

## Persistency in High-Cost Health Care Claims: “It’s Where the Spending Is, Stupid”

By Paul Fronstin, Ph.D., Employee Benefit Research Institute,  
and M. Christopher Roebuck, Ph.D., RxEconomics, LLC

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### AT A GLANCE

In the seminal paper “It’s The Prices, Stupid: Why The United States Is So Different From Other Countries,” Uwe E. Reinhardt and his co-authors concluded: “The United States spent considerably more on health care than any other country, whether measured per capita or as a percentage of GDP. At the same time, most measures of aggregate utilization such as physician visits per capita and hospital days per capita were below the OECD median...U.S. policymakers need to reflect on what Americans are getting for their greater health spending. They could conclude: It’s the prices, stupid.”

There is a corollary that applies to employer attempts to manage health care spending: “High-health-cost claimants are where the spending is, stupid.” Generally, 20 percent of the population accounts for 80 percent of total spending on health care services. Yet employers offer health plans that in large part look and feel the same to plan enrollees whether they are high users, moderate users, or low users of health care services even while targeting high users will have the biggest bang for the buck. Of course, high users are the most challenging population to address.

This study examines the concentration of health spending among individuals with employment-based health benefits as well as persistency in those expenditures over a five-year period. The data on use of health care services, health conditions, and spending for this study come from claims on 5.8 million policyholders and dependents with employment-based health benefits who could be followed for the entire 2013–2017 period.

#### Key Findings:

- Twenty percent of the population accounted for 84 percent of total health spending, 10 percent of the population accounted for 70 percent of spending, 5 percent accounted for 56 percent of spending, and 1 percent accounted for 28 percent of spending.
- When it came to persistency in high-cost claims, 27 percent were in the top 10 percent of spending in at least one year, while 73 percent were never in the top 10 percent. Among the 27 percent who were ever in the top 10 percent, 21 percent were in the top 10 percent only one or two years, 4 percent were in the top 10 percent three or four years, and only 2 percent were in the top 10 percent each of the five years.
- The 5.8 million individuals examined in this study used \$38 billion in health care in 2017. The 2 percent of the population in the top 10 percent of spending every year between 2013 and 2017 accounted for 19 percent of total spending in 2017. In contrast, the 73 percent of the population who were never in the top 10 percent of spending from 2013–2017 accounted for only 20 percent of spending in 2017.
- The characteristics of the persistently high-cost claimant group were different from the characteristics of the population never in the top 10 percent. Individuals temporarily in the top 10 percent of claimants had

characteristics similar to those in the top 10 percent for all five years studied. Sixty-three percent of those persistently in the top 10 percent of claimants, as well as 59 percent of those in the top 10 percent three or four years, were ages 50–64, compared with 30 percent among those never in the top 10 percent. Persistently high-cost claimants were also much more likely to be the spouse of the policyholder. We found that 32 percent of those in the top 10 percent of claimants all five years were the spouse of the policyholder, compared with only 16 percent among those never in the top 10 percent of claimants.

- One-third of individuals persistently in the top 10 percent of claimants had diabetes. Among individuals in the top 10 percent of claimants for five years, 51 percent of those with diabetes also had hypertension, and about one-quarter of those with diabetes also had respiratory disease, back problems, and/or connective tissue disease, among other less prevalent conditions.
- Not only did individuals persistently in the top 10 percent of claimants spend more on health care than those temporarily in the top 10 percent and those never in the top 10 percent, the distribution of spending varied as well. Outpatient services, such as diagnostic services, accounted for 46 percent of total health care spending for those never in the top 10 percent. Prescription drugs accounted for 26 percent of total health care spending, and office visits to primary care physicians and specialists accounted for 18 percent. In contrast, among those in the top 10 percent for all five years, prescription drugs accounted for 52 percent of total health care spending, outpatient services accounted for 29 percent, and office visits accounted for 3 percent.
- Inpatient services accounted for 27 percent of total spending for those in the top 10 percent one or two years and 22 percent among those in the top 10 percent three or four years but only 15 percent among those in the top 10 percent in all five years. This suggests that one-time events that individuals recover from, such as knee and hip replacements, drove more of the spending for those temporarily in the top 10 percent than those persistently in the top 10 percent. Similar findings emerged for outpatient surgery and diagnostics.

Paul Fronstin is Director of the Health Research and Education Program at the Employee Benefit Research Institute (EBRI). M. Christopher Roebuck is president and CEO of RxEconomics, LLC. This *Issue Brief* was written with assistance from the Institute’s research and editorial staffs. Any views expressed in this report are those of the authors and should not be ascribed to the officers, trustees, or other sponsors of EBRI, Employee Benefit Research Institute-Education and Research Fund (EBRI-ERF), or their staffs. Neither EBRI nor EBRI-ERF lobbies or takes positions on specific policy proposals. EBRI invites comment on this research.

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## Introduction

In the seminal paper “It’s The Prices, Stupid: Why The United States Is So Different From Other Countries,”<sup>1</sup> Uwe E. Reinhardt and his coauthors concluded: “The United States spent considerably more on health care than any other country, whether measured per capita or as a percentage of GDP. At the same time, most measures of aggregate utilization such as physician visits per capita and hospital days per capita were below the OECD median...U.S. policymakers need to reflect on what Americans are getting for their greater health spending. They could conclude: It’s the prices, stupid.”

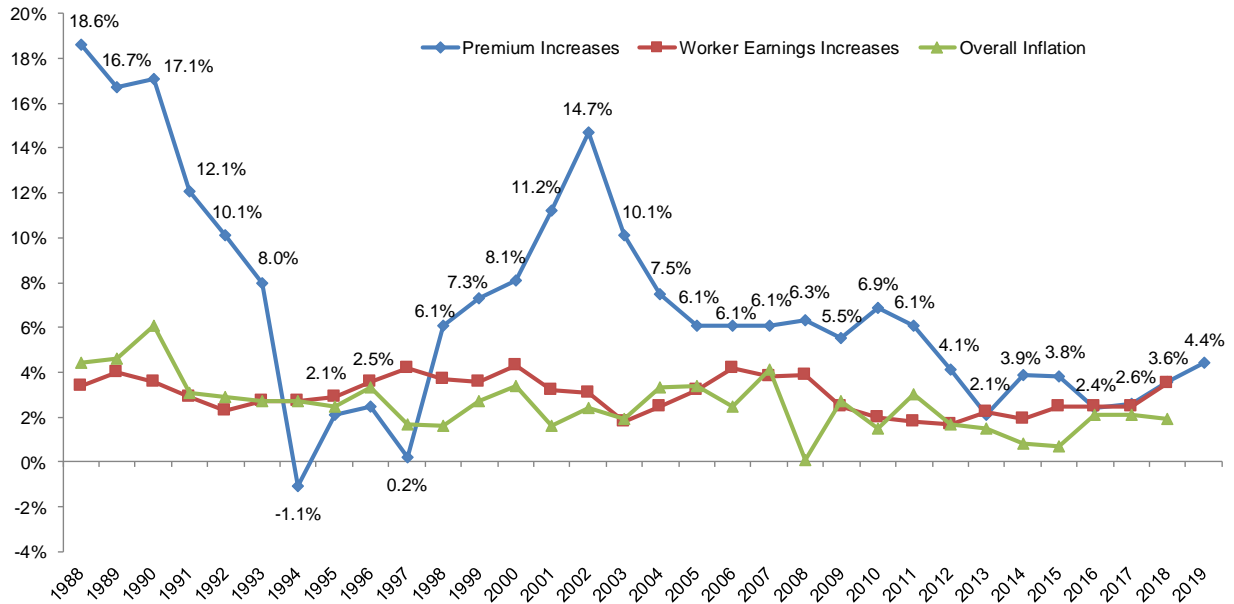
There is a corollary that applies to employer attempts to manage health care spending: “High-health-cost claimants are where the spending is, stupid.” Generally, 20 percent of the population accounts for 80 percent of total spending on health care services. Yet employers offer health plans that in large part look and feel the same to plan enrollees whether they are high users, moderate users, or low users of health care services even while targeting high users will have the biggest bang for the buck. Of course, high users are the most challenging population to address.

Employers have been trying to manage health care costs for decades. Attempted cost-control measures include a combination of plan design/cost-sharing changes that affect how much patients pay out of pocket for health care services and other structural changes to the delivery of health care more generally. Yet, in most years since 1988, the cost of providing health benefits to employees and their dependents has increased more than overall inflation. From 2009 to 2018, health insurance premiums increased 42 percent, compared with a 23 percent increase in worker earnings and a 16 percent increase in inflation (Figure 1). Today, premiums for employee-only and family coverage average \$7,188 and \$20,576, compared with \$4,824 and \$13,375, respectively, in 2009.<sup>2</sup> Despite the efforts to manage expenditures through a combination of cost-sharing and delivery system changes, why does it appear that employers have failed at controlling spending on health coverage and care?

