



AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



STATISTICAL BRIEF #533

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## **Concentration of Healthcare Expenditures and Selected Characteristics of Persons with High Expenses, U.S. Civilian Noninstitutionalized Population, 2018**

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### **Highlights**

- In 2018, the top 1 percent of persons ranked by their healthcare expenditures accounted for about 21 percent of total healthcare expenditures, while the bottom 50 percent accounted for only about 3 percent.
- Persons ages 65 and older and whites were disproportionately represented in the top spending tiers.
- Inpatient hospital care accounted for 36 percent of spending for persons in the top 5 percent of the spending distribution.
- About three-quarters of aggregate expenses for persons in the top 5 percent of spenders were paid for by private insurance or Medicare.

### **Introduction**

In 2018, spending on healthcare accounted for 17.7 percent of the United States gross domestic product,<sup>[1]</sup> yet the majority of this spending was concentrated in a small percentage of the population. Medical Expenditure Panel Survey (MEPS) data show that about 13 percent of the U.S. civilian noninstitutionalized population had no personal healthcare expenditures in 2018. On the other hand, only 5 percent of the population accounted for nearly half of healthcare spending. This spending includes all sources of

<sup>1</sup> Keehan, S, et al. National Health Expenditure Projections, 2019–28: Expected Rebound in Prices Drives Rising Spending Growth. *Health Affairs*, April 2020.

payments for medical care, including private insurance payments, Medicare, Medicaid, out-of-pocket spending, and other sources.

In this Statistical Brief, data from the Agency for Healthcare Research and Quality (AHRQ) Medical Expenditure Panel Survey Household Component (MEPS-HC) are used to describe the overall concentration of healthcare expenditures across the U.S. civilian noninstitutionalized population in 2018. In addition, the most commonly treated conditions among top spenders are identified, and the shares of spending by age group, race/ethnicity, type of medical service, and source of payment are compared across the distribution. All differences discussed in the text are statistically significant at the 0.05 level.

## Findings

### *Overall (table 1, figures 1 and 2)*

In 2018, the top 1 percent of persons ranked by their healthcare expenditures accounted for 21 percent of total healthcare expenditures (100 minus 79 percent; figure 1), with an annual mean expenditure of \$127,284 (figure 2). The group within the top 1 percent is defined as persons who spent \$72,212 or more during the year. Cut points for additional percentile groups are shown in table 1. The top 5 percent of the population accounted for 48.3 percent of total expenditures (100 minus 51.7 percent), with an annual mean expenditure of \$58,609. The bottom 50 percent accounted for only 3.2 percent of total healthcare expenditures. Every person in this group spent less than \$1,317 during the year (table 1), with an average annual expenditure of \$384 (figure 2).

**Table 1. Percentile of population ranked by spending and amount spent during the year**

<b>Percentile of population</b>	<b>2018 Expenditure</b>
Top 1%	\$72,212 or more
Top 5%	\$26,355 or more
Top 10%	\$14,651 or more
Top 30%	\$3,776 or more
Bottom 50%	Less than \$1,317

### *Health conditions (figure 3)*

The most commonly treated condition among the top 5 percent of spenders in 2018 was hypertension (48.8 percent), followed by osteoarthritis/other non-traumatic joint disorders (44.0 percent) and nervous system disorders (40.0 percent). In the overall population, however, the percentages of persons who received treatment for these conditions were only 18.9, 16.7,

and 12.1, respectively. Other conditions for which at least 25 percent of persons in the top 5 percent were treated include hyperlipidemia; mental disorders; chronic obstructive pulmonary disease (COPD), asthma, and other respiratory conditions; heart disease; and diabetes mellitus. Note that while these conditions are the most common among persons with high expenses, they are not necessarily the most expensive conditions to treat. Rather, the top spending group is more likely to include persons with multiple chronic conditions or expensive treatments (e.g., surgeries, hospitalizations) related to these conditions.

#### *Age (figure 4)*

Older persons were disproportionately represented in the higher healthcare spending tiers (figure 4). Among the entire U.S. civilian noninstitutionalized population in 2018, 16.8 percent were 65 and older, while 22.6 percent were under age 18. Among the top 5 percent of spenders, however, 39.0 percent were 65 and older, while only 5.8 percent were children under age 18. In contrast, among the bottom 50 percent of spenders, 30.6 percent were children while only 6.0 percent were 65 years and older.

