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How are consumer-driven health plans impacting drug spending?

When consumers are given the keys to a consumer-driven health plan (CDHP), what route do they take? Do they put on the brakes and reduce their medication usage? Do they change gears and switch from brand name to generic drugs? Do they alter the way they interact with health care providers? Do they avoid emergency medical care? The answers to these questions impact how everyone in the health care spectrum — from providers and pharmaceutical companies to employers and policymakers — make decisions about the future.

Shifting responsibility

A CDHP typically features a tax-advantaged savings or spending account — such as a health savings account (HSA) or health reimbursement account (HRA) — and a high-deductible health plan with a relatively low premium. Employees use the HSA or HRA to pay their out-of-pocket health care expenses. HSAs may be funded by employees, employers, or both. In contrast, HRAs can only be employer-funded.

Use of, and enrollment in, CDHPs are on the rise. According to Mercer's National Survey of Employer-Sponsored Health Plans, the percentage of employers offering a CDHP increased from 17 percent to 22 percent between 2010 and 2012. In 2012, nearly 60 percent of employers with 20,000 or more employees offered a CDHP.

Companies often choose to offer CDHPs as a way to address rising health care costs by transferring more responsibility and control of health care spending to patients. As patients gain increased responsibility for how their health care dollars are spent, the hope is that they will make more informed, cost-conscious decisions. Which brings us to the overarching question: Will they act like patients, consumers, or some combination of both?

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The power of information

Unique access to claims data from a large, managed health care plan enabled us to take a remarkable look at the behavior of patients in high-deductible consumer-driven health plans.

Searching for answers

Optum™ set out to shed light on this topic with an in-depth examination of how patients behave when they switch to a high-deductible CDHP. The goal of this study is to expand the knowledge base about high-deductible CDHPs and help quantify the impact of these popular plans on the health care system.

The study

We conducted a retrospective cohort analysis using pharmacy and medical claims data and enrollment information from a large, managed U.S. health care plan. The claims database included data for approximately 19 million covered lives.

- We looked at claims from 2008 to 2012 submitted by physicians, facilities and pharmacies for payment of services provided to covered health plan members.
- Each patient included in the study was assigned an Index Point indicating when they changed from a non-high-deductible plan to a high-deductible CDHP.
- Patients needed 12 months of continuous eligibility before and 24 months after the Index Point to be included. The 24-month time frame was chosen to give patients time to adjust to their new plan.
- Only patients under the age of 64 were included. This simplified the analytics by eliminating the need to worry about coordination of benefits, supplement plans, etc.

Patients were split into two treatment groups, with two corresponding control groups (see Figure 1).

- **Single Offering group:** Patients in this group were not given a choice of health care plans by their employer. The only plan offered to them at the Index Point was a high-deductible CDHP.
- **Choice group:** Patients in this group were given a choice. Their employer offered a mix of non-high-deductible plans and high-deductible CDHPs to choose from.

The two groups were created to reduce the impact of a "patient choice" or "employer" bias. The inclusion of a Single Offering group eased the patient choice bias that might occur when, given a choice, healthier patients select a plan with a high deductible and lower premium, while less healthy patients avoid a high-deductible plan. Meanwhile, the Choice group lessened the effect of a possible "employer" bias that might result when employers decide to offer only a high-deductible plan because they have had excessive claims in the past.

There were 74,998 patients enrolled in a high-deductible CDHP plan (10,702 Single Offering + 64,296 Choice). These patients were Propensity Score-matched to those in corresponding control groups by age, gender, income, race, state and health status.

Before examining the behavior of the patients in the study, we wanted to look at the patients themselves. As the charts in Figure 2 show, the income, age, gender and ethnicity splits were nearly identical between the treatment groups.