Employers are taking notice. A recent survey found that a more focused strategy on high-cost health care claims ranked 2<sup>nd</sup> in a list of top health care initiatives for 2020 among large employers (Figure 2). A better understanding of the characteristics of individuals who are not just high-cost claimants but persistently high-cost claimants is needed for employers and health plans to determine what kinds of services and interventions might be helpful to implement.

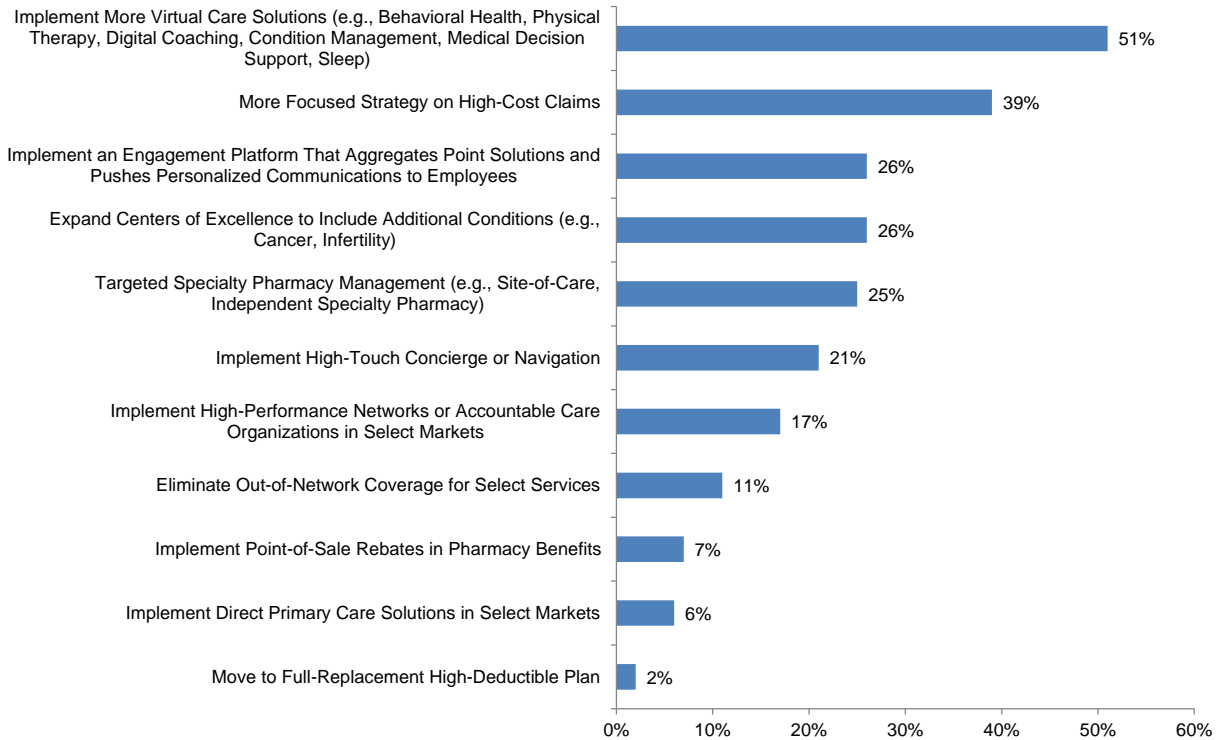
In this paper, we examine the concentration of health spending among individuals with employment-based health benefits. We also examine persistency in spending over a five-year period. Examining the concentration of health spending and the persistency of such spending is as important in evaluating the efficacy of the movement to higher cost-sharing through deductibles, copayments, and coinsurance as a way to manage use of health care services and overall spending: High-deductible health plans (HDHPs) are becoming more and more common.<sup>3</sup> Between 2007 and 2018, the percentage of individuals with private insurance who were enrolled in an HDHP increased from 17.4 percent to 46.0 percent (Figure 3). Further, deductibles have been increasing more generally regardless of whether someone is enrolled in an HDHP. Among individuals with a deductible, the average deductible increased from \$446 to \$1,846 from 2002 to 2018 among those with employee-only coverage (Figure 4). And it increased from \$958 to \$3,392 among those with family coverage. Copayments have been increasing as well. The average copayment for an office visit increased from \$15.38 in 2002 to \$26.81 in 2018 (Figure 5). Coinsurance rates for office visits increased more modestly, but since coinsurance requires plan participants to pay a percentage of the charge, out-of-pocket payments for coinsurance will increase with office visit costs.

**Figure 1**  
**Premium Increases Among Employers With 10 or More Employees, Worker Earnings, and Inflation, 1988–2019**



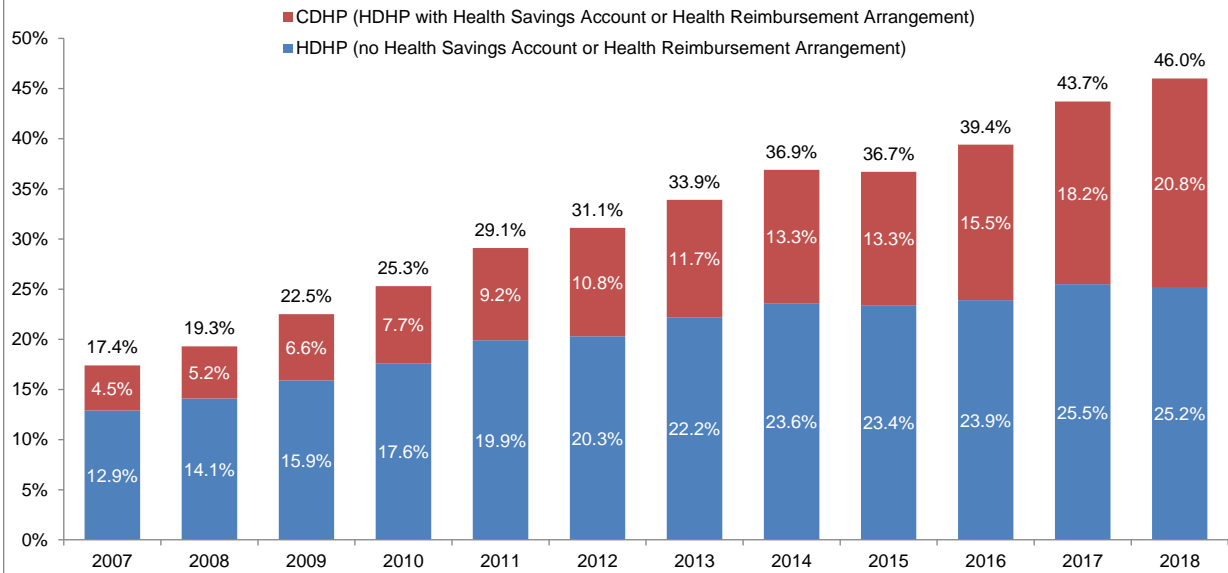
Source: Mercer, National Survey of Employer-Sponsored Health Plans, and Bureau of Labor Statistics.  
 p=2019 data is projected.

**Figure 2**  
**Large Employers' Top Health Care Initiatives for 2020**



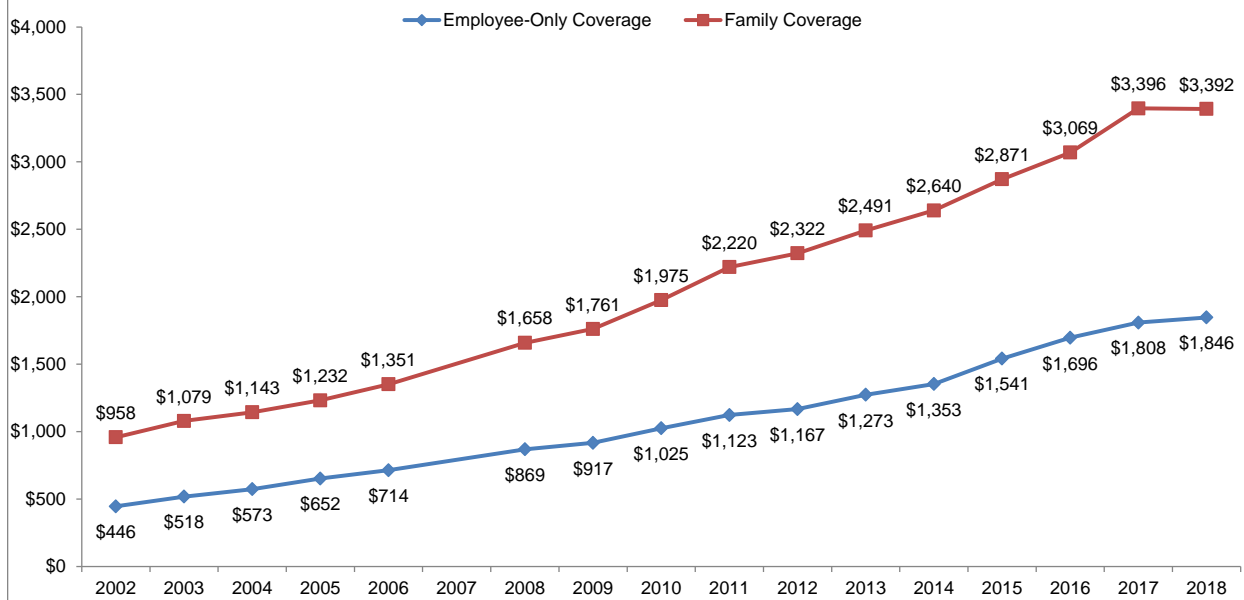
Source: National Business Group on Health, <https://www.businessgrouphealth.org/pub/?id=6B0FADBD-0570-B014-6775-E3C8413D3233>