#### *Race/ethnicity (figure 5)*

Non-Hispanic whites were disproportionately represented among the top 50 percent of spenders, while Hispanics were underrepresented in this higher spending group. In 2018, 59.7 percent of the U.S. civilian noninstitutionalized population was white, but whites accounted for 70.3 percent of the top half of spenders. In the same year, 18.5 percent of the population was Hispanic, but only 11.7 percent of the top half of spenders were Hispanic.

#### *Type of service (figure 6)*

Compared to the overall population, expenses for persons in the bottom 50 percent of spenders were less likely to go toward inpatient stays or home health expenses (0.1 percent for each), and more likely to go toward ambulatory events (55.7 percent).

Among the top 5 percent of spenders, on the other hand, 36.4 percent of their expenses were for inpatient stays. This comparatively high proportion of expenditures owes to a combination of the fact that persons in the top spending percentiles are much more likely to have at least one inpatient stay during the year, and those stays tend to cost more relative to other types of service.

#### *Source of payment (figure 7)*

Nearly half of aggregate expenses for the bottom 50 percent of spenders were paid for by private insurance (45.6 percent), while out-of-pocket payments accounted for around a quarter of the expenditures for this group (27.7 percent). Only 4.8 percent of expenditures for this low-spending group were Medicare payments.

For persons in the top 5 percent spending tier, Medicare paid for 31.5 percent of their total medical expenses, and private insurance paid for 43.6 percent. Out-of-pocket payments for this group amounted to only 6.8 percent of total expenses.

## **Data Source**

The estimates shown in this Statistical Brief are based on data from the MEPS 2018 Full-Year Consolidated Data File (HC-209).

## **Definitions**

### *Age*

Age was defined as age at the end of the year 2018 (or on the last date of MEPS eligibility if the person was out of scope at the end of the year).

### *Concentration curve*

A concentration curve is a graphical representation of the distribution of a variable of interest, such as income or expenditures, across the percentage of the population. The cumulative percentage of the population is represented along the X-axis, and the cumulative percentage of expenditures is represented on the Y-axis. A point at the X-axis value of 50 percent and the Y-axis value of 10 percent, for instance, indicates that the bottom 50 percent of the population accounts for 10 percent of total spending, and conversely, the top 50 percent accounts for 90 percent of total spending. Similarly, a point at the X-axis value of 99 percent and the Y-axis value of 82 percent indicates that the bottom 99 percent of the population accounts for 82 percent of spending, and conversely, that the top 1 percent of the population accounts for 18 percent of expenditures.

### *Expenditures*

Total expenditures were defined as the sum of payments from all sources to hospitals, physicians, other healthcare providers (including dental care), and pharmacies for services reported by respondents in the MEPS-HC.

### *Health conditions*

Persons were classified as treated for a particular condition if they had one or more healthcare events (i.e., office-based, hospital outpatient or emergency room visits, hospital inpatient stays, prescribed medicine purchases, or home healthcare) where the condition was reported as leading

to or discovered during the event. The health conditions reported in this Statistical Brief are the most commonly treated conditions among persons with high expenses and are not mutually exclusive.

### *Percentiles*

Percentiles of spending were formed by ordering sampled persons by their total expenditures from highest to lowest, and then allocating persons to groups based on weighted percentage of the population. Near the cut point of each percentile, a person was included in the top percentile group if his or her added weight did not surpass the specified percentile. In the case of ties, where two or more people had the same expenditures close to a percentile cut point, the person with the lower weight was included in the higher percentile group. In this brief, the “bottom 50 percent” and “top 50 percent” are mutually exclusive, while the “top 50 percent,” “top 30 percent,” “top 10 percent,” “top 5 percent,” and “top 1 percent” are not.