Figure 1

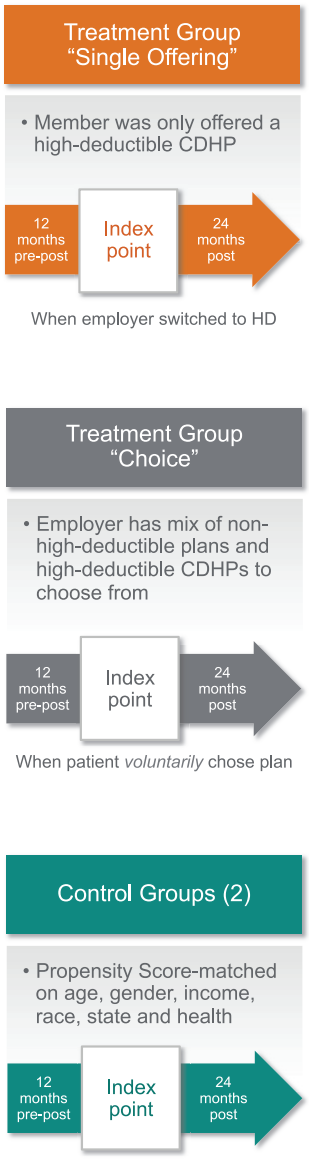
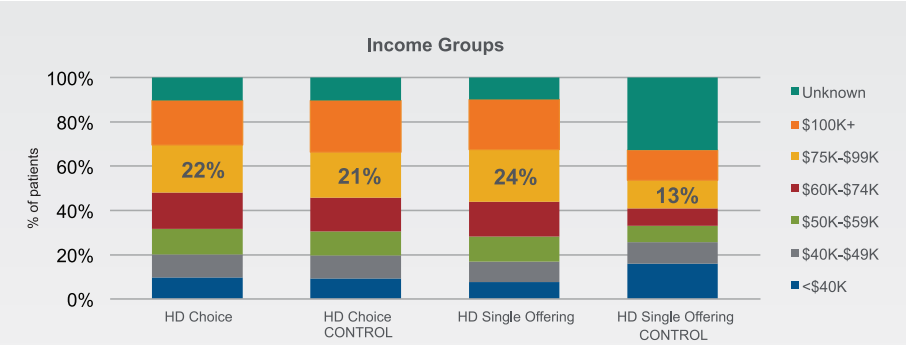
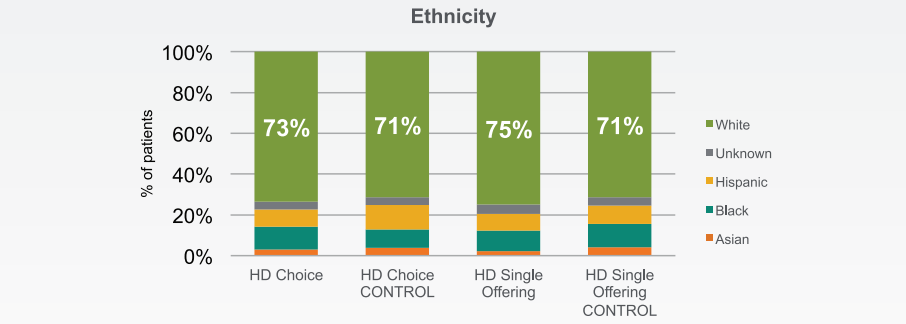


Figure 2





Metric	HD Single Offering	HD Choice	HD Single Offering Cntrl	HD Choice Cntrl
Average Age	37	37	39	36
% Female	53%	53%	56%	56%

The findings: Drug trends

As expected, the average out-of-pocket (OOP) drug costs **per patient**, as well as **per patient per claim**, increased markedly for both of the treatment groups, while the costs remained fairly constant for the control groups (see Figure 3). For example, the average OOP drug costs per patient for the Choice treatment group jumped more than $70 (nearly 32 percent from $232 to $306) from the year before they switched to a high-deductible CDHP to the two years after they switched.

In contrast to drug costs, an examination of drug claims presented a bit of a surprise. While we expected to see a reduction in claims in the treatment groups as the rise in patient costs pushed demand down, the results did not bear this out. The percentage of patients with a drug claim stayed relatively flat and consistent for all the groups.

