly costs per family increased more rapidly in firms that offered only conventional health plans. Monthly costs per family increased

■ **Figure.** Monthly Difference in Costs Between High-Deductible Families vs Controls, by Level of Deductible and Personal Savings Account



HRA/HSA indicates health reimbursement arrangement/health savings account. For supporting data, see **eAppendix 5** at www.ajmc.com. Compared are a $500 to $999 deductible for a single policy without an account (n = 15,872), deductible of $1000 or more without an account (n = 3850), deductible of $1000 or more with an HRA/HSA with low contribution (an employer contribution to an employee's personal account of <$500) (n = 11,840), and deductible of $1000 or more with an HRA/HSA with generous contribution (an employer contribution to an employee's personal account of ≥$500) (n = 4649). Point estimates are denoted by bars; the corresponding 95% confidence intervals are shown from the end of the bars.

by $138 in firms that offered HDHPs or CDHPs and by $165 in firms that offered conventional health plans, resulting in monthly cost savings of almost $28 per family ($P$ <.05). Larger savings ($133) were realized in firms that completely eliminated conventional health plans, and smaller savings ($22) were realized in firms that offered both conventional and HDHP or CDHP plans (P <.05 for both).

Because all employees in firms that eliminated conventional plans enrolled in HDHPs or CDHPs, the $133 estimate is also an estimate of the cost savings of enrolling in HDHPs or CDHPs. While this point estimate is larger than our main estimate of $85 given in Table 2, the confidence intervals of the estimates overlap. Moreover, in our sample, the firms that eliminated conventional plans offered 1 type of HDHP or CDHP (≥$1000 deductible account with low employer contribution), and the $133 estimate is similar to the point estimate specific to this HDHP or CDHP type obtained using the enrollee estimation framework (Figure). A final estimate of the overall effect of HDHP or CDHP enrollment on cost growth can be obtained by dividing the difference-in-difference estimate from the first model in Table 3 by the overall enrollment rate of 17.3% among those offered; this estimate is not smaller than the values in Table 2, suggesting that selection based on the enrollment decision is not upwardly biasing Table 2 estimates.

The estimates in Table 2 rely on the assumption that, after adjusting for observable differences, families enrolling in HDHPs or CDHPs would have experienced the same growth in costs as similar families who were not offered HDHPs or CDHPs if the enrolling families had instead not been offered HDHPs or CDHPs. In contrast, the estimates in Table 3 rely on the assumption that, after adjusting for observable differences, treatment and control firms would have experienced the same growth in costs if the offering firms had continued to offer similar plans in 2005. Neither of these assumptions is directly testable, but the pattern of results is encouraging.

Effects of HDHP or CDHP Enrollment on Preventive Care Use

Child immunization rates increased for the control group and decreased for the treatment group, resulting in significant differences (Table 4 and eAppendix 4, available at **www.**

Table 3. Intent-to-Treat Results of Monthly Household Cost Growth for Families Offered HDHP/CDHP vs Control Families[a]

	Offered HDHP/CDHP (n = 209,477)	Control (n = 772,496)	
2004 Baseline Costs, $			
All employers[b]	608.82	615.33	
<Full replacement	609.03	615.33	
Full replacement	611.85	615.33	
Cost Growth From 2004 to 2005, $			**Between-Group Point Estimate (95% CI) Mean Difference**
All employers	137.58	165.49	−27.91 (−36.04 to −19.78)[c]
<Full replacement	143.14	165.49	−22.36 (−30.68 to −14.04)[c]
Full replacement	32.33	165.49	−133.17 (−202.65 to −63.69)

CI indicates confidence interval; HDHP/CDHP, high-deductible health plan/consumer-directed health plan.
[a]After regression-based covariate adjustment for all variables described in the "Study Variables" subsection of the "Methods" section.
[b]Baseline costs for controls differ from those reported in Table 2 because controls in Table 2 are propensity score weighted to match those enrolling in HDHPs/CDHPs.
[c]Significant difference at $P = .05$.

ajmc.com). For each of 3 cancer screening measures, among those who did not receive the recommended screening in 2004, significantly fewer HDHP or CDHP enrollees went on to receive the care in 2005 compared with controls. Among patients with diabetes not receiving the recommended care in 2004, no differences were detected in the A1C measure in 2005. Among those who received the recommended care in 2004 (cancer screenings or A1C measurement), there were no differences detected (discussed further in the eAppendices). After adjusting for demographic and health status factors, these effects were virtually unchanged except that the results for colorectal cancer screenings lose statistical significance.