**Figure 3**  
**Percentage of Persons With Private Health Insurance Under Age 65 Enrolled in a High-Deductible Health Plan (HDHP) or in a Consumer-Directed Health Plan (CDHP), 2007–2018**



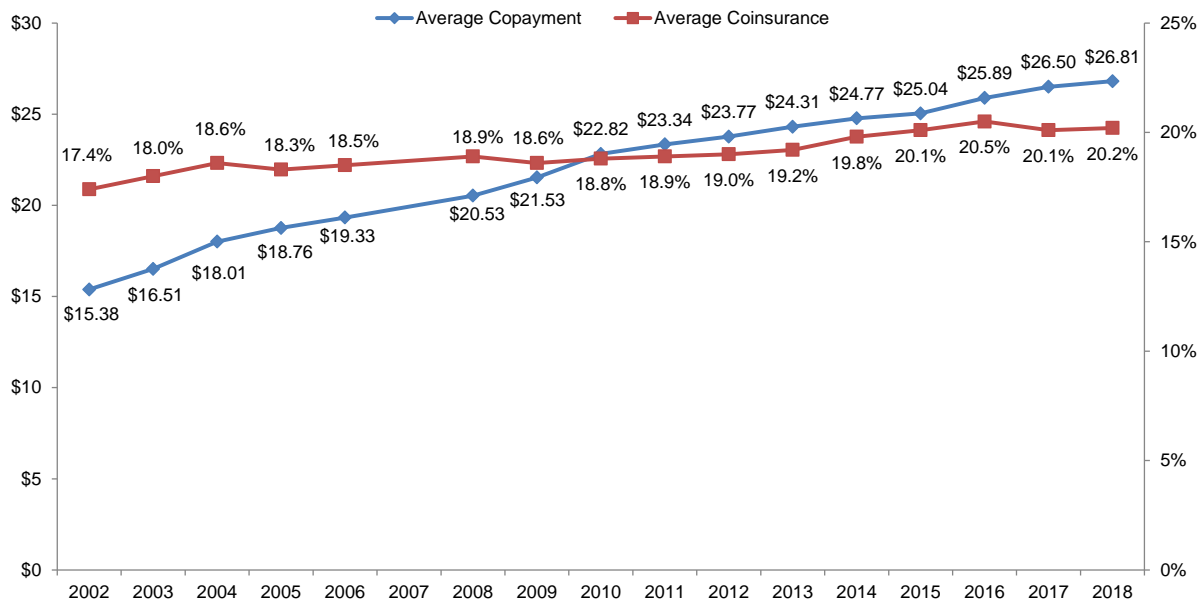
Source: Figure 11 in <https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201811.pdf> and Figure 3 in <https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201306.pdf>

**Figure 4**  
**Average Annual Employee-Only and Family Deductible, Among Workers in Private-Sector Establishments With a Deductible, 2002–2018**



Source: Medical Expenditure Panel Survey Insurance Component (MEPS-IC).  
 Note: Data not collected in 2007.

**Figure 5**  
**Average Copayment and Coinsurance for a Physician Office Visit Among Workers in Private-Sector Establishments With Copayments or Coinsurance, 2002–2018**



Source: Medical Expenditure Panel Survey Insurance Component (MEPS-IC).  
 Note: Data not collected in 2007.

Using claims data from 2017 on 5.8 million individuals with employment-based health benefits, we found that 20 percent of the population accounted for 84 percent of total health spending, 10 percent of the population accounted for 70 percent of spending, 5 percent accounted for 56 percent of spending, and 1 percent accounted for 28 percent of spending (Figure 6).

**Figure 6**  
**Distribution of Health Spending, Among Individuals With Employment-Based Health Coverage, Continuous Enrollment in 2017**

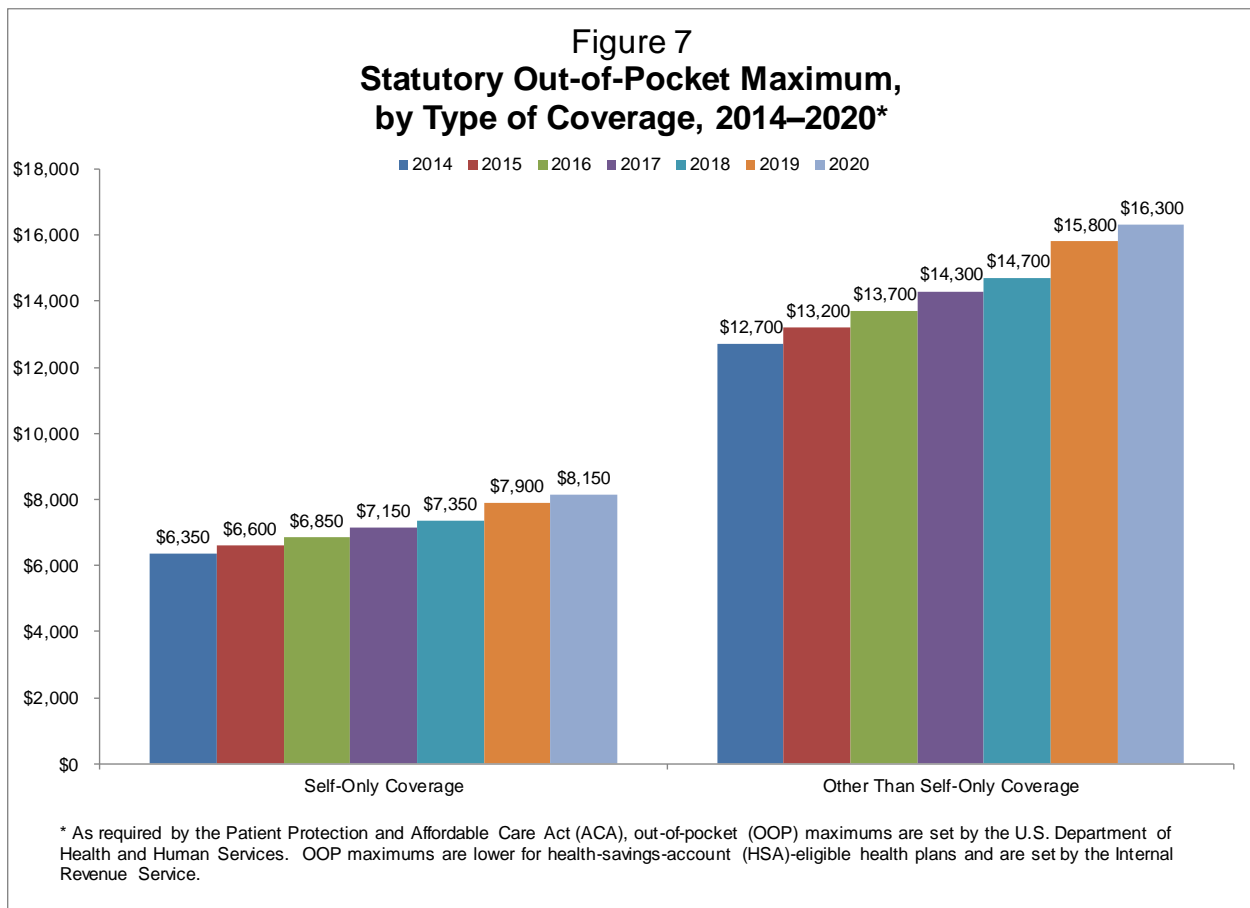
Percentage of Enrollees	Percentage of Spending	Median Spending per Person	Average Spending per Person	Minimum Spending per Person	Percentage Who Reached Their Out-of-Pocket (OOP) Maximum*
1%	28%	\$120,500	\$168,500	\$80,000	70–80%
5%	56%	\$41,500	\$65,315	\$23,000	60–70%
10%	70%	\$23,500	\$41,300	\$12,000	50–60%
20%	84%	\$12,700	\$24,900	\$5,400	30–40%

Source: EBRI analysis of Truven Health Analytics MarketScan® Commercial Claims and Encounters Databases.

\* Based on a subset of individuals with data on OOP maximums.