### *Race/ethnicity*

MEPS respondents were asked if each family member was Hispanic or Latino and about each member’s race. Based on this information, categories of race and Hispanic origin were constructed as follows:

- Hispanic
- White, non-Hispanic (no other races reported)
- Black, non-Hispanic (no other races reported)
- Asian, non-Hispanic (no other races reported) and other/multiple races, non-Hispanic

### *Sources of payment*

- **Out-of-pocket:** Expenses paid by the user or other family member.
- **Private insurance:** Payments made by insurance plans covering hospital and medical care (excluding payments from Medicare, Medicaid, and other public sources). Payments from Medigap plans or TRICARE (Armed Forces-related coverage) are included.
- **Medicare:** Payments by Medicare, which is a federally financed health insurance plan for persons age 65 and older, persons receiving Social Security disability payments, and persons with end-stage renal disease.
- **Medicaid/Children’s Health Insurance Program (CHIP):** Payments by Medicaid and CHIP, which are means-tested government programs jointly financed by federal and state funds that provide healthcare to those who are eligible. Medicaid is designed to provide

health coverage to families and individuals who are unable to afford necessary medical care, while CHIP provides coverage to additional low-income children not eligible for Medicaid. Eligibility criteria for both programs vary significantly by state.

- **Other sources:** Includes payments from the U.S. Department of Veterans Affairs (except TRICARE); other federal sources (Indian Health Service, military treatment facilities, and other care provided by the federal government); various state and local sources (community and neighborhood clinics, state and local health departments, and state programs other than Medicaid/CHIP); workers' compensation; and various unclassified sources (e.g., automobile, homeowner's, or other liability insurance, and other miscellaneous or unknown sources).

#### *Type of service*

- **Ambulatory:** Includes office-based visits (visits to medical providers seen in office settings), hospital outpatient visits, and emergency room visits. Expenses for outpatient and emergency room visits include payments for services covered under the basic facility charge and those for separately billed physician services. Emergency room payments exclude expenses for emergency room services that are included in a hospital inpatient admission.
- **Hospital inpatient:** Includes room and board and all hospital diagnostic and laboratory expenses associated with the basic facility charge, payments for separately billed physician inpatient services, and some emergency room expenses incurred immediately prior to inpatient stays.
- **Prescribed medicines:** Includes expenses for all prescribed medications that were initially purchased or refilled during the year.
- **Home health:** Includes expenses for home care provided by agencies and independent providers.
- **Dental and other:** Includes payments for services to any type of dental care provider as well as expenses for care in all categories not specified as a separate category (e.g., medical equipment and supplies).

#### **About MEPS**

The Medical Expenditure Panel Survey Household Component (MEPS-HC) collects nationally representative data on healthcare use, expenditures, sources of payment, and insurance coverage for the U.S. civilian noninstitutionalized population. The MEPS-HC is cosponsored by the Agency

for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics (NCHS). More information about the MEPS-HC can be found on the MEPS website at <https://www.meps.ahrq.gov/mepsweb>.

## References

The following methodology reports contain information on the survey and sample designs for the MEPS-HC and MEPS Medical Provider Component. Data collected in these two components are jointly used to derive MEPS healthcare expenditure data.

Cohen, J. *Design and Methods of the Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 1. AHCPR Pub. No. 97-0026. 1997. Agency for Health Care Policy and Research (AHCPR), Rockville, MD.

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Stagnitti, M. N., Beauregard, K., and Solis, A. *Design, Methods, and Field Results of the Medical Expenditure Panel Survey Medical Provider Component (MEPS MPC)—2006 Calendar Year Data*. Methodology Report No. 23. November 2008. Agency for Healthcare Research and Quality, Rockville, MD.

