By Salam Abdus, Thomas M. Selden, and Patricia Keenan

DOI: 10.1377/hlthaff.2016.0842
HEALTH AFFAIRS 35,
NO. 12 (2016): 2297–2301
©2016 Project HOPE—
The People-to-People Health
Foundation, Inc.

DATAWATCH

The Financial Burdens Of High-Deductible Plans

The increased prevalence of high-deductible health plans raises concerns regarding high financial burdens from health care, particularly for low-income adults.

Salam Abdus (salam.abdus@ahrq.hhs.gov) is a senior economist at the Center for Financing, Access and Cost Trends at the Agency for Healthcare Research and Quality, in Rockville, MD.

Thomas M. Selden is director of the Division of Research and Modeling, Center for Financing, Access and Cost Trends, at the Agency for Healthcare Research and Quality.

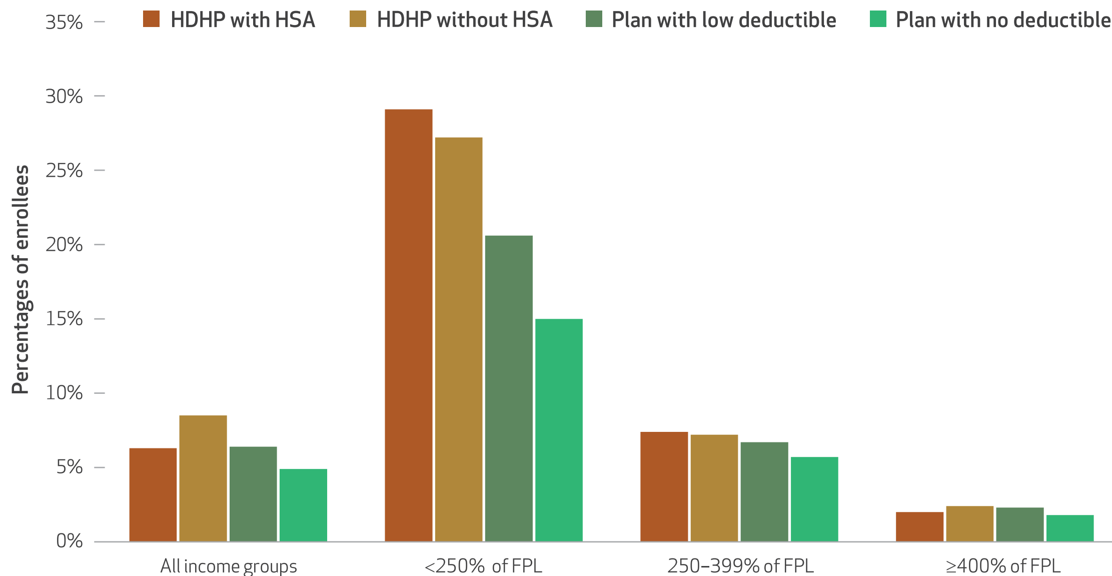
Patricia Keenan is a senior economist in the Office of the Director at the Agency for Healthcare Research and Quality.

Since its implementation, the Affordable Care Act (ACA) has done much to improve health insurance coverage for those lacking employer-sponsored insurance. However, the increasing prevalence of high-deductible health plans offered by employers raises important policy questions regarding out-of-pocket spending burdens on low-income families.[1] Prior research using data from the mid-2000s found that enrollees in high-deductible health plans were experiencing greater financial burdens than those with lower-deductible plans.[2–4] The prevalence of high-deductible health plans within employer-sponsored insurance has more than doubled since the mid-2000s.[5] However, no recent research has measured the actual financial burdens associated with high-deductible health plans, and we know of no prior nationally representative studies examining these burdens by income level. In this study we attempted to fill that research gap by examining the association between high-deductible health plans and high out-of-pocket burdens among people at various income levels with employer-sponsored insurance.