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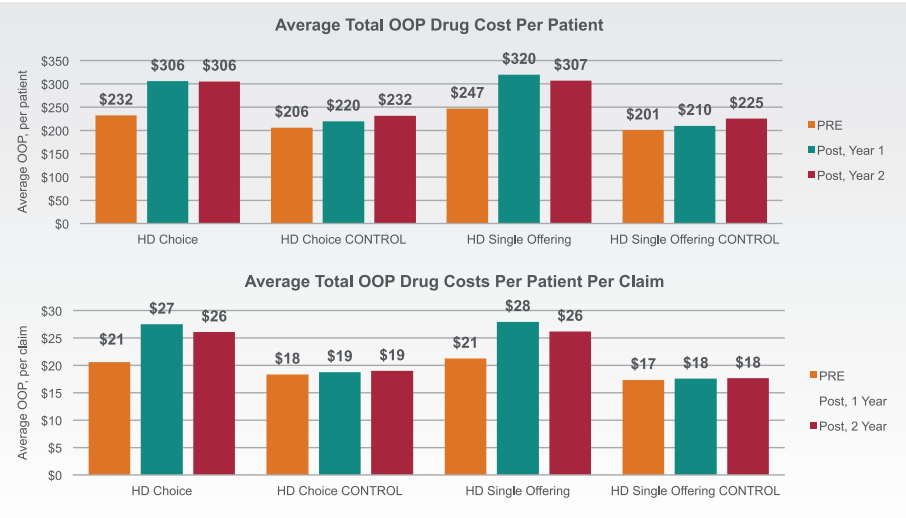
Figure 3



OOP= out of pocket; includes copay and deductible

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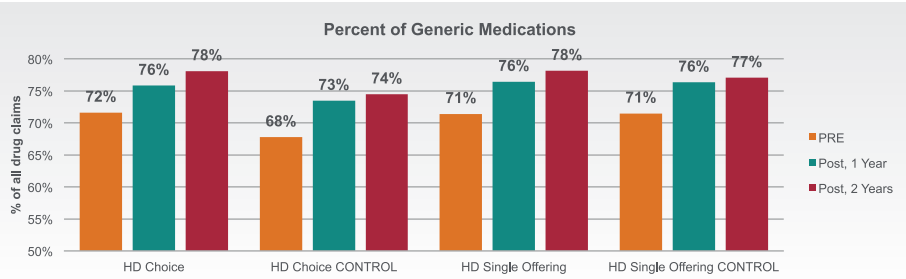
Generic vs. branded drug usage

The next question we wanted to answer was, "Are patients in high-deductible CDHPs moving more to generic drugs?" The answer was yes. However, the answer was also yes for patients in the control groups, as Figure 4 shows. What we see here are market-driven behavior changes as patients on a whole migrated to generic medications, and not behavior attributable to the impact of high-deductible CDHPs.