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## Suggested Citation

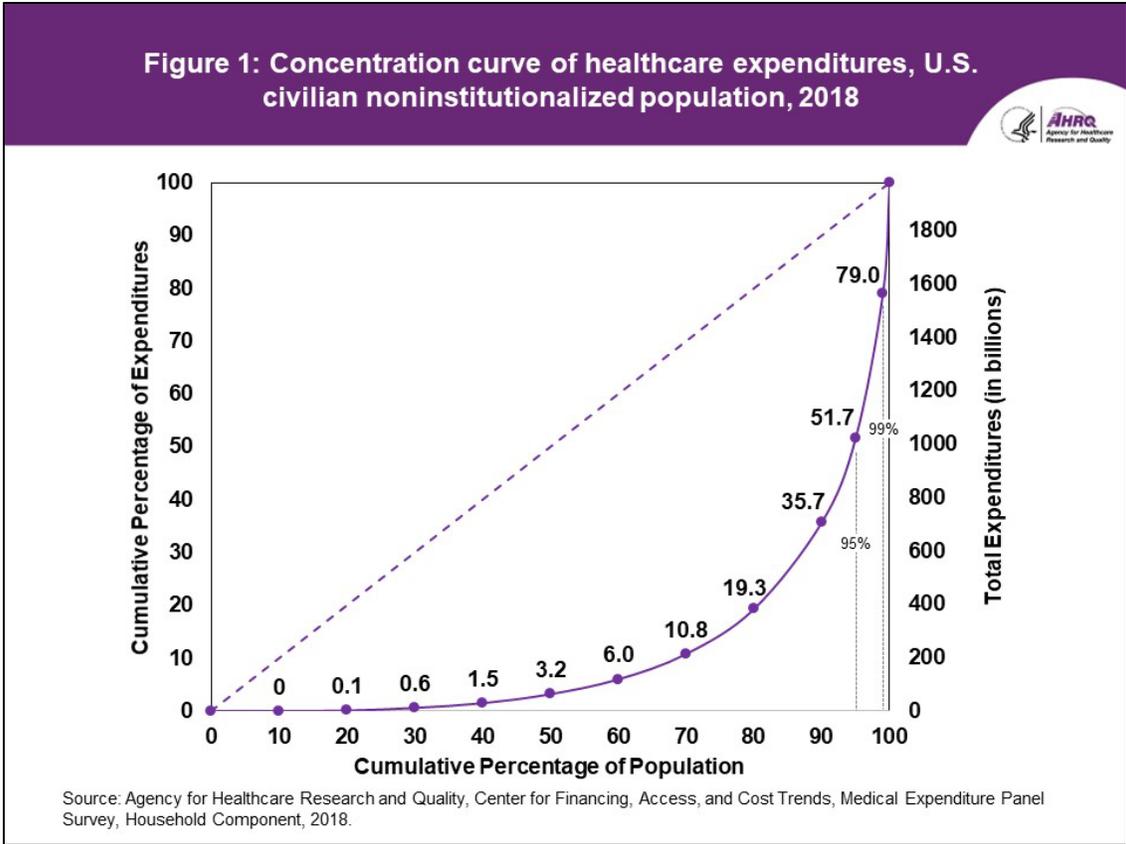
Mitchell, E. M. *Concentration of Healthcare Expenditures and Selected Characteristics of Persons with High Expenses, U.S. Civilian Noninstitutionalized Population, 2018*. Statistical Brief #533. January 2021. Agency for Healthcare Research and Quality, Rockville, MD.

[http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/st533/stat533.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/st533/stat533.pdf)

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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of healthcare in the United States. We also invite you to tell us how you are using this Statistical Brief and other MEPS data and tools and to share suggestions on how MEPS products might be enhanced to further meet your needs. Please email us at [MEPSProjectDirector@ahrq.hhs.gov](mailto:MEPSProjectDirector@ahrq.hhs.gov) or send a letter to the address below:

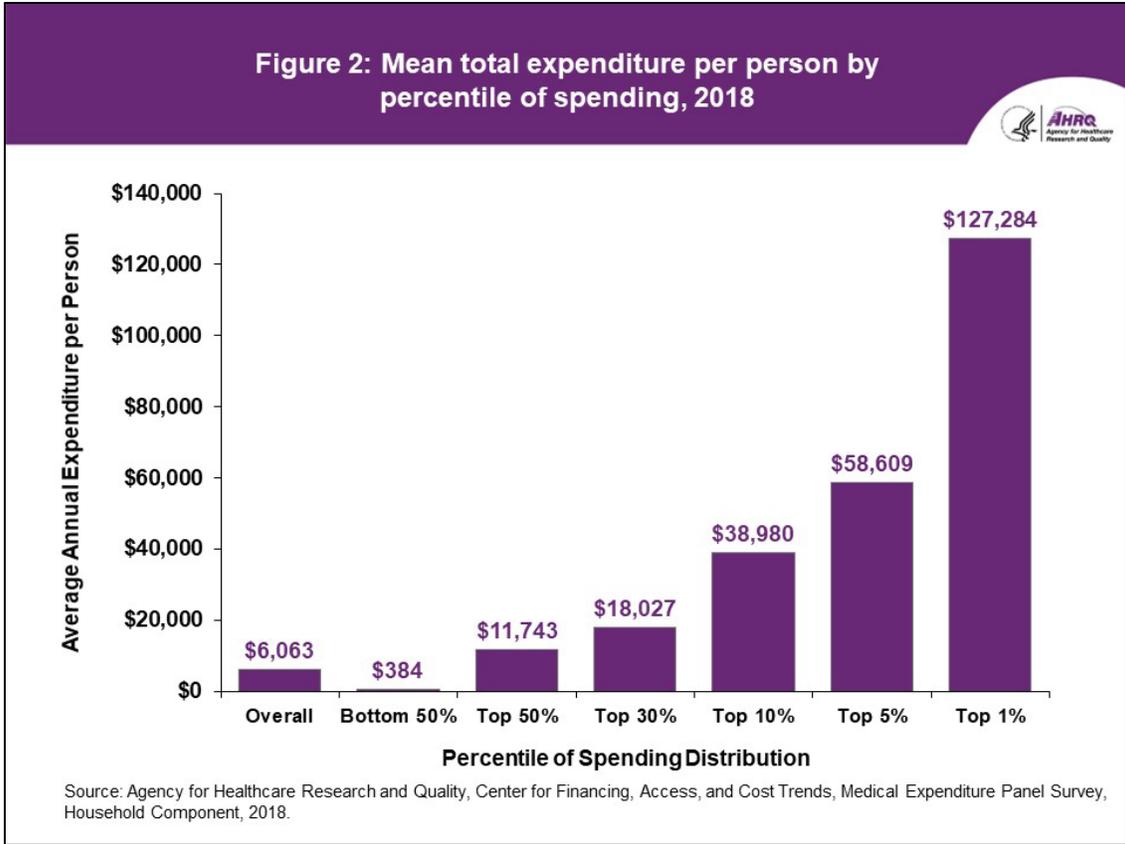
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**Figure 1: Concentration curve of healthcare expenditures, U.S. civilian noninstitutionalized population, 2018**

Cumulative percentage of population	Cumulative percentage of expenditures	Cumulative expenditures in billions
0	0.0	0.0
10	0.0	0.0
20	0.1	2.1
30	0.6	11.1
40	1.5	29.8
50	3.2	62.6
60	6.0	118.8
70	10.8	214.0
80	19.3	381.0
90	35.7	707.1
95	51.7	1022.8
99	79.0	1564.0
100	100.0	1978.6

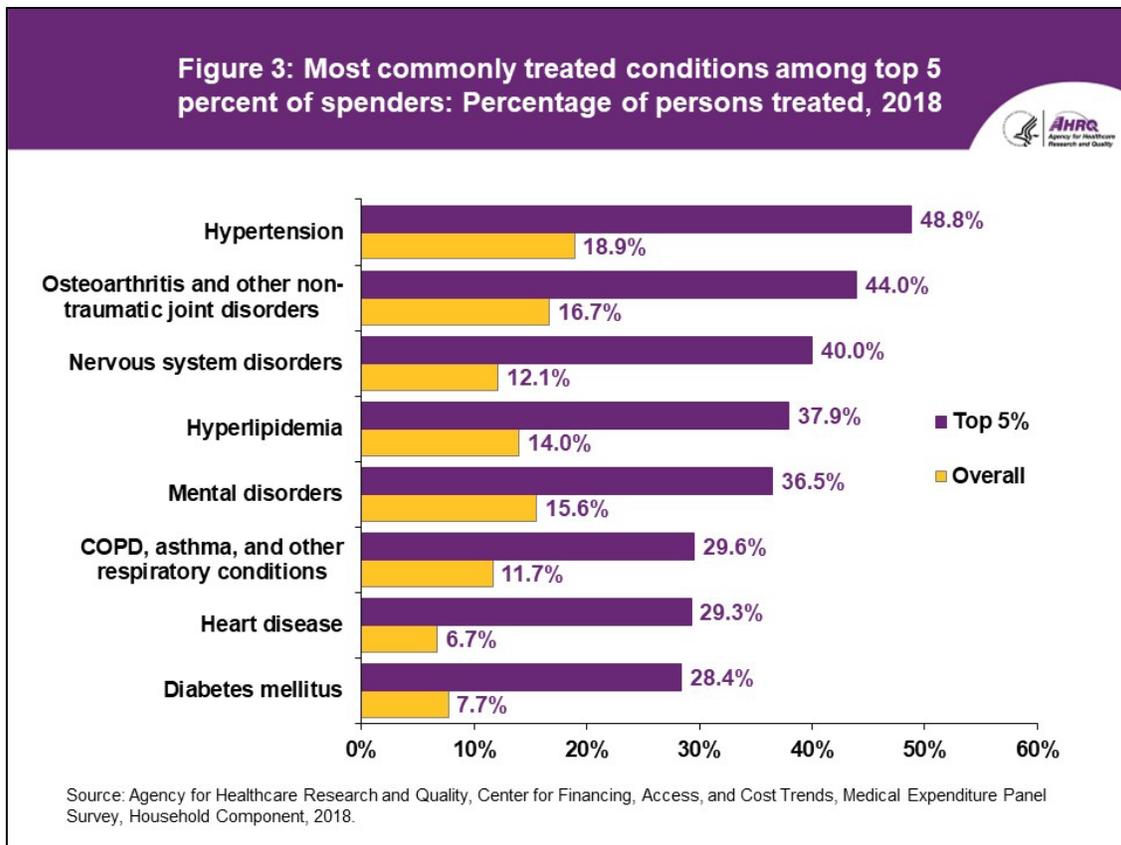
Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.