Compared to enrollees with middle or high incomes, those with family incomes below 250 percent of the federal poverty level experienced markedly higher frequencies of spending

EXHIBIT 1

Percentage of nonelderly adults with employer-sponsored insurance facing health care burden exceeding 20 percent of family income, by income and deductible level, 2011–13



SOURCE Authors' calculations of data from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey, 2011–13. **NOTES** The sample includes all nonelderly adults (ages 19–64) enrolled in employer-sponsored insurance plans for a full year who provided valid information about their plan types and who did not have a mix of plans with different levels of deductibles. *Financial burden* is defined as the ratio of total annual family out-of-pocket spending for health care services and premiums divided by total annual after-tax family income. HDHP is high-deductible health plan. HSA is health savings account or similar special fund or account. FPL is federal poverty level.

Downloaded from http://content.healthaffairs.org/ by Health Affairs on August 7, 2017 by HW Team

more than 20 percent of after-tax income on premiums and health care in 2011–13—even in low- and no-deductible plans (Exhibit 1). While having a high-deductible plan had relatively little impact on burden frequency among middle- or high-income enrollees, we found that burden prevalence rose sharply with deductible levels for low-income enrollees.

Study Data And Methods

Data are from the 2011–13 Medical Expenditure Panel Surveys (MEPS), a nationally representative survey of the civilian noninstitutionalized population conducted annually by the Agency for Healthcare Research and Quality.[6] MEPS offers a unique resource for examining high-deductible health plan burdens because it contains detailed information on health expenditures and use, health insurance coverage, premiums, income, and other demographic and socioeconomic variables. Starting in 2011, for individuals with private insurance coverage, MEPS asked whether plans had deductibles and, if so, whether they exceeded specified amounts (for example, $1,250 for individual plans and $2,500 for family plans in 2013), which correspond to Internal Revenue Service thresholds for high-deductible plans.[7] We defined *low-deductible* and *high-deductible* plans as those with positive deductibles below or above these thresholds, respectively. MEPS also collects information on whether high-deductible plans are associated with health savings accounts (HSAs) or similar special funds or accounts.

Our study population included adults ages 19–64 who were enrolled in employer-sponsored insurance throughout the year and did not have any other type of public or private coverage. We focused on employer-sponsored insurance because it is the dominant form of private insurance in the United States and because the nongroup market has undergone major changes as a result of the ACA. We pooled three years of data to improve precision. From our initial sample of 26,401 observations, we excluded 5,362 that were missing plan type information and another 153 that had a mix of plan types. The final sample size was 20,886. (Online Appendix Table 1 provides descriptive statistics by deductible and income level.)[8]

Following previous literature, we defined *health care burden* as the ratio of total annual family out-of-pocket spending for health care services and premiums divided by total annual family disposable income.[9,10] We defined *high burden* using first a 20 percent threshold and then a 10 percent threshold (the two most common thresholds in the literature). We defined *low income* as below 250 percent of poverty, *middle income* as 250–399 percent, and *high income* as 400 percent and above.

We adjusted family disposable income for income taxes and Social Security and Medicare taxes using the web-based version of the National Bureau of Economic Research TAXSIM model.[11] All dollar values were adjusted to 2013 dollars using the Consumer Price Index for All Urban Consumers. All estimates were population weighted, and standard errors and Wald tests of significance of the differences across subgroups (presented in Appendix Tables 1–5)[8] accounted for the complex survey design of MEPS. All differences discussed in the Study Results section are significant at $p < 0.05$.

One limitation of our study was the frequency of observations lacking data for plan type, which we excluded from the analysis. However, the proportion of high-deductible plans to other plans in the non-missing MEPS data was similar to those found elsewhere,[1,12] and the burden rates for excluded adults, in general, were similar to those included in our sample (our complete results in Appendix Tables 2–5 include estimates for excluded adults).[8]

Another limitation was that MEPS did not ask about employer HSA contributions or HSA balances. While having an HSA can help reduce family burden, HSA prevalence was lowest among low-income families, the tax benefits are generally lowest for this group, and the average HSA balance at the end of 2013 was only $1,766 (and perhaps even lower among low-income families).[13] We explore the sensitivity of our results to this limitation below.

