CENTER FOR THE STUDY OF HEALTH IN PUBLIC POLICY
UNIVERSITY of WASHINGTON

SHIPP Issue Brief

June 2017

High-Deductible Health Plans

Lindsay White, PhD, MPH

High-deductible health plans (HDHPs) provide insurance coverage at a low monthly premium, but expose consumers to higher cost-sharing for most health services than traditional plans. High-deductible plans are increasingly prevalent in both the employer-sponsored and individual health insurance markets. Consequently, it is critical to understand the effects of HDHPs on the affordability of health care for consumers, health care costs and utilization, and health outcomes. The evidence is somewhat limited by inadequate study designs, short follow-up times, variations in HDHP features, and a dearth of studies examining health outcomes.

However, the evidence we have suggests HDHPs:

1. are less affordable than traditional plans because of cost-sharing requirements that exceed the financial resources of many consumers;
2. lead to fewer office and emergency department visits and about the same use of preventive services as traditional plans, at least in the short run (1-2 years), though findings across studies are inconsistent; and
3. may result in poorer health outcomes for consumers of low socioeconomic status.

Findings

HDHPs MAY RESULT IN POORER HEALTH OUTCOMES FOR CONSUMERS OF LOW SOCIOECONOMIC STATUS.

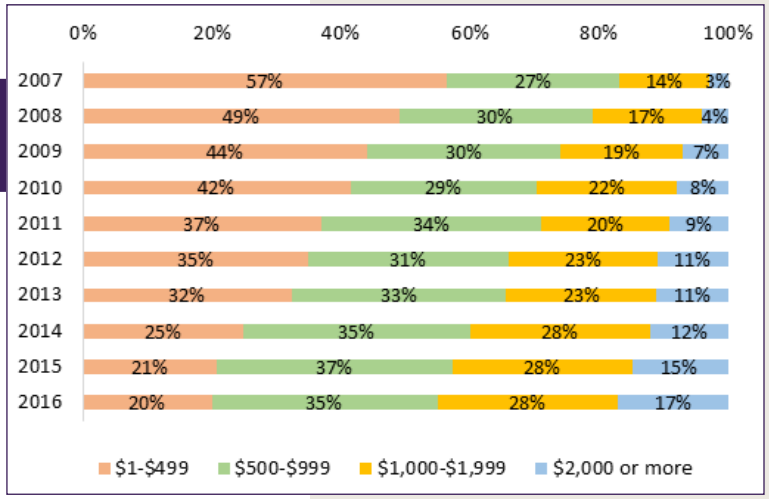


Figure 1:
Distribution of annual deductibles for single coverage after any HRA/HSA contributions, 2007-2016

Source: Kaiser Family Foundation (KFF)/Health Research and Educational Trust (HRET) Survey of Employer-Sponsored Health Benefits, 2007-2016

Theory Supporting HDHPs

High-deductible plans aim to reduce health care costs by subjecting consumers to the financial consequences of their health care choices. Proponents theorized that consumers will alter their behavior to minimize their cost-sharing by reducing unnecessary health care utilization, selecting more affordable providers, and adopting healthier behaviors.[1,2]

Proliferation of HDHPs

High-deductible health plans are spreading rapidly in the employer-sponsored health insurance market, as shown in Figure 1. Said another way, in 2010, just over a quarter of employees with health insurance coverage had a deductible of greater than $1,000 for single coverage. By 2015, nearly half of employees did.[3,4]

The Center for the Study of Health in Public Policy (SHIPP) is an interdisciplinary research center that explores how all policy—not just healthcare policy—impacts the health of individuals and communities.