**Figure 2: Mean total expenditure per person by percentile of spending, 2018**

Percentile of spending distribution	Average annual expenditure per person (\$)
Overall	6,063
Bottom 50%	384
Top 50%	11,743
Top 30%	18,027
Top 10%	38,980
Top 5%	58,609
Top 1%	127,284

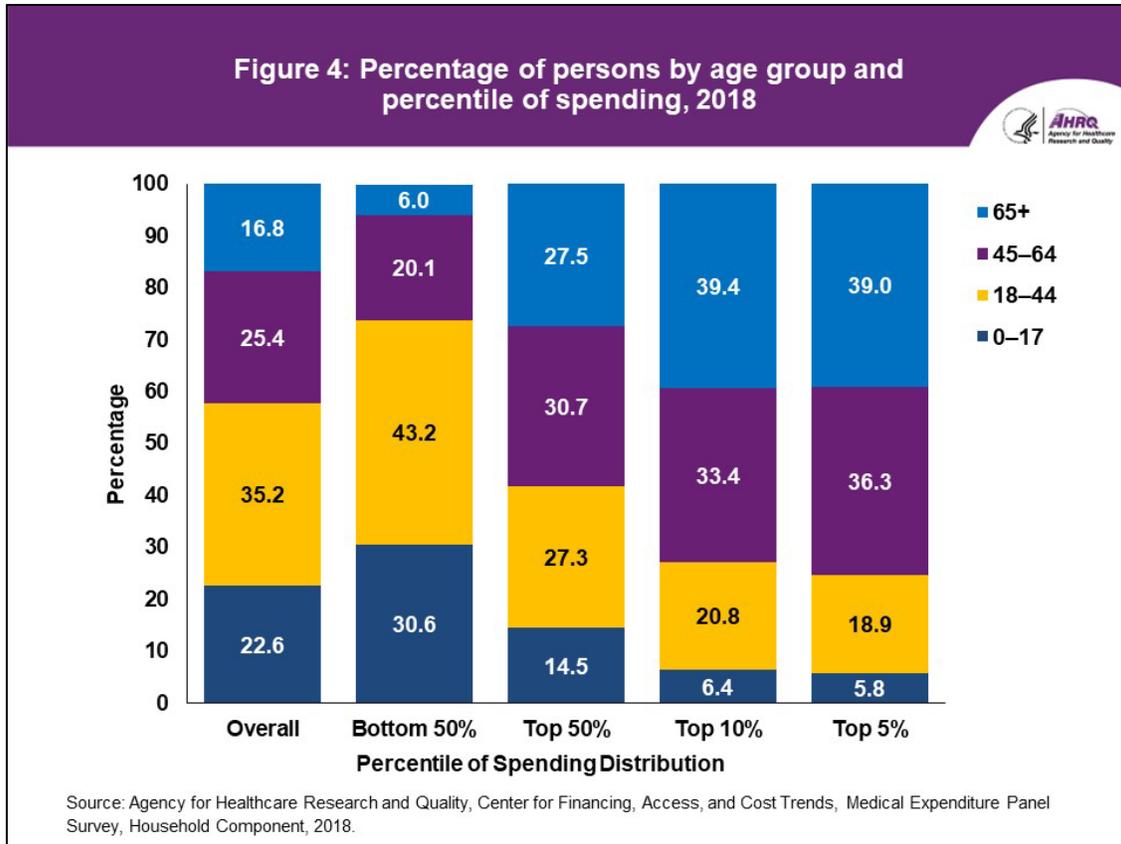
Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.