Study Results

Low-income enrollees reported significantly higher frequency of financial burden than did middle- and high-income enrollees (Exhibit 1). Even 15 percent of low-income adults in plans without deductibles had burdens exceeding 20 percent of their after-tax income. This frequency rose to 20.6 percent among low-income enrollees in low-deductible plans and to 29.1 percent among those with high-deductible plans with HSAs. In the two higher-income groups, burden frequencies were statistically significantly lower, with no significant differences in burden frequency across deductible levels.

The distribution of enrollees across deductible levels was nearly uniform across income levels: Approximately one-quarter of enrollees held high-deductible plans, about half held low-deductible plans, and about one-quarter held no-deductible plans (Exhibit 2). The share of high-deductible plan enrollees lacking an HSA

Downloaded from http://content.healthaffairs.org/ by Health Affairs on August 7, 2017 by HW Team

was somewhat more sensitive to income level. Overall, 61.6 percent of enrollees in such plans lacked an HSA—a share that rose from 57.2 percent in the top income group to 73.7 percent in the bottom income group.

High out-of-pocket burdens can stem from out-of-pocket spending on premiums, health care services, or a combination of the two. For the low-income group, the frequency of high financial burden from spending on health care services alone and spending on premiums alone were both highest among those with high-deductible health plans (although only the high-deductible versus no-deductible differences were statistically significant) (Exhibit 3). Among low-income adults in high-deductible plans, 14.9 percent of those with HSAs and 13.3 percent of those without HSAs had high financial burdens as a result of just premiums. (Appendix Tables 2–5 provide more details about our burden estimates.)[8]

Spending 10 percent of family income on premiums and health care services can be burdensome for low-income families, especially those with limited assets. When we reduced the high-burden threshold to 10 percent, burden rates exceeded 50 percent even for low-income families with low-deductible plans (Exhibit 4). There were also large differences in burden frequency across deductible levels in the middle-income group, ranging from 23.3 percent for those with no deductibles to 42.1 percent for those with

EXHIBIT 2

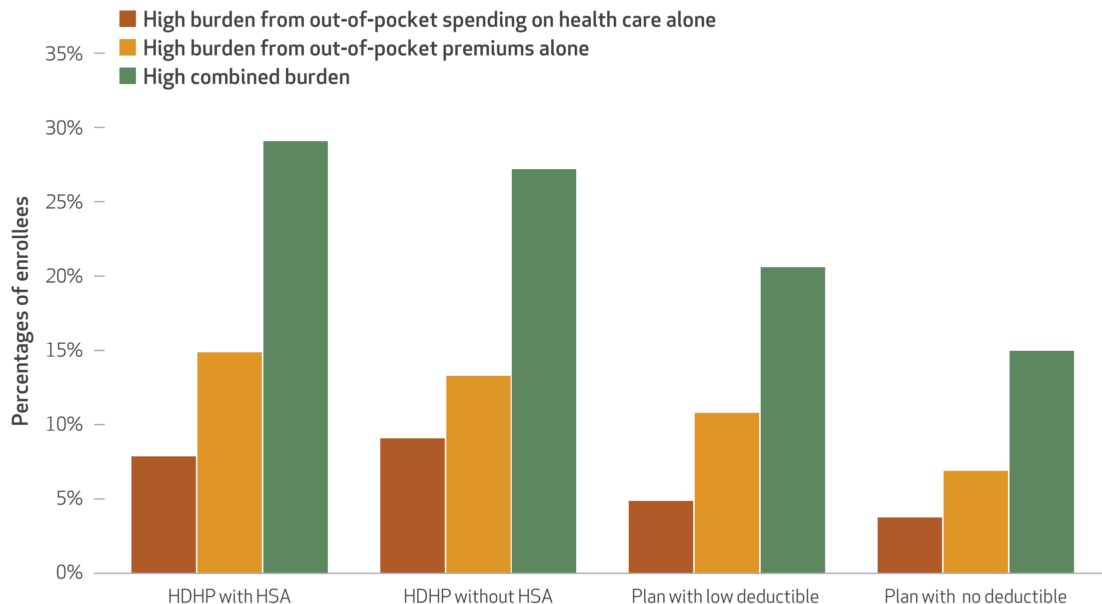
Deductible levels and HSA availability among nonelderly adults with employer-sponsored insurance, by income level, 2011–13