Figure 4

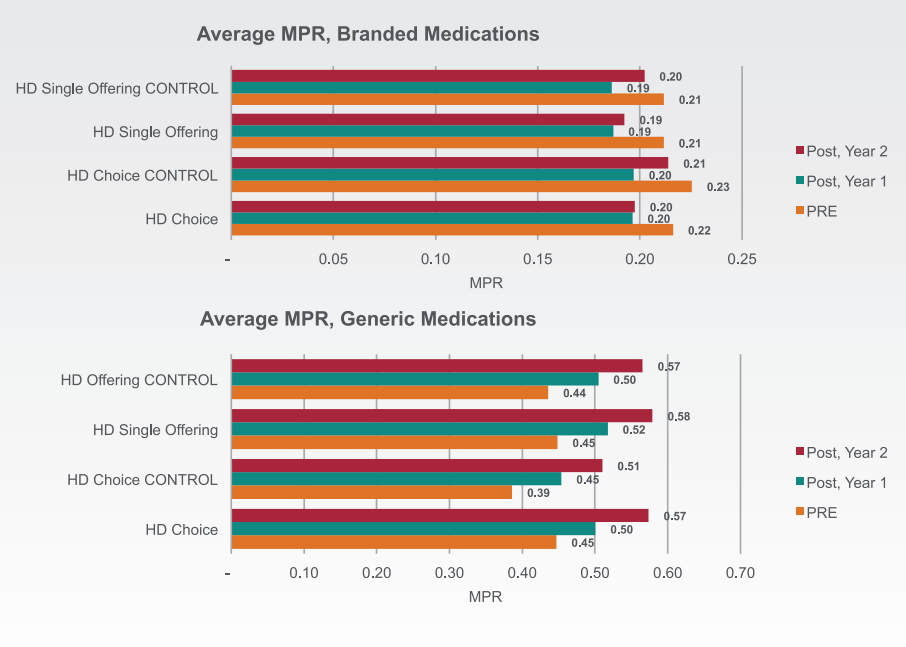


Key insight: These results may have been influenced by some very large products going generic during the study period. It's important to note that the increase in generic drug usage was a bit larger for the treatment groups than the control groups from year one to year two after the Index Point. That difference may start to expand in years three and four if the market forces ease some.

We found similar results when we looked at another measure of medication demand: medication possession ratio (MPR). MPR measures how much of a drug a patient has on hand and is calculated by dividing the number of days supply of a drug a patient has by the number of days tracked, e.g., 365 days supplied/365 days.

The charts in Figure 5 show a slight decrease in MPR for branded medications across all groups (for example, the MPR for branded medications in the Choice treatment group went down from .22 to .20), and an increase in MPR for generic medications across all groups. Again, these appear to be market-driven results as patients opt more for generic drugs in general, not CDHP-driven.

Figure 5



Medication possession ratio (MPR)= sum days supply / time period

Brand name drug usage for chronic conditions

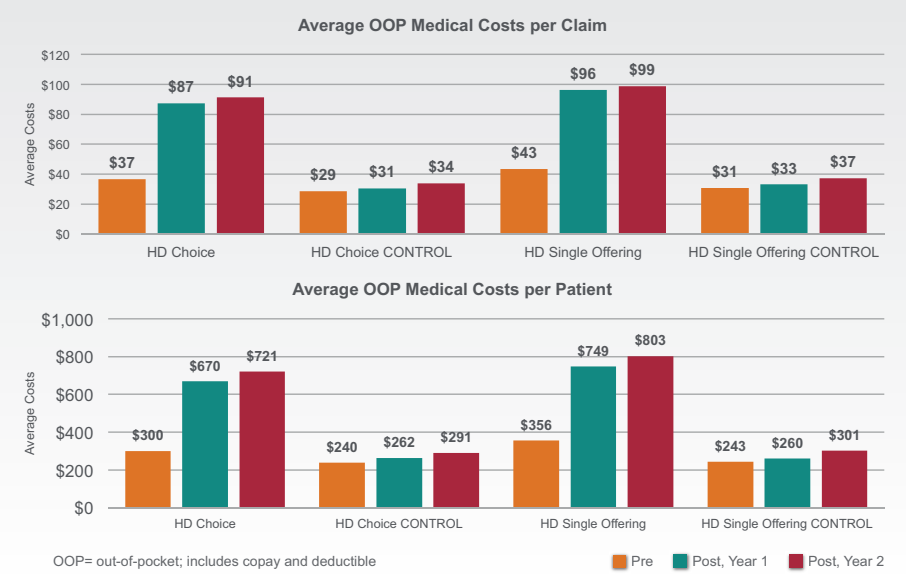
Taking a deeper dive into the data, we examined the demand for branded drugs used for four common chronic conditions: asthma, depression, diabetes and hypertension. For the first time, we see differences attributable to the change to a high-deductible CDHP, particularly in the asthma and hypertension drugs markets. Using asthma medications as an example, we see a drop in MPR in both of the treatment groups, while the MPR rose for the Choice control group and stayed fairly flat for the Single Offering control group. The difference is even more dramatic for hypertension medications, for which the MPR dropped significantly more for the treatment groups as compared to the control groups.

Key insight: It appears patients in high-deductible CDHPs choose to use less of some branded medications for chronic conditions in the first two years after enrolling in their plan.