Director: Michelle Garrison, PhD

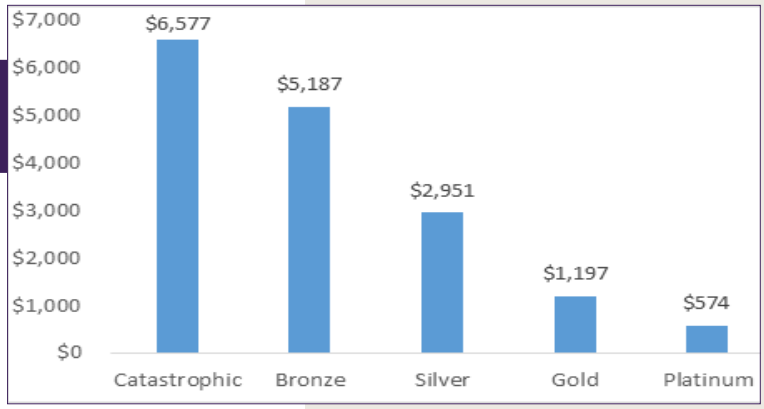
High deductible plans have also become the dominant type of insurance on the health insurance exchanges created by the Patient Protection and Affordable Care Act.[3] For example, Washington State's Office of the Insurance Commissioner reported that health plans offered in 2016 had significantly higher deductibles than 2015 plans.[5] In 2015, 49 plans had deductibles lower than $1,300 and 8 plans had deductibles greater than $6,000. In 2016, only 25 plans offered deductibles lower than $1,300, while the number of plans with deductibles greater than $6,000 grew to 28.

Evidence – Affordability

Studies on the effects of HDHPs on the affordability of health care have used two approaches: (1) surveys of consumers to ask about health care-related financial burden, or (2) comparisons of out-of-pocket (OOP) costs in HDHPs to self-reported income and assets. Surveys inquiring about financial burden (e.g., problems paying medical bills, delaying or foregoing needed care) have all concluded that people with HDHPs are significantly more likely to report experiencing health care-related financial burden than people in traditional insurance plans.[6-9]

Comparisons of OOP costs to income have found that, among low- and middle-income consumers, those with HDHPs are significantly more likely than those in traditional plans to exceed "affordability" (costs to income ratios) thresholds (studies have used 3%, 10% and 20%).[7,10] Furthermore, a significant percentage of the non-elderly and non-poor population do not have sufficient household liquid assets to cover the deductible for a HDHP, and a majority do not have sufficient liquid assets to cover the OOP limit for a HDHP.[11,12]

Figure 2:
Average deductible for marketplace plans in 2014 (for plans with deductibles)



Source: Gabel J, Whitmore H, Green M, Stromberg S, Oran R. Consumer cost-sharing in marketplace vs. employer health insurance plans, 2015. New York, NY: The Commonwealth Fund; 2015.

Evidence – Costs and Utilization

Most prior research on the effects of HDHPs have focused on health care costs and utilization. Studies examining total costs have demonstrated inconsistent results, with several showing lower costs for HDHP consumers compared to consumers in traditional plans and several showing comparable costs.[13-19]

Research on the effects of HDHPs on utilization has produced varying results as well, depending on the area of utilization under examination. All but one study that examined outpatient visits has found that consumers with HDHPs have fewer outpatient office visits compared to consumers with traditional plans, an effect that was sustained throughout the follow-up period in all studies.[14,18-22]

Findings

PEOPLE WITH HDHPs ARE SIGNIFICANTLY MORE LIKELY TO REPORT EXPERIENCING HEALTH CARE-RELATED FINANCIAL BURDEN THAN PEOPLE IN TRADITIONAL INSURANCE PLANS.

Pharmaceuticals. About half of the studies on the use of pharmaceuticals have demonstrated reductions in prescription fills, lower adherence rates, and a greater likelihood consumers will discontinue some classes of drugs if they have high-deductible coverage compared to consumers with traditional insurance.[15,20,23-26] Other studies, however, found no difference in these measures between the two groups.[14,18,24,27,28] Only one study showed increased prescription drug use for HDHP enrollees relative to consumers in a traditional plan.[19]

Emergencies. A majority of studies examining emergency department (ED) use demonstrated fewer visits for consumers with high-deductible insurance relative to consumers in traditional plans during follow-up periods of either one or two years.[15,19,29-32] Only a couple of studies with similar follow-up periods showed no differences in ED use.[14,33] However, the study with the longest follow-up period of four years showed a significant increase in ED use among HDHP consumers relative to controls in the third and fourth year of follow-up.[20]