	Deductible level			Percent of high-deductible plan enrollees lacking an HSA
	No deductible	Low deductible	High deductible	
All income groups	26.5%	48.2%	25.3%	61.6%
<250% of poverty	26.1	48.2	25.7	73.7
250–399% of poverty	26.1	49.1	24.8	63.7
≥400% of poverty	26.8	47.8	25.4	57.2

SOURCE Authors' calculations of data from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey, 2011–13. **NOTES** The sample includes all nonelderly adults (ages 19–64) enrolled in employer-sponsored insurance plans for a full year who provided valid information about their plan types and who did not have a mix of plans with different levels of deductibles. Online Appendix Table 6 shows this table including standard errors (see Note 8 in text). All differences across income groups in the last column are significant ($p < 0.05$). HSA is health savings account or similar special fund or account.

EXHIBIT 3

Financial burden exceeding 20 percent of family income among nonelderly adults with employer-sponsored insurance and incomes below 250 percent of the federal poverty level, 2011–13



SOURCE Authors' calculations of data from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey, 2011–13. **NOTES** The sample includes all nonelderly adults (ages 19–64) enrolled in employer-sponsored insurance plans for a full year who provided valid information about their plan types and who did not have a mix of plans with different levels of deductibles. *Financial burden* is defined in the Notes to Exhibit 1. Combined burden percentages, from Exhibit 1, do not equal the sum of percentages for premiums alone and for health care services alone. This is because adults with premiums below 20 percent of family income and with spending on health care services below 20 percent of family income might nevertheless have combined burdens exceeding the 20 percent threshold (and a few adults have 20 percent financial burdens both from premiums alone and from health care services alone). HDHP is high-deductible health plan. HSA is health savings account or similar special fund or account.

Downloaded from http://content.healthaffairs.org/ by Health Affairs on August 7, 2017 by HW Team

high-deductible plans with HSAs.

Finally, to assess the sensitivity of our findings to the lack of detailed HSA data, we recalculated burdens assuming every high-deductible plan with an HSA received a $1,184 employer HSA contribution.[14] The 20 percent burden rate in the low-income group dropped from 29.1 percent to 26.8 percent when we treated the $1,184 as added after-tax income and dropped to 22.6 percent when the HSA contribution was instead treated as reducing out-of-pocket spending on health care (results not shown).