DISCUSSION

This is the first study to date to demonstrate across a large number of carriers, employers, and plan designs that HDHP or CDHP plans significantly curb healthcare costs in the first year. Recent healthcare reform may create incentives to spur the growth in HDHPs or CDHPs, and our results suggest that a move to HDHPs or CDHPs might help policy efforts to bring healthcare costs under control.[25] However, we need further research to determine whether the data herein represent 1-time savings or whether policy makers might use insurance benefit design as a tool to help slow the growth in costs.

Employers often make contributions to personal medical accounts to provide incentives to employees to switch to high-deductible plans, as high enrollments are necessary to capture substantial cost savings. Some have posited that such contributions would reduce the cost savings of HDHPs or CDHPs by undermining consumer cost sensitivity.[26,27] However, this was not the case for HDHPs or CDHPs with moderate employer contributions. These HDHPs or CDHPs seem to reduce spending as much as plans with similar deductibles but no employer account contribution.

Health policy makers included provisions in the Patient Protection and Affordable Care Act to encourage greater use of preventive services. The Act required that cost sharing for proven preventive care services should be eliminated in Medicare and private insurance plans by 2010. However, our finding that preventive care service use is moderately lower in the first year of HDHP or CDHP enrollment, despite waiving the deductible, provides a cautionary tale for these reform goals. It suggests that, at least in the short run, eliminating the copayment for preventive services may not expand use. There are several possible explanations for this finding. A high deductible may have deterred patients from seeking care for health problems that would have prompted a referral for some preventive or screening procedure. Alternatively, patients could have sought preventive care outside of their plan, for example through immunization clinics. Finally, new enrollees might not have understood that preventive care was covered, and over time as people become more familiar with plan provisions, the use of benefit design to encourage preventive service use may be more successful. Nonetheless, our finding suggests that policy makers may wish to explore programs to reinforce the financial incentives to promote preventive service use.

To address the potential effect of reductions in preventive care on the scale observed herein, we used estimates by Maciosek et al (2006) of the quality-adjusted life-years (QALYs)

Table 4. Preventive Care Results[a]

Variable	HDHP/CDHP	Control	Between Group Point Estimate (95% CI) Mean Difference
Effect of HDHP/CDHP on increase in child immunization, %			
Child immunization score at age 0 y (n = 22,627)	−3.64	2.68	−6.32 (−12.44 to −0.20)[b]
Child immunization score at age 1 y (n = 25,122)	−8.59	0.60	−9.20 (−14.17 to −4.24)[b]
Effect of HDHP/CDHP on screening and testing rates for adults, %[c]			
Mammography (n = 256,963)	27.5	30.28	−2.78 (−3.69 to −1.87)[b]
Cervical cancer (n = 373,381)	31.43	33.79	−2.37 (−3.14 to −1.60)[b]
Colorectal cancer (n = 209,373)	17.8	20.16	−2.36 (−3.27 to −1.44)[b]
Diabetes A1C measurement (n = 256,963)	44.04	41.91	2.13 (−3.52 to 7.79)

A1C indicates glycosylated hemoglobin; CI, confidence interval; HDHP/CDHP, high-deductible health plan/consumer-directed health plan.
[a]Unadjusted difference-in-difference estimates (for regression-adjusted estimates, see eAppendix 4).
[b]Significant difference at $P = .05$.
[c]Rates are for 2005, and the sample is restricted to those who were eligible and did not receive the recommended care in 2004.

associated with the cancer screenings we examined.[28] The estimated reductions in cancer screenings among HDHPs or CDHPs would reduce QALYs among 10,000 HDHP or CDHP enrollees by 32 to 41 QALYs per screening compared with comparable control plan enrollees.

There are several limitations of our study. First, we focus only on the first-year experience in an HDHP or a CDHP. Second, the amount of information we examined about what kind of care is reduced is limited. For example, the RAND Health Insurance Experiment found that cost sharing reduced both necessary and unnecessary care. Our results suggest that some appropriate care, namely, preventive services, is reduced in HDHPs or CDHPs, but further exploration of how they produce cost savings is needed to assess whether HDHPs or CDHPs should be embraced as a cost-saving approach or introduced with caution (eg, as detailed by Wharam et al[11] about colorectal cancer screenings). Third, family-level and firm-level selection remains the main threat to the validity of our conclusions, as with all observational studies of HDHPs or CDHPs.

Overall, our study findings suggest that HDHPs or CDHPs produce at least 1-time savings in the first year. The results highlight the need for further research to understand whether costs continue to grow more slowly for HDHP or CDHP enrollees and whether these enrollees increase their use of preventive care over time as they become more familiar with plan provisions.

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