The findings: Medical trends

As with drug costs, there were no surprises when we examined the OOP medical costs for patients in a high-deductible CDHP. Both the **cost per patient** and **cost per patient per claim** rose sharply, more than doubling in both the treatment groups in the first year (see Figure 6).

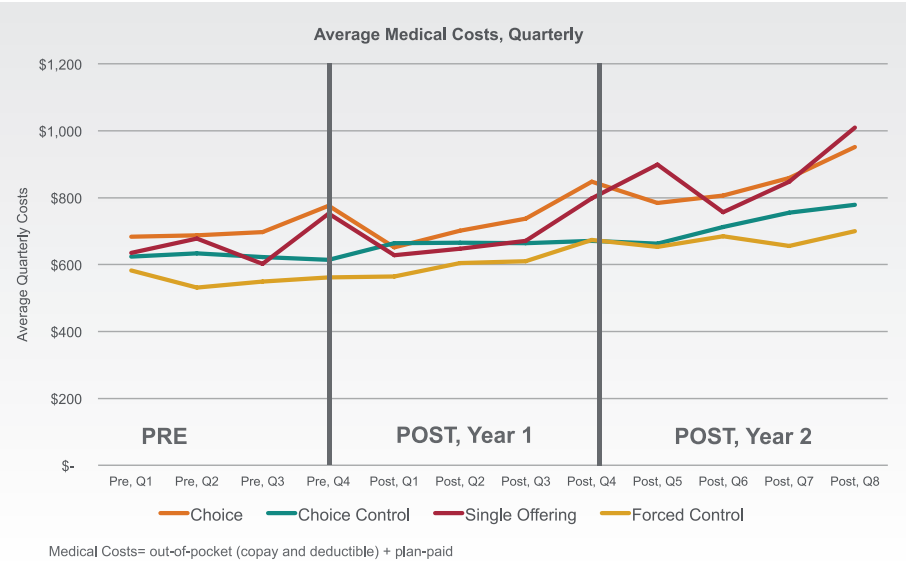
Figure 6



Viewing medical costs from another angle, we see an interesting trend. Figure 7 shows **total medical costs** (OOP + plan paid) by quarter before and after the Index Point. Prior to the Index Point and during the first part of the first year afterward, the costs in each group track each other rather consistently. However, at the end of the first year after the Index Point and continuing through the second, the costs for the treatment groups start to diverge upward away from the control groups.

The medical costs for the treatment groups start to diverge upward away from the control groups at the end of the first year after the Index Point.

Figure 7



Key insight: A possible reason for this divergence of costs between the treatment and control groups could be that high-deductible patients avoid physician and hospital visits when they are new to their plan, but necessity forces them to get care after they are in the plan for awhile. Lack of familiarity with how the plan works at the outset may also cause some patients to delay obtaining medical care.

Medical visits

The same reasons postulated above may have caused the results we saw when we examined medical visits, which included office, lab, inpatient, ER and outpatient visits. The results show a slight dip in visits for the treatment groups in the first year after they switched to their new high-deductible CDHP. However, the number of visits for both treatment groups start to climb back up in year two. Increased need and understanding of the plan may prompt patients to seek more care in year two.

To get a better understanding of how a high-deductible CDHP may affect medical visits, we broke the data out by different types of visits: ER, inpatient and office (see Figure 8).

Starting with **ER visits**, we see the high-deductible CDHP making an impact:

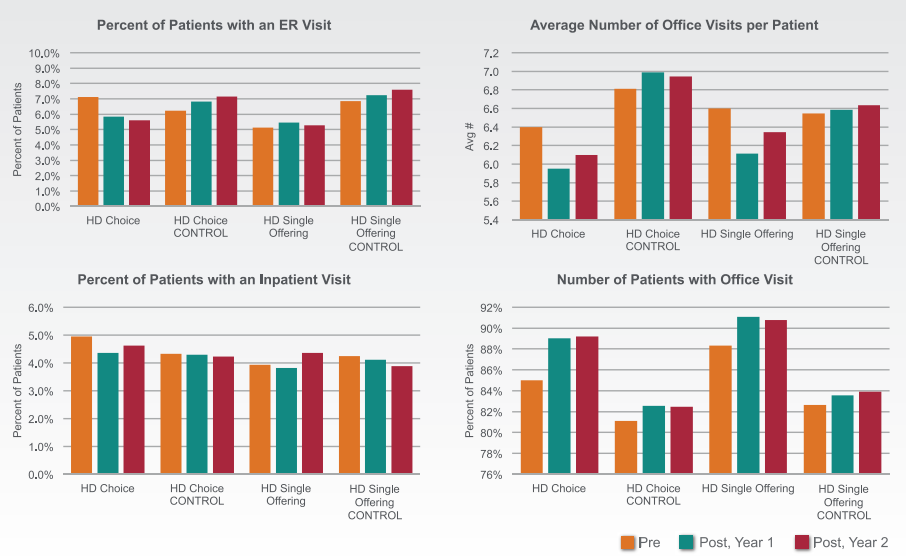
- There is a drop in the percentage of patients with an ER visit for the Choice treatment group, while the Choice control group's percentage increased.
- The percentage of patients with an ER visit in the Single Offering treatment group stayed fairly level, even though it increased for the Single Offering control group.

The change to a high-deductible CDHP appears to influence **how often a patient will visit their doctor** as well.

- The number of visits per patient drops for the Choice treatment group, while the Choice control group's visits per patient increased.
- Similarly, the frequency of office visits per patient for the Single Offering treatment group went down, while it increased slightly for the Single Offering control group.

It appears a high-deductible CDHP puts downward pressure on ER usage, while increasing overall engagement with primary care providers.

Figure 8



A high-deductible CDHP also seems to impact **how *many* patients visit their doctor's office.** The percentage of patients with at least one office visit increased for all of the groups, but the jump was more dramatic in the treatment groups than in the control groups.

Key insight: The rise in the number of patients with an office visit may be an indication that patients are substituting office visits for ER visits. Another possibility is that more patients may be taking advantage of the fact that certain preventive care services provided at their doctor's office are covered by their high-deductible CDHP. In any case, it appears a high-deductible CDHP puts downward pressure on ER usage, while increasing overall engagement with primary care providers.

Summary

In general, the study identified some behavioral shifts for patients who moved to a high-deductible CDHP, although those shifts were more subtle than originally expected. Here is a snapshot of the study's expectations and findings.

Single Offering vs. Choice treatment groups

- **Expectation:** Less engagement with the health care system by patients in the Choice treatment group since they were healthier and presumably selected the plan primarily for the premium savings.
- **Finding:** Little to no difference in how patients in the two treatment groups utilized the health care system.

Drug and medical costs

- **Expectation:** An increase in patient drug and medical costs.
- **Finding:** Drug and medical costs rose significantly *per patient* and *per patient per claim* for those enrolled in a high-deductible CDHP. In the first year after enrollment, medical costs more than doubled.

Drug utilization

- **Expectation:** A wide-scale movement from brand name drugs to generic drugs by patients after they enrolled in a high-deductible CDHP.
- **Finding:** A reduction in the usage of some branded chronic drug medications; otherwise, not much difference in utilization of generic vs. branded medications.

Medical utilization

- **Expectation:** Decrease in utilization by patients after they enrolled in a high-deductible CDHP.
- **Finding:** Overall, a decline in medical visits in the first year after enrollment, but a movement back up in year two. While these patients were less inclined to visit the ER, there was a significant increase in the percentage of patients with a doctor's office visit. On the other hand, patients who went to the doctor visited less frequently.

Despite an ease in patient costs associated with a high-deductible CDHP, drug and medical utilization was relatively constant within the first 12 and 24 months of coverage.

Conclusions

A shift to a high-deductible CDHP does not appear to impact patient behavior to the degree that many in the health care continuum assumed it would. In our study, drug and medical utilization by patients enrolled in a high-deductible CDHP was relatively steady for the first two years after enrollment. Look for longer-range and more specific studies from Optum as we continue to examine this important topic and track patient behavior and health over time.

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