**Figure 3: Most commonly treated conditions among top 5 percent of spenders: Percentage of persons treated, 2018**

Condition	Overall percentage	Top 5%
Hypertension	18.9	48.8
Osteoarthritis and other non-traumatic joint disorders	16.7	44.0
Nervous system disorders	12.1	40.0
Hyperlipidemia	14.0	37.9
Mental disorders	15.6	36.5
COPD, asthma, and other respiratory conditions	11.7	29.6
Heart disease	6.7	29.3
Diabetes mellitus	7.7	28.4

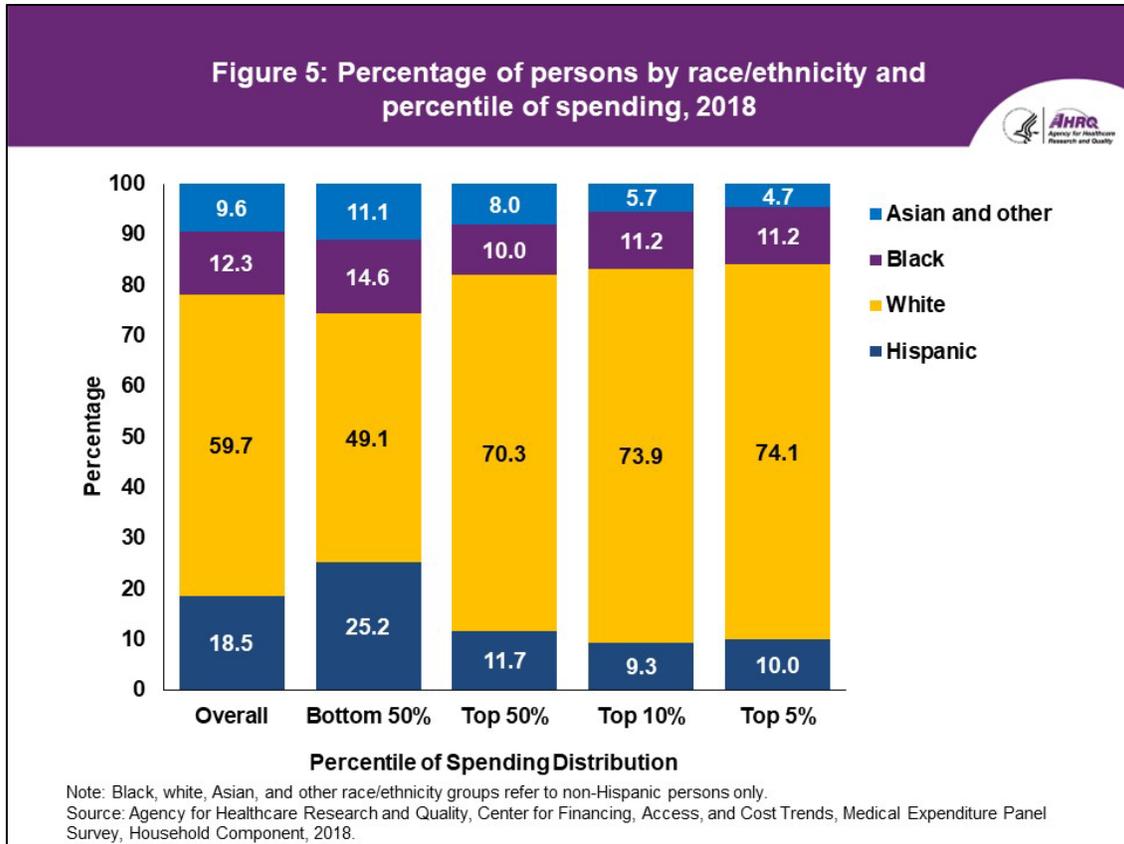
Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.