Among the 20 percent accounting for 84 percent of spending, between 30 and 40 percent of these enrollees reached their out-of-pocket (OOP) maximum.<sup>4</sup> Those accounting for the highest spending were most likely to reach their OOP maximum, which could be no more than \$7,150 per person in 2017 (Figure 7). For instance, among the 5 percent of the population accounting for 56 percent of total spending, between 60 and 70 percent reached their OOP maximum, and 70–80 percent of those in the top 1 percent of spending reached their OOP maximum. For those reaching their OOP maximum, cost-sharing is in large part ineffective in changing behavior because patients no longer have any incentive to limit their use of health care for financial reasons. This is a phenomenon known as moral hazard. The data clearly show that in order to address high-cost claims, employers and insurers need to implement targeted strategies that go beyond the use of cost-sharing.<sup>5</sup>



Employers have not limited their efforts to patient cost-sharing when it comes to managing their costs. They have adopted various types of insurance and delivery systems, which now include health maintenance organizations (HMOs), exclusive provider organizations (EPOs), preferred provider organizations (PPOs), point-of-service (POS) plans, accountable care organizations (ACOs), patient-centered medical homes (PCMHs), private health insurance exchanges, Centers of Excellence (COEs), high-performance networks, limited networks, capitation, and value-based payments. They have also adopted disease management programs, wellness programs, telemedicine, on-site and near-site health clinics, and concierge services.

When it comes to prescription drug benefits, employers usually adopt a formulary and use a pharmacy benefit manager to negotiate price discounts and rebates. Finally, employers have to decide between purchasing health insurance from an insurance company and paying premiums to that company or self-insuring their health plan, which essentially means that the employer acts as its own insurer and bears the financial risk of claims rather than simply paying premiums.

Several issues are examined in this study. They include an examination of the percentage of spending represented by high-cost claimants, the characteristics of people with persistent high-cost claims, and differences between those who are persistently and temporarily high-cost claimants. The next section describes the data in more detail. The section following presents our findings. The last section includes a discussion of the key implications for public policy.

## Data

This study made use of the Truven Health Analytics MarketScan® Commercial Claims and Encounters Databases (copyright © Truven Health Analytics, all rights reserved) for 2013–2017. In any given year, we had health insurance eligibility and claims data on between 14 and 16 million people with employment-based health coverage for the entire calendar year. We included employees and their dependents under 65 years of age who were continuously enrolled from 2013–2017. Individuals were excluded if they reached age 65 before the end of 2017, if they were born after the beginning of 2013, or if they were otherwise untraceable after the beginning of 2013 (e.g., job change, dependent status change, death). After imposing these criteria, 5.8 million policyholders and dependents remained, each with five years of eligibility.

<b>Figure 8</b>					
<b>Sample Means, 2013</b>					
	<b>Total</b>	<b>Total Health Care Costs Percentile</b>			
		<b>0 – 89th</b>	<b>90th – 94th</b>	<b>95th – 98th</b>	<b>99th – 100th</b>
	<b>N=5,842,978</b>	<b>N=5,258,680</b>	<b>N=292,149</b>	<b>N=233,719</b>	<b>N=58,430</b>
Age	33	32	41	42	44
Under 13	19%	21%	6%	5%	5%
13–17	9%	10%	5%	4%	5%
18–24	6%	7%	4%	4%	3%
25–34	11%	10%	13%	12%	6%
35–49	30%	29%	33%	35%	33%
50–64	25%	23%	38%	40%	47%
Male	49%	50%	38%	39%	44%
Female	51%	50%	62%	61%	56%
Policyholder	47%	46%	57%	58%	55%
Covered Spouse	19%	18%	28%	30%	32%
Covered Children/Other Dependents	34%	36%	15%	12%	14%
Type of Health Plan					
HMO/EPO	15%	15%	14%	15%	14%
PPO/POS	69%	68%	72%	72%	72%
HRA	10%	10%	9%	9%	9%
HSA-eligible health plan	6%	6%	4%	4%	4%
Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.					
Note: HMO=health maintenance organization; EPO=exclusive provider organization; PPO=preferred provider organization; POS=point of service; HRA=health reimbursement arrangement; HSA=health savings account.					

**Figure 9**  
**Sample Means, Health Conditions, 2013**

	<b>Total Health Care Costs Percentile</b>				
	<b>Total</b>	<b>0 – 89th</b>	<b>90th – 94th</b>	<b>95th – 98th</b>	<b>99th – 100th</b>
	<b><u>N=5,842,978</u></b>	<b><u>N=5,258,680</u></b>	<b><u>N=292,149</u></b>	<b><u>N=233,719</u></b>	<b><u>N=58,430</u></b>
<b>Charlson Comorbidity Index Indicators</b>	0.2	0.1	0.5	0.9	1.7
Acute myocardial infarction	0.2%	0.1%	0.5%	2%	4%
Congestive heart failure	0.2%	0.1%	1%	1%	5%
Peripheral vascular disease	0.3%	0.2%	1%	1%	3%
Cerebrovascular disease	1%	0.4%	3%	4%	8%
Dementia	0.01%	0.01%	0.02%	0.04%	0.1%
Chronic obstructive pulmonary disease	6%	5%	11%	13%	15%
Rheumatoid disease	1%	0.3%	2%	5%	4%
Peptic ulcer	0.2%	0.1%	1%	1%	1%
Mild liver disease	0.1%	0.05%	0.3%	1%	1%
Diabetes (with or without complications)	5%	4%	15%	16%	18%
Hemiplegia or paraplegia	0.1%	0.02%	0.2%	0.4%	2%
Renal disease	0.4%	0%	1%	2%	6%
Cancer (non-metastatic or metastatic)	2%	1%	4%	8%	22%
Moderate/severe liver disease	0.03%	0.01%	0.1%	0.2%	1%
AIDS	0.1%	0.02%	0.3%	2%	1%
<b>Other Chronic Condition and Selected CCS* Indicators:</b>					
Hypertension	10%	8%	21%	26%	33%
Dyslipidemia	11%	10%	23%	25%	28%
Schizophrenia/bipolar, depression, anxiety, mood disorders	6%	5%	14%	16%	17%
Spondylosis, intervertebral disc disorders, other back problems	6%	5%	18%	21%	24%
Rheumatoid arthritis and related disease	0.4%	0.2%	1%	4%	3%
Multiple sclerosis	0.2%	0.02%	0.2%	1%	7%
Regional enteritis and ulcerative colitis	0.3%	0.1%	1%	2%	4%
Lower/upper respiratory disease/infection	11%	10%	20%	22%	30%
Asthma/COPD, acute bronchitis	2%	2%	5%	6%	8%
Thyroid disorders	2%	2%	6%	7%	6%
Endocrine disorders	1%	1%	3%	4%	4%
Nervous system disorders	2%	1%	6%	10%	20%
Osteoarthritis	1%	1%	4%	7%	10%
Non-traumatic joint disorders	4%	3%	13%	17%	18%
Connective tissue disease	5%	3%	14%	19%	24%

Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

\* Clinical Classification System (CCS) classified individuals into 285 mutually exclusive and clinically homogeneous categories. More information can be found in Elixhauser, Steiner, and Palmer (2013).

Sample means are shown in Figure 8. The first column contains the sample means in 2013 for the 5.8 million people we were able to follow from 2013–2017. The next four columns divide the sample into spending categories in 2013, with the first column containing the means for individuals in the bottom 90 percent of the health care spending distribution and the far right-hand column containing the means for individuals in the top 1 percent of spending. Clearly, those in the higher spending groups were more likely to be older, female, and the policyholder or spouse of the policyholder. They were slightly less likely to be enrolled in health plans with high deductibles, either health reimbursement arrangements (HRAs) or health-savings-account (HSA)-eligible health plans.

In Figure 9, we show the percentage of the entire sample with various health conditions in 2013. It is also displayed by the various spending categories. The Charlson Comorbidity Index (CCI), which is widely used in the extant literature as a gauge of general health status, was derived annually from medical claims for every member covered under the policy (Charlson et al., 1987) (Deyo, Cherkin, and Ciol, 1992) (Quan et al., 2005). Medical conditions such as diabetes, cancer, and heart disease are included. Overall, 17 conditions currently comprise the CCI.<sup>6</sup> The index is shown at the top of the table along with its various components. Clearly, those in the higher spending categories were more likely to have various health conditions. The CCI ranged from 0.1 among those in the bottom 89 percent of health spending to 1.7 among those in the top 1 percent, suggesting that those in the top 1 percent were more likely to have multiple conditions. When looking at CCI components, those in the top 1 percent of spending were most likely to have been diagnosed with cancer (22 percent), diabetes (18 percent), and chronic obstructive pulmonary disease (COPD) (15 percent). When it came to other health conditions, individuals in the top 1 percent of spending also had hypertension (33 percent), respiratory disease or infections (30 percent), dyslipidemia (28 percent), back problems (24 percent), and connective tissue disease (24 percent), among other conditions.