Hospital admissions. Findings from studies focusing on inpatient hospital admissions have been very inconsistent. One study showed a decline in hospital admissions for consumers with an HDHP compared to consumers with a traditional plan.[30] Two studies showed a relative decline in admission rates in year one of follow-up, but comparable rates in year two.[29,31] Two studies showed comparable rates of admissions throughout the follow-up period.[20,33] Finally, two studies showed significantly higher rates of admissions throughout a three year follow-up period.[14,16,18]

Prevention. Most studies have found no differences in receipt of preventive services (cancer screenings, disease monitoring tests, and well-child visits) between HDHP enrollees and those with a traditional health plan, when these services were exempt from the deductible.[22,34-38] One study, however, found reduced immunization rates among children in families covered by an HDHP compared to children in families with traditional insurance.[13] Another study found reduced cancer screening rates in the first year of follow-up that did not persist during the remaining three years of follow-up.[20] The only study that examined the receipt of preventive services that were subject to the deductible found a significantly reduced likelihood of mammograms, a reduced likelihood of Papanicolaou tests, and no difference in prostate cancer screening tests among consumers with a high-deductible plan.[15]

Evidence – Outcomes

Only a couple of studies have examined the effect of HDHPs on health outcomes other than ED visits and hospitalizations, but the limited evidence suggests HDHPs may result in poorer health outcomes for low-income consumers.[38,41] Results from the RAND Corporation's health insurance experiment showed a significant reduction in blood pressure for low-income individuals with high blood pressure who were on the free insurance plan compared to individuals on the cost-sharing plans.[41] Low-income individuals on the free plan who had vision problems at the beginning of the study also showed improved vision by the end of the study. A more recent study found that low-income HDHP consumers with diabetes experienced significantly increased visits to the ED for preventable acute diabetes complications relative to consumers in a traditional plan.[38]

The variety of studies of HDHPs has revealed several important nuances to the relationship between high deductibles and health care costs and utilization.

Features of the high-deductible plan design are important. For example, in studies in which a reduction in utilization was found for HDHP consumers, a higher deductible induced a larger reduction in utilization.[13,17,21,39] Similarly, limiting cost-sharing for specific services by exempting them from the deductible minimized reductions in utilization.[25,27,40]

HDHPs may reduce both necessary and unnecessary utilization.[21,29-32] For example, one study of outpatient utilization showed significant reductions in both low- and high-priority office visits among consumers with an HDHP relative to consumers in a traditional plan.21 Yet, a study of ED use showed only a decrease in low-severity repeat ED visits for consumers with an HDHP and no differences between the groups in first-time or high-severity visits.[30]

Effects of HDHPs on utilization were sometimes different depending on the socioeconomic status of the consumer.[27,32,33] For example, a study of ED visits demonstrated a reduction in only high-severity ED visits among low-income consumers with a HDHP relative to low-income consumers in a traditional plan.[32] In contrast, high-income consumers demonstrated only a relative reduction in low-severity ED visits.

Limitations of the Evidence

The research on the effects of HDHPs has several limitations. The designs of many of the studies made it difficult to establish a causal relationship between HDHP coverage and study findings. Yet, studies with a design that supported causal inference often examined only a single health plan and were limited in their generalizability. Additionally, the majority of studies had follow-up periods of only one or two years; the longest follow-up period was four years. Consequently, the long-term effects of HDHPs on affordability, utilization and costs, and outcomes remains unknown. Finally, differences in the features of the HDHPs makes comparisons between studies difficult.

Center for the Study of Health in Public Policy (SHIPP)

Department of Health Services, School of Public Health

University of Washington

References

1. Committee on Child Health Financing. High-deductible health plans. Pediatrics. 2014;133(5):e1461-1470.

2. Wilensky GR. Consumer-driven health plans: early evidence and potential impact on hospitals. Health Aff (Millwood). 2006;25(1):174-185.

3. Claxton G, Rae M, Panchal N, et al. Health Benefits In 2015: Stable Trends In The Employer Market. Health Aff (Millwood). 2015;34(10):1779-1788.