Discussion

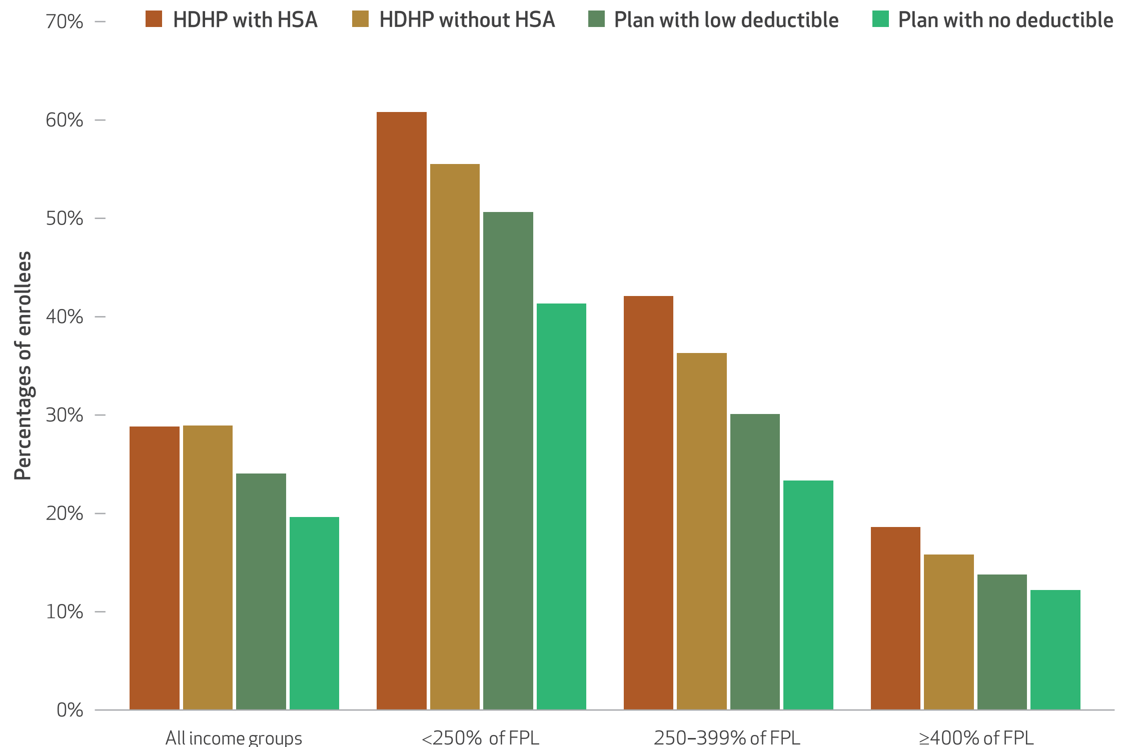
This study examined the association between high-deductible health plans and high out-of-pocket burdens among those with employer-sponsored insurance by income level. Two key results stand out. First, the frequency of high family out-of-pocket burdens increased sharply with plan deductible levels among low-income enrollees (those with family incomes below 250 percent of poverty), reflecting both higher health care spending and higher premium contributions.[14] In contrast, there were much smaller differences in high burden frequencies by deductible level in the higher-income groups. Second, regardless of deductible level, those in the low-income group were far more likely to have high burdens compared to those in the higher-income groups.

In 2014, the year after our study period, the main coverage provisions of the ACA took effect, expanding Medicaid eligibility for adults at or below 138 percent of the federal poverty level in states that opted for expansion and increasing the affordability of coverage in the individual market through subsidized federal and state-based Marketplaces. These reforms were in part an attempt to reduce high financial burdens for families lacking access to employer-sponsored insurance. The ACA might, however, help reduce some of the high financial burdens we observed among low-income adults with employer-sponsored insurance. For example, among low-income adults with health care financial burdens of 20 percent of their after-tax income, 19.6 per-

Downloaded from http://content.healthaffairs.org/ by Health Affairs on August 7, 2017 by HW Team

EXHIBIT 4

Percentage of nonelderly adults with employer-sponsored insurance facing health care burden exceeding 10 percent of family income, by income and deductible level, 2011–13



SOURCE Authors' calculations of data from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey, 2011–13. **NOTES** The sample includes all nonelderly adults (ages 19–64) enrolled in employer-sponsored insurance plans for a full year who provided valid information about their plan types and who did not have a mix of plans with different levels of deductibles. *Financial burden* is defined in the Notes to Exhibit 1. HDHP is high-deductible health plan. HSA is health savings account or similar special fund or account. FPL is federal poverty level.

cent had incomes below the ACA's Medicaid threshold of 138 percent of poverty in 2011–13 and resided in states that expanded Medicaid, making them potentially eligible for Medicaid as of 2014 (results not shown). An additional 9.4 percent held worker-only employer-sponsored plans with premiums in excess of 9.5 percent of pretax income—enabling them to receive Marketplace subsidies in 2014.[15] Nevertheless, for most low-income enrollees of employer-sponsored plans, high burden rates are likely to persist past 2014. ■

This research was presented at the American Society of Health Economists biennial conference, June 12–15, 2016, in Philadelphia, Pennsylvania. The views expressed in this article are those of the authors, and no official endorsement by the Department of Health and Human Services or the Agency for Healthcare Research and Quality is intended or should be inferred.