## Findings on Persistency in Spending

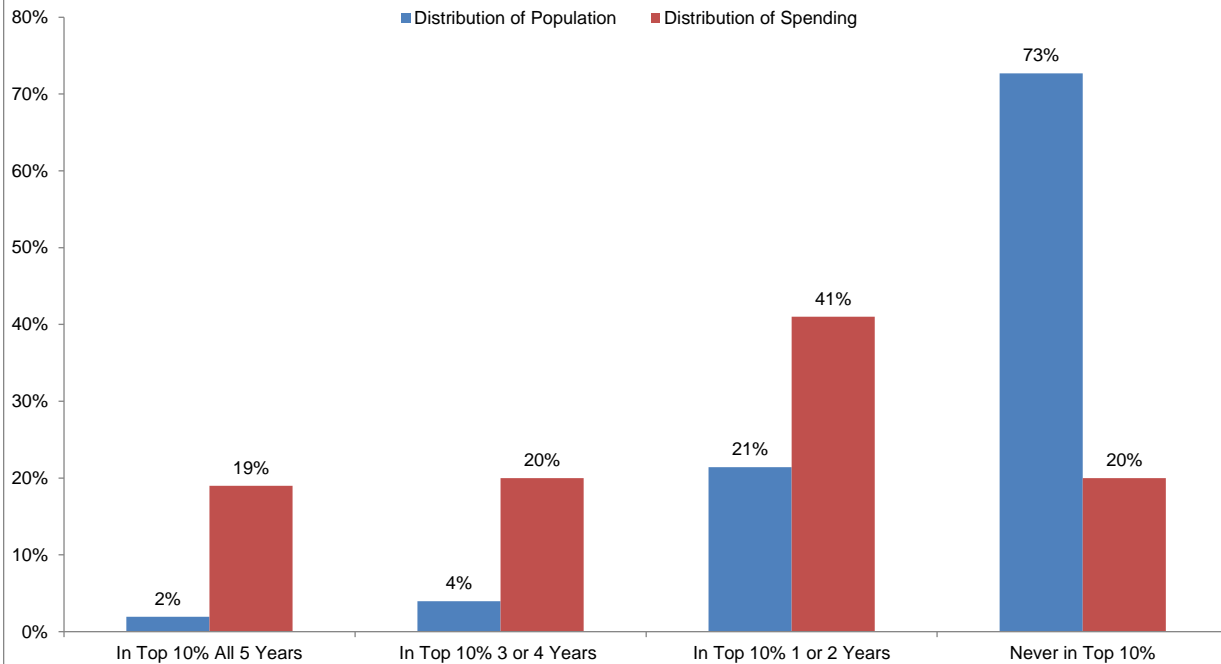
About one-quarter (27 percent) of the 5.8 million enrollees followed from 2013–2017 in this study were part of the cohort in the top 10 percent of spending in at least one year, while three-quarters (73 percent) were never in the top 10 percent (Figure 10).<sup>7</sup> Among the 27 percent who were ever in the top 10 percent, 21 percent were in the top 10 percent only one or two years, 4 percent were in the top 10 percent three or four years, and only 2 percent were in the top 10 percent each of the five years.

The odds of going from a low user to a high user of health care services in any one year were relatively low. Six percent of individuals who were in the bottom 90 percent of spending moved into the top 10 percent the following year (Figure 11). Only 3 percent moved into the top 5 percent of spending, and less than 1 percent moved into the top 1 percent of spending.

Overall, the 5.8 million individuals examined in this study used \$38 billion in health care in 2017. The 2 percent of the population in the top 10 percent of spending every year between 2013 and 2017 accounted for 19 percent of total spending in 2017. In contrast, the 73 percent of the population who were never in the top 10 percent of spending from 2013–2017 accounted for only 20 percent of spending in 2017.

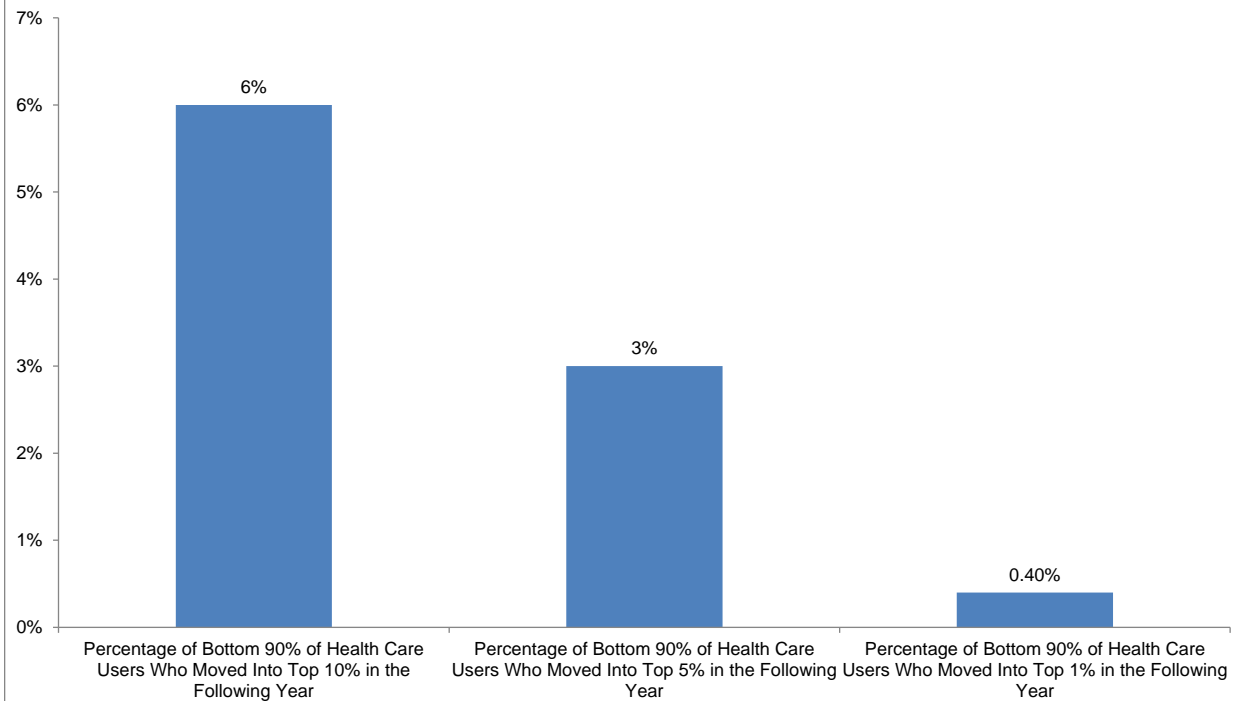
Not surprisingly, the characteristics of the persistently high-cost claimant group, defined as being in the top 10 percent of claims, were different from the characteristics of the population never in the top 10 percent. Individuals temporarily in the top 10 percent of claimants (those who were in the top 10 percent either one or two years or three or four years) had characteristics like those in the top 10 percent for all five years studied. For instance, persistently high-cost claimants were much more likely to be at least 50 years old. Sixty-three percent of those in the top 10 percent of claimants all five years, as well as 59 percent of those in the top 10 percent three or four years, were ages 50–64, compared with 30 percent among those never in the top 10 percent (Figure 12). Persistently high-cost claimants were also much more likely to be the spouse of the policyholder. We found that 33 percent of those in the top 10 percent of claimants all five years were the spouse of the policyholder, compared with only 20 percent among those never in the top 10 percent of claimants.

**Figure 10**  
**Length of Time in Top 10 Percent of Spending From 2013–2017 and Distribution of Total Spending in 2017**



Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

**Figure 11**  
**Percentage of Bottom 90 Percent of Users Who Became High-Cost Claimants in Following Year**



Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

**Figure 12  
Characteristics in 2017, Within Patterns of  
High-Cost Claims From 2013–2017**

	<b>Spending Within Patterns of High-Cost Categories</b>			
	<b>Never in Top 10%</b>	<b>In Top 10% 1 or 2 Years</b>	<b>In Top 10% 3 or 4 Years</b>	<b>In Top 10% All 5 Years</b>
<b>Age</b>				
Under 13	15%	4%	2%	3%
13–17	10%	4%	3%	2%
18–24	15%	9%	6%	4%
25–34	6%	8%	5%	4%
35–49	24%	29%	25%	24%
50–64	30%	47%	59%	63%
Male	52%	41%	40%	44%
Female	48%	59%	60%	56%
<b>Policyholder</b>				
Covered Spouse	16%	25%	29%	32%
Covered Children/Other Dependents	41%	17%	12%	10%
<b>Type of Health Plan</b>				
HMO/EPO	13%	13%	12%	12%
PPO/POS	56%	61%	66%	66%
HRA	19%	17%	15%	15%
HSA-eligible health plan	11%	9%	7%	7%

Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

Note: HMO=health maintenance organization; EPO=exclusive provider organization; PPO=preferred provider organization; POS=point of service; HRA=health reimbursement arrangement; HSA=health savings account.

There were slight differences by type of plan. Only 22 percent of those in the top 10 percent of claimants all five years were enrolled in an HRA or HSA-eligible health plan, whereas 30 percent of those never in the top 10 percent were enrolled in such a plan. This may indicate that there is some degree of plan selection related to high deductibles and expected use of health care services. In other words, those who expect to use health care services disproportionately are more likely to self-select into health plans with more comprehensive coverage. However, those in the top 10 percent of claimants may be better off financially in the HSA-eligible health plan because of the lower statutory OOP maximum, which may temper differences in plan choice.