4. Parthasarathy S, Campbell CI. High-Deductible Health Plans: Implications for Substance Use Treatment. Health services research. 2016;51(5):1939-1959.

5. Washington State Insurance Commissioner Mike Kreidler. The State of Washington's Uninsured 2014-15: An examination of the health insurance market before and after the Affordable Care Act. 2016.

6. Collins SR, Rasmussen PW, Doty MM, Beutel S. Too high a price: Out-of-pocket health care costs in the United States. New York, NY: The Commonwealth Fund; 2014.

7. Galbraith AA, Ross-Degnan D, Soumerai SB, Rosenthal MB, Gay C, Lieu TA. Nearly half of families in high-deductible health plans whose members have chronic conditions face substantial financial burden. Health Aff (Millwood). 2011;30(2):322-331.

8. Galbraith AA, Soumerai SB, Ross-Degnan D, Rosenthal MB, Gay C, Lieu TA. Delayed and forgone care for families with chronic conditions in high-deductible health plans. J Gen Intern Med. 2012;27(9):1105-1111.

9. Reed M, Graetz I, Wang H, Fung V, Newhouse JP, Hsu J. Consumer-directed health plans with health savings accounts: whose skin is in the game and how do costs affect care seeking? Medical care. 2012;50(7):585-590.

10. Abdus S, Selden TM, Keenan P. The Financial Burdens Of High-Deductible Plans. Health Aff (Millwood). 2016;35(12):2297-2301.

11. Claxton G, Rae M, Panchal N. Consumer assets and patient cost sharing. Menlo Park, CA: Henry J. Kaiser Family Foundation; 2015.

12. Jacobs PD, Claxton G. Comparing the assets of uninsured households to cost sharing under high-deductible health plans. Health Aff (Millwood). 2008;27(3):w214-221.

13. Beeuwkes Buntin M, Haviland AM, McDevitt R, Sood N. Healthcare spending and preventive care in high-deductible and consumer-directed health plans. The American journal of managed care. 2011;17(3):222-230.

14. Borah BJ, Burns ME, Shah ND. Assessing the impact of high deductible health plans on health-care utilization and cost: a changes-in-changes approach. Health Econ. 2011;20(9):1025-1042.

15. Charlton ME, Levy BT, High RR, Schneider JE, Brooks JM. Effects of health savings account-eligible plans on utilization and expenditures. The American journal of managed care. 2011;17(1):79-86.

16. Feldman R, Parente ST, Christianson JB. Consumer-directed health plans: new evidence on spending and utilization. Inquiry : a journal of medical care organization, provision and financing. 2007;44(1):26-40.

17. Haviland AM, Eisenberg MD, Mehrotra A, Huckfeldt PJ, Sood N. Do "Consumer-Directed" health plans bend the cost curve over time? J Health Econ. 2016;46:33-51.

18. Parente ST, Feldman R, Christianson JB. Evaluation of the effect of a consumer-driven health plan on medical care expenditures and utilization. Health services research. 2004;39(4 Pt 2):1189-1210.

19. Waters TM, Chang CF, Cecil WT, Kasteridis P, Mirvis D. Impact of high-deductible health plans on health care utilization and costs. Health services research. 2011;46(1 Pt 1):155-172.

20. Fronstin P, Sepulveda MJ, Roebuck MC. Consumer-directed health plans reduce the long-term use of outpatient physician visits and prescription drugs. Health Aff (Millwood). 2013;32(6):1126-1134.

21. Hibbard JH, Greene J, Tusler M. Does enrollment in a CDHP stimulate cost-effective utilization? Med Care Res Rev. 2008;65(4):437-449.

22. Reddy SR, Ross-Degnan D, Zaslavsky AM, Soumerai SB, Wharam JF. Impact of a high-deductible health plan on outpatient visits and associated diagnostic tests. Medical care. 2014;52(1):86-92.

23. Chen S, Levin RA, Gartner JA. Medication adherence and enrollment in a consumer-driven health plan. The American journal of managed care. 2010;16(2):e43-50.

24. Greene J, Hibbard J, Murray JF, Teutsch SM, Berger ML. The impact of consumer-directed health plans on prescription drug use. Health Aff (Millwood). 2008;27(4):1111-1119.