NOTES

1 Fronstin P. Findings from the 2013 EBRI/Greenwald and Associates Consumer Engagement in Health Care Survey. EBRI Issue Brief. 2013;(393):4–25.
2 Fronstin P, Collins SR. The 2nd annual EBRI/Commonwealth Fund Consumerism in Health Care Survey, 2006: early experience with high-deductible and consumer-driven health plans. EBRI Issue Brief. 2006;(300):1,5–47.
3 Collins SR, Kriss JL, Davis K, Doty MM, Holmgren AL. Squeezed: why rising exposure to health care costs threatens the health and financial well-being of American families. New York (NY): Commonwealth Fund; 2006 Sep.
4 Davis K, Doty MM, Ho A. How high is too high? Implications of high-deductible health plans. New York (NY): Commonwealth Fund; 2005 Apr.
5 Claxton G, Levitt L, Long M. Payments for cost sharing increasing rapidly over time [Internet]. New York (NY): Peterson Center on Healthcare; 2016 Apr 12 [cited 2016 Oct 17]. Available from: http://www.healthsystemtracker.org/insight/payments-for-cost-sharing-increasing-rapidly-over-time/
6 Agency for Healthcare Research and Quality. Medical Expenditure Panel Survey: MEPS HC-163: 2013 full year consolidated data file [Internet]. Rockville (MD): AHRQ; 2015 Sep [cited 2016 Oct 17]. Available for download from: http://www.meps.ahrq.gov/mepsweb/
7 The specified deductible amounts were $1,200 for individual plans and $2,400 for family plans in 2011 and 2012, and $1,250 for individual plans and $2,500 for family plans in 2013. These amounts correspond to the contemporaneous minimum annual deductibles for high-deductible health plans as defined by the Internal Revenue Service. See Internal Revenue Service. Publication 969, health savings accounts and other tax-favored health plans [Internet]. Washington (DC): IRS; [cited 2016 Oct 17]. Available from: https://www.irs.gov/uac/about-publication-969
8 To access the Appendix, click on the Appendix link in the box to the right of the article online.
9 Banthin JS, Bernard DM. Changes in the financial burden of health care: national estimates for the population younger than 65 years, 1996 to 2003. JAMA. 2006;296(22):2712–9.
10 Cunningham PJ. The share of people with high medical costs increased prior to implementation of the Affordable Care Act. Health Aff (Millwood). 2015;34(1):117–24.
11 Feenberg D, Coutts E. An introduction to the TAXSIM model. J Policy Anal Manag. 1993;12(1):189–94.
12 Fronstin P. Satisfaction with health coverage and care: findings from the 2011 EBRI/MGA Consumer Engagement in Health Care Survey. EBRI Notes. 2012:33(8):2–6.
13 Fronstin P. HSA balances, contributions, distributions, and other vital statistics—a first look at data from the EBRI HSA database on the 10th anniversary of the HSA. EBRI Issue Brief. 2014;(400):1–32.
14 These results are broadly consistent with evidence from a New England health plan. See 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):322–31.
15 Some families with family coverage might also have faced worker-only premiums above the threshold for subsidy eligibility. The Medical Expenditure Panel Survey does not provide worker-only premium data in these cases. However, the federal poverty level and the associated thresholds are higher for multi-person families, so that eligibility for Marketplace subsidies is likely to be infrequent in this group. See Hudson JL, Hill SC, Selden TM. If rollbacks go forward, up to 14 million children could become ineligible for public or subsidized coverage by 2019. Health Aff (Millwood). 2015;34(5):864–70.

Downloaded from http://content.healthaffairs.org/ by Health Affairs on August 7, 2017 by HW Team