As expected, individuals in the top 10 percent of claimants in all five years were more likely to have certain health conditions than those in the top 10 percent less than five years. However, while those in the top 10 percent all five years looked similar to those in the top 10 percent three or four years, they were much more likely to have various health conditions than those in the top 10 percent only one or two years (Figure 13). One finding that stands out is the large percentage of individuals in the top 10 percent of claimants each year with diabetes (33 percent). The results suggest a strong correlation between diabetes and other health conditions. Among individuals in the top 10 percent of claimants for five years, 51 percent of those with diabetes also had hypertension, and about one-quarter of those with diabetes also had respiratory disease (27 percent), back problems (26 percent), and/or connective tissue disease (24 percent), among other less prevalent conditions (Figure 14).

Figure 13

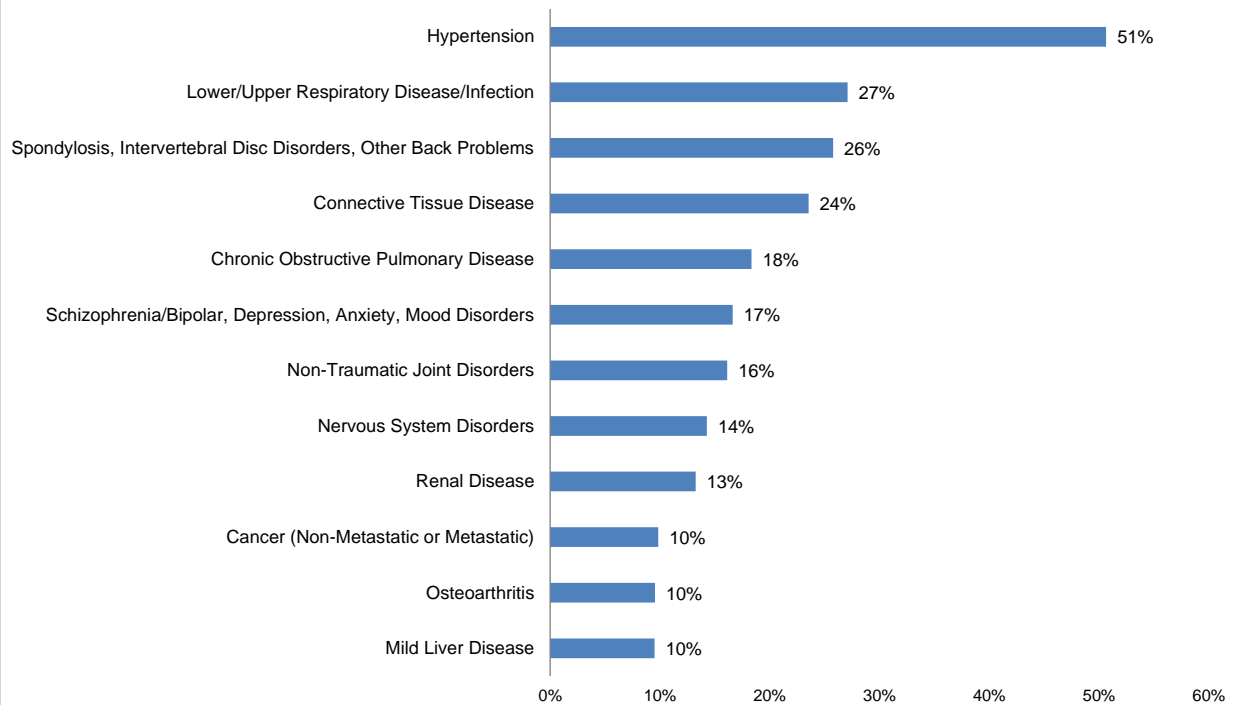
**Health Conditions in 2017, Within Patterns of High-Cost Claims From 2013–2017**

	Percent with Health Condition Within Patterns of High-Cost Categories			
	Never in Top 10%	In Top 10% 1 or 2 Years	In Top 10% 3 or 4 Years	In Top 10% All 5 Years
<b>Charlson Comorbidity Index Indicators</b>				
Acute myocardial infarction	0.04%	1%	1%	2%
Congestive heart failure	0.2%	1%	4%	5%
Peripheral vascular disease	0.3%	2%	4%	5%
Cerebrovascular disease	0.4%	2%	4%	5%
Dementia	0.02%	0.1%	0.2%	0.4%
Chronic obstructive pulmonary disease	5%	9%	15%	18%
Rheumatoid disease	0.3%	1%	4%	10%
Peptic ulcer	0.1%	0.4%	1%	1%
Mild liver disease	1%	3%	6%	8%
Diabetes (with or without complications)	4%	11%	26%	33%
Hemiplegia or paraplegia	0.04%	0.3%	1%	2%
Renal disease	0.3%	1%	4%	7%
Cancer (non-metastatic or metastatic)	1%	6%	12%	10%
Moderate/severe liver disease	0.01%	0.1%	0.4%	1%
AIDS	0.01%	0.1%	1%	5%
<b>Other Chronic Condition and Selected CCS* Indicators:</b>				
Hypertension	9%	21%	32%	35%
Dyslipidemia	11%	21%	31%	34%
Schizophrenia/bipolar, depression, anxiety, mood disorders	5%	10%	18%	20%
Spondylosis, intervertebral disc disorders, other back problems	5%	12%	23%	26%
Rheumatoid arthritis and related disease	0.1%	1%	2%	8%
Multiple sclerosis	0.01%	0.1%	1%	6%
Regional enteritis and ulcerative colitis	0.1%	0.5%	2%	5%
Lower/upper respiratory disease/infection	9%	15%	22%	26%
Asthma/COPD, acute bronchitis	1%	3%	6%	9%
Thyroid disorders	2%	4%	7%	7%
Endocrine disorders	1%	2%	3%	4%
Nervous system disorders	1%	4%	10%	14%
Osteoarthritis	1%	4%	8%	8%
Non-traumatic joint disorders	3%	9%	14%	15%
Connective tissue disease	3%	10%	19%	22%

Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

\* Clinical Classification System (CCS) classified individuals into 285 mutually exclusive and clinically homogeneous categories. More information can be found in Elixhauser, Steiner, and Palmer (2013).

**Figure 14  
Comorbidities Among Diabetics in Top 10 Percent  
of Health Spending, 2013–2017**



Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

Not only did individuals persistently in the top 10 percent of claimants spend more on health care than those temporarily in the top 10 percent and those never in the top 10 percent (Figure 15), the distribution of spending varied as well. Outpatient services, such as diagnostic services, accounted for nearly one-half (46 percent) of total health care spending for those never in the top 10 percent (Figure 16). Prescription drugs accounted for 26 percent of total health care spending, whereas office visits to primary care physicians and specialists accounted for 18 percent. In contrast, among those in the top 10 percent for all five years, prescription drugs accounted for 52 percent of total health care spending, outpatient services accounted for 29 percent, and office visits accounted for 3 percent.

Inpatient services accounted for 27 percent of spending for those in the top 10 percent one or two years and 22 percent among those in the top 10 percent three or four years but only 15 percent among those in the top 10 percent in all five years. This suggests that one-time events that individuals recover from, such as knee and hip replacements, drive more of the spending for those temporarily in the top 10 percent than those persistently in the top 10 percent. This is also borne out by the findings on outpatient surgery and possibly by the findings on diagnostics (Figure 17).