25. Huckfeldt PJ, Haviland A, Mehrotra A, Wagner Z, Sood N. Patient responses to incentives in consumer-directed health plans: Evidence from pharmaceuticals. Cambridge, MA: National Bureau of Economic Research; 2015.

26. Parente ST, Feldman R, Chen S. Effects of a consumer driven health plan on pharmaceutical spending and utilization. Health services research. 2008;43(5 Pt 1):1542-1556.

27. Reed ME, Warton EM, Kim E, Solomon MD, Karter AJ. Value-Based Insurance Design Benefit Offsets Reductions In Medication Adherence Associated With Switch To Deductible Plan. Health Aff (Millwood). 2017;36(3):516-523.

28. Reiss SK, Ross-Degnan D, Zhang F, Soumerai SB, Zaslavsky AM, Wharam JF. Effect of switching to a high-deductible health plan on use of chronic medications. Health services research. 2011;46(5):1382-1401.

29. Kozhimannil KB, Law MR, Blauer-Peterson C, Zhang F, Wharam JF. The impact of high-deductible health plans on men and women: an analysis of emergency department care. Medical care. 2013;51(8):639-645.

30. Wharam JF, Landon BE, Galbraith AA, Kleinman KP, Soumerai SB, Ross-Degnan D. Emergency department use and subsequent hospitalizations among members of a high-deductible health plan. Jama. 2007;297(10):1093-1102.

31. Wharam JF, Landon BE, Zhang F, Soumerai SB, Ross-Degnan D. High-deductible insurance: two-year emergency department and hospital use. The American journal of managed care. 2011;17(10):e410-418.

32. Wharam JF, Zhang F, Landon BE, Soumerai SB, Ross-Degnan D. Low-socioeconomic-status enrollees in high-deductible plans reduced high-severity emergency care. Health Aff (Millwood). 2013;32(8):1398-1406.

33. Rabin DL, Jetty A, Petterson S, Saqr Z, Froehlich A. Among Low-Income Respondents With Diabetes, High-Deductible Versus No-Deductible Insurance Sharply Reduces Medical Service Use. Diabetes care. 2017;40(2):239-245.

34. Galbraith AA, Ross-Degnan D, Soumerai SB, et al. Use of well-child visits in high-deductible health plans. The American journal of managed care. 2010;16(11):833-840.

35. Rowe JW, Brown-Stevenson T, Downey RL, Newhouse JP. The effect of consumer-directed health plans on the use of preventive and chronic illness services. Health Aff (Millwood). 2008;27(1):113-120.

36. Wharam JF, Galbraith AA, Kleinman KP, Soumerai SB, Ross-Degnan D, Landon BE. Cancer screening before and after switching to a high-deductible health plan. Ann Intern Med. 2008;148(9):647-655.

37. Wharam JF, Graves AJ, Zhang F, Soumerai SB, Ross-Degnan D, Landon BE. Two-year trends in cancer screening among low socioeconomic status women in an HMO-based high-deductible health plan. J Gen Intern Med. 2012;27(9):1112-1119.

38. Wharam JF, Zhang F, Eggleston EM, Lu CY, Soumerai S, Ross-Degnan D. Diabetes Outpatient Care and Acute Complications Before and After High-Deductible Insurance Enrollment: A Natural Experiment for Translation in Diabetes (NEXT-D) Study. JAMA Intern Med. 2017;177(3):358-368.

39. Lo Sasso AT, Helmchen LA, Kaestner R. The effects of consumer-directed health plans on health care spending. Cambridge, MA: National Bureau of Economic Research; 2009.

40. Wharam JF, Zhang F, Landon BE, LeCates R, Soumerai S, Ross-Degnan D. Colorectal Cancer Screening in a Nationwide High-deductible Health Plan Before and After the Affordable Care Act. Medical care. 2016;54(5):466-473.

41. Manning WG, Newhouse JP, Duan N, Keeler EB, Leibowitz A, Marquis MS. Health insurance and the demand for medical care: evidence from a randomized experiment. The American economic review. 1987;77(3):251-277.