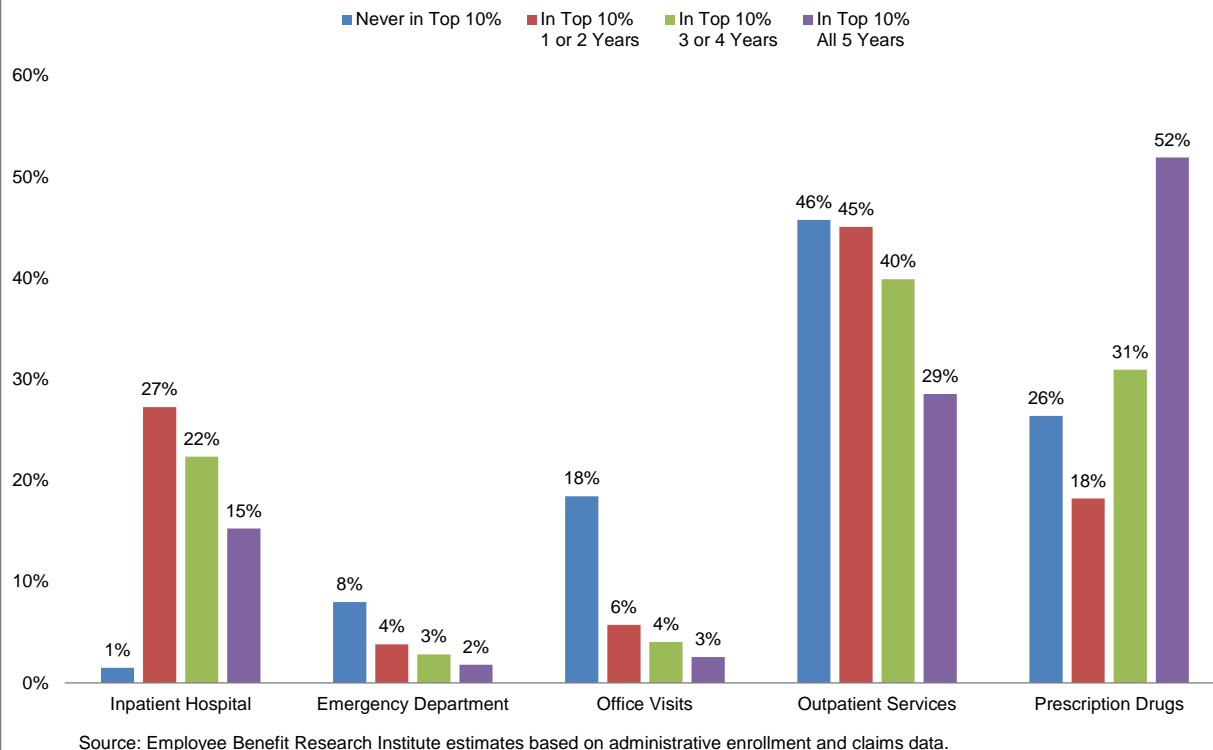


**Figure 15**  
**Health Spending in 2017, Within Patterns of High-Cost Claims From 2013–2017**

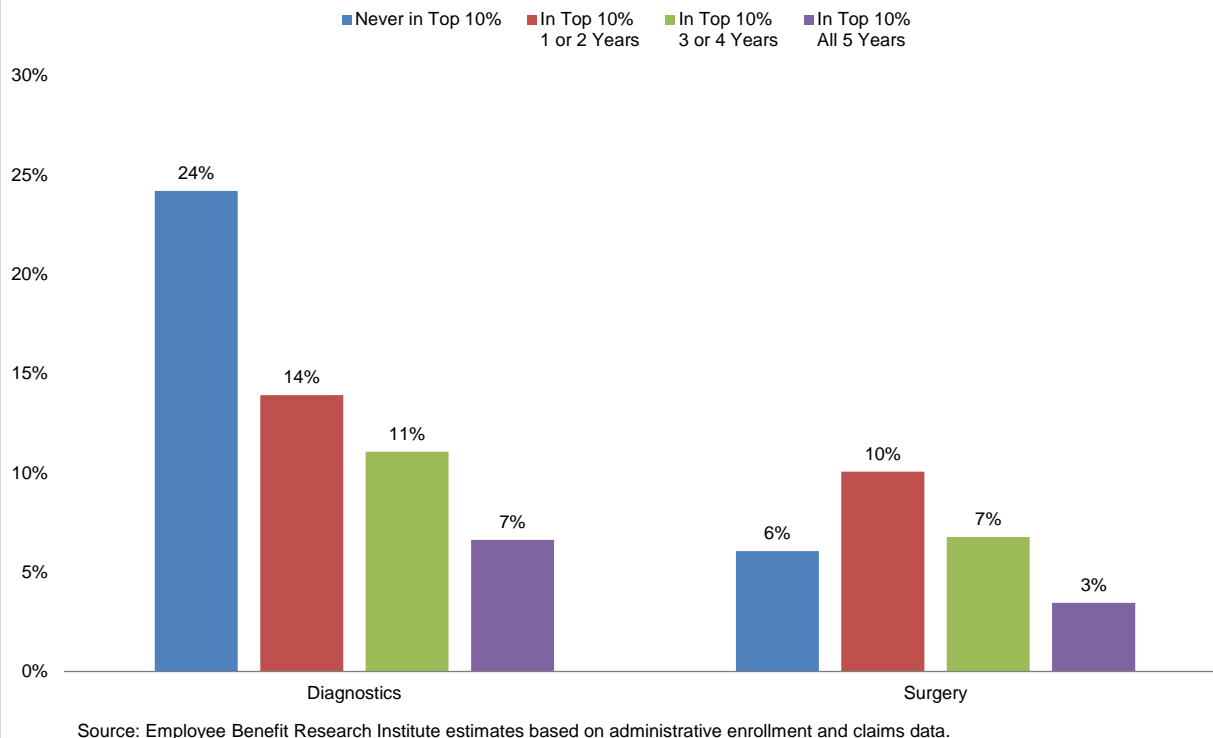
	<b>Spending by Type of Health Care Service, Within Patterns of High-Cost Categories</b>			
	<b>Never in Top 10%</b>	<b>In Top 10% 1 or 2 Years</b>	<b>In Top 10% 3 or 4 Years</b>	<b>In Top 10% All 5 Years</b>
<b>Total</b>	\$1,837	\$12,707	\$32,778	\$65,855
Inpatient Hospital	\$27	\$3,460	\$7,322	\$10,040
Emergency Department	\$146	\$482	\$919	\$1,177
Office Visits	\$339	\$728	\$1,321	\$1,668
Primary care physician	\$188	\$306	\$472	\$556
Specialist physician	\$151	\$422	\$848	\$1,112
Outpatient Services	\$840	\$5,724	\$13,073	\$18,792
Diagnostic	\$444	\$1,768	\$3,625	\$4,361
Surgery	\$111	\$1,278	\$2,218	\$2,273
Chemotherapy	\$0	\$272	\$1,138	\$1,648
Medical supplies, devices, and durable medical equipment	\$32	\$281	\$800	\$1,508
Dialysis	\$0	\$29	\$462	\$1,344
Radiation therapy	\$0	\$175	\$298	\$262
Other outpatient services	\$252	\$1,921	\$4,531	\$7,395
Prescription Drugs	\$485	\$2,313	\$10,144	\$34,177
Prescription drug spending from pharmacy claims	\$419	\$1,896	\$8,365	\$28,024
Specialty drug spending from medical claims	\$9	\$194	\$1,126	\$4,918
Other non-specialty drug spending from medical claims	\$56	\$223	\$652	\$1,235
<b>Distribution of Spending</b>				
Inpatient Hospital	1%	27%	22%	15%
Emergency Department	8%	4%	3%	2%
Office Visits	18%	6%	4%	3%
Primary care physician	10%	2%	1%	1%
Specialist physician	8%	3%	3%	2%
Outpatient Services	46%	45%	40%	29%
Diagnostic	24%	14%	11%	7%
Surgery	6%	10%	7%	3%
Chemotherapy	0%	2%	3%	3%
Medical supplies, devices, and durable medical equipment	2%	2%	2%	2%
Dialysis	0%	0%	1%	2%
Radiation therapy	0%	1%	1%	0%
Other outpatient services	14%	15%	14%	11%
Prescription Drugs	26%	18%	31%	52%
Prescription drug spending from pharmacy claims	23%	15%	26%	43%
Specialty drugs spending from medical claims	1%	2%	3%	7%
Other non-specialty drug spending from medical claims	3%	2%	2%	2%

Source: Employee Benefit Research Institute estimates based on administrative enrollment and claims data.

**Figure 16**  
**Health Spending in 2017, Within Patterns of High-Cost Claims From 2013–2017**



**Figure 17**  
**Health Spending on Diagnostics and Outpatient Surgery in 2017, Within Patterns of High-Cost Claims From 2013–2017**



## How Can Employers and Insurers Address Large Claims?

Cost-sharing will have limited effectiveness in changing the way individuals with large claims use health care. Hence, employers and insurers will need to consider other ways in which they can engage high-cost claimants. One option is to require or encourage anyone considered a large case to meet with a case manager or to use what are becoming known as concierge services. As advocates, case managers or concierges help patients navigate the health care system so that they get the right care in the right setting at the right time. They can help coordinate care for individuals with comorbidities. This advocate also helps patients avoid duplicative or wasteful care as much as possible. Primary care physicians can also act as the case manager.

The use of Centers of Excellence (COEs) has become more prevalent for services that are non-emergency but very high cost, such as organ transplants, bariatric surgery, and cancer treatment, in recent years. The use of COEs could be broadened.

Cost-sharing may continue to play a role even if high-cost claimants reach their maximum OOP. Before becoming a high-cost claimant, many will have been part of the majority of individuals who are more sensitive to cost-sharing. While these patients may reach their maximum OOP, their prior experience with cost-sharing and engagement tools in general may translate to their care decisions once they reach their maximum OOP, potentially helping them to take longer to reach it. The use of financial rewards for engaging in healthy behavior prior to becoming a high-cost claimant may also impact care decisions after individuals reach their maximum OOP.

Network management is crucial when it comes to addressing high-cost claimants. Employers and insurers will need to continuously evaluate which health care providers are in their network to ensure that patients have access to the most efficient providers in order to minimize the amount of wasteful health care utilized. Employers and insurers may also consider new and emerging provider arrangements such as high-performance networks, accountable care organizations, and direct contracting.

Ultimately, employers and insurers will need to provide good information around these programs. Without educational efforts, high-cost claimants will not know about these services and thus will not use them. Financial rewards may also help get patients more engaged in their health care decisions. A recent study found that paying patients (by sending them a check) who used lower-cost providers reduced the prices paid for health care services subject to the program by 2.1 percent (Whaley et al., 2019). Financial incentives may be needed to increase patient engagement in their use of case managers and/or COEs.

## Implications for the Cadillac Tax

The excise tax on high-cost employment-based health plans (aka the Cadillac tax) is a provision in the 2010 Patient Protection and Affordable Care Act (ACA). When the ACA passed in 2010, the Cadillac tax, a nondeductible 40 percent excise tax imposed on the portion of health coverage costs that exceeds \$10,200 for single coverage and \$27,500 for family coverage, was scheduled to take effect in 2018. It has since been delayed twice and is currently scheduled to take effect in 2022. At that point, the portion of health coverage costs that exceeds \$11,200 for single coverage and \$30,150 for family coverage will be subject to the tax.

The tax was included in the ACA to mitigate against the rising cost of health care and to generate tax revenue to pay for other provisions in the ACA. The theory behind capping the health exclusion rests on the assumption that, because of the ability of workers to exclude the value of employment-based health coverage from taxable income without limit, workers prefer additional health insurance benefits over cash wages (and other forms of taxable compensation); and because of this preference, they are "over-insured." Once workers either have health coverage or see an increase in the comprehensiveness of their coverage, the theory is they then use more health care services than they otherwise would have. Workers over-insure because health insurance premiums are not included in taxable income, while out-of-pocket spending on health care services does not automatically enjoy the same tax preference. As a result, workers are theorized to prefer higher-premium comprehensive coverage with low cost-sharing over lower-premium, less

comprehensive coverage with higher cost-sharing. Ultimately, higher-premium, lower-cost-sharing health coverage leads to overuse of health care services, which drives up insurance premiums and makes coverage less affordable.

Our findings have implications for the effectiveness of the Cadillac tax or any form of a tax that would cap the exclusion of employment-based health benefits to reduce use of health care services. We found that at any point in time, and over a five-year period, health care costs were concentrated among a relatively small percentage of the population. In 2017, 10 percent of the population accounted for 70 percent of health care spending. At least one-half of these individuals reached not only their deductible (when they had one) but also their OOP maximum. These individuals used a minimum of \$12,000 in health care spending in 2017 and had a median total spend of \$23,500 on health care services. Our results suggest that taxing health benefits will be largely ineffective in reducing aggregate use of health care services. Even if taxing health benefits reduces the comprehensiveness of coverage, the population that accounts for most health care spending will not be subject to cost-sharing for a significant share of their costs.

## **Implications for Medicare Buy-In Proposals**

Several Medicare buy-in proposals were introduced in the 116<sup>th</sup> Congress. Sen. Debbie Stabenow (D-MI) and Rep. Brian Higgins (D-NY) both introduced proposals to expand eligibility to Medicare to individuals ages 50 and older who are not yet eligible for the program. These proposals were also introduced in the 115<sup>th</sup> Congress. The Higgins proposal introduced in the 115<sup>th</sup> Congress could have potentially impacted employment-based health benefits given the specificity of the legislative language. At the time, the proposal included language that would have allowed employers to pay premiums on behalf of eligible individuals if enrollment was the choice of the individual. The Higgins proposal introduced during the 116<sup>th</sup> Congress does not include such language and is otherwise silent on the issue.

While there are many factors to consider, to the degree individuals ages 50–64 with employment-based health benefits switched to the Medicare program, the average cost of health benefits in the workplace would fall. As noted above, we found that individuals ages 50–64 account for a disproportionate share of high-cost claimants. Overall, they account for 55 percent of total health spending. This finding alone may cause employers to support a Medicare buy-in proposal, especially if they are able to pay premiums on behalf of those opting out of employment-based coverage for Medicare.<sup>8</sup>

## **Conclusion**

Health care spending tends to be concentrated: about a quarter of individuals were in the top decile of spending in at least one year, while three-quarters were never in the top decile. Among those ever in the top decile, about 1 in 5 was there only one or two years, 4 percent were in the top decile three or four years, and only 2 percent were in the top decile in all five years. The 2 percent of the population persistently in the top decile of spending accounted for 19 percent of total spending in 2017. In contrast, the 73 percent of the population who were never in the top decile in spending from 2013–2017 accounted for only 20 percent of spending in 2017.

Our findings have important implications for public policy. Our results suggest that taxing health benefits, such as through the Cadillac tax, will be in large part ineffective in reducing aggregate use of health care services. Even if taxing health benefits reduces the comprehensiveness of coverage, the population that accounts for most health care spending will not be subject to cost-sharing for a significant share of their costs. Our findings have implications for Medicare buy-in proposals as well. We found that individuals ages 50–64 account for a disproportionate share of high-cost claimants. Overall, they account for 55 percent of total health spending. This finding alone may cause employers to support a Medicare buy-in proposal, especially if they are able to pay premiums on behalf of those opting out of employment-based coverage for Medicare.

How can employers respond to these findings? First, regardless of what employers do, they should recognize that cost-sharing may be ineffective in addressing a large portion of health care costs. Consumer engagement through cost-sharing may be effective in addressing day-to-day use of health care services, but it will not address the bulk of health spending that is not only above deductibles but also above out-of-pocket maximums. It raises the question as to

whether expectations of patients being good consumers have gone too far, as others have in prior research (Brot-Goldberg et al., 2017).

Employers could reduce spending by eliminating spousal coverage. We found that 33 percent of those persistently in the top 10 percent of claimants were the spouse of the policyholder, compared with only 20 percent among those never in the top 10 percent of claimants. Not long after the ACA passed, some employers announced they were going to drop spousal coverage. United Parcel Service may have received the most attention at the time when it announced its decision to eliminate health benefits for spouses who were eligible for coverage through their own employer. However, prior research has concluded that non-working spouses spend more than working spouses on health care services (Fronstin and Roebuck, 2014). As such, restricting health benefits to spouses without access to coverage through their own job will have limited impact on reducing the cost associated with high-cost claimants. In fact, eliminating spousal coverage may cost employers more money over the long term. Over time, employers will gain the responsibility for covering employees who were previously covered as a spouse under another plan as more and more employers adopt this new approach.

In order to address large claims, employers will need to focus on disease prevention and care management. Our findings on individuals with persistently large claims are a case in point. One-half of them had hypertension and one-third had diabetes, and one-half of their spending was associated with prescription drugs. A focus on prevention may reduce spending on not just hypertension and diabetes in the long term but on other conditions as well since hypertension and diabetes are often associated with other diseases. In the short term, employers will need to work with their health plans and other partners to implement care engagement programs that help individuals navigate the health care system so that they get the right care in the right setting and avoid wasteful care as much as possible.

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## Endnotes

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<sup>1</sup> Co-authored with Gerard F. Anderson, Peter S. Hussey, and Varduhi Petrosyan (Anderson et al., 2003).

<sup>2</sup> See Figures 6.4 and 6.5 in <https://www.kff.org/report-section/ehbs-2019-section-6-worker-and-employer-contributions-for-premiums/>

<sup>3</sup> HDHPs are health plans with deductibles of at least \$1,350 for individual coverage and \$2,700 for family coverage in 2019.

<sup>4</sup> Calculating whether an individual reached their OOP maximum from claims data is complicated by the fact that 1) OOP maximum estimates were not provided for most people in our sample, 2) individuals can pay nothing out of pocket when they are receiving preventive services, and 3) use of out-of-network services often does not count toward the in-network OOP maximum. Therefore, we give a range of estimates for whether someone reached their OOP maximum.

<sup>5</sup> Given the growth in HDHPs, it is no surprise that they seem to get the most attention when it comes to the various cost-sharing arrangements that employers use to manage use of health care services and spending. Besides deductibles, employers use cost-sharing in a number of different ways to engage workers, sometimes by varying the use of deductibles, copayments, and coinsurance. Some of the other ways in which cost-sharing is used include tiered co-payments for health care providers, tiered co-payments for prescription drugs, value-based insurance design, and reference pricing.

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<sup>6</sup> Ten of the 17 conditions are given a weight of one. Seven of the 17 conditions receive a weight of between two and six.

<sup>7</sup> Prior work has defined high-cost claimants as those in the top 10 percent of health care spending (Long et al., 2017) (Figuroa, Zhou, and Jha, 2019).

<sup>8</sup> Whether or not employers ultimately support a Medicare buy-in proposal will depend on other factors as well and the overall impact of the health benefits plan that they offer. For instance, it can be argued that at least a portion of employer savings may be offset by provider cost shifting back to employers as a result of lower reimbursement rates from individuals formerly covered by employment-based health benefits. The dynamics of how Medicare buy-in proposals may otherwise affect employment-based health benefits are beyond the scope of this paper.