**Figure 4: Percentage of persons by age group and percentile of spending, 2018**

Age group	Overall percentage	Bottom 50%	Top 50%	Top 10%	Top 5%
0-17	22.6	30.6	14.5	6.4	5.8
18-44	35.2	43.2	27.3	20.8	18.9
45-64	25.4	20.1	30.7	33.4	36.3
65+	16.8	6.0	27.5	39.4	39.0

Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.

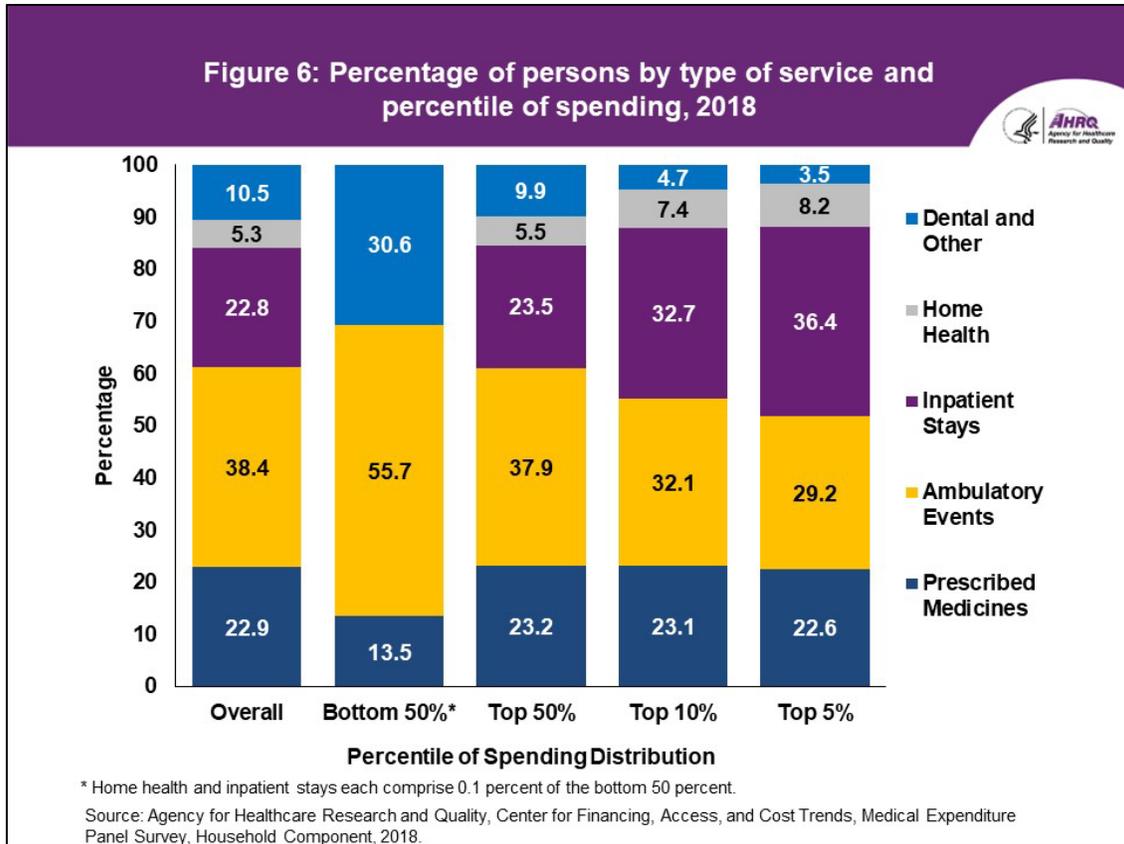


**Figure 5: Percentage of persons by race/ethnicity and percentile of spending, 2018**

<b>Race/ Ethnicity</b>	<b>Overall percentage</b>	<b>Bottom 50%</b>	<b>Top 50%</b>	<b>Top 10%</b>	<b>Top 5%</b>
Hispanic	18.5	25.2	11.7	9.3	10.0
White	59.7	49.1	70.3	73.9	74.1
Black	12.3	14.6	10.0	11.2	11.2
Asian and other	9.6	11.1	8.0	5.7	4.7

Note: Black, white, Asian, and other race/ethnicity groups refer to non-Hispanic persons only.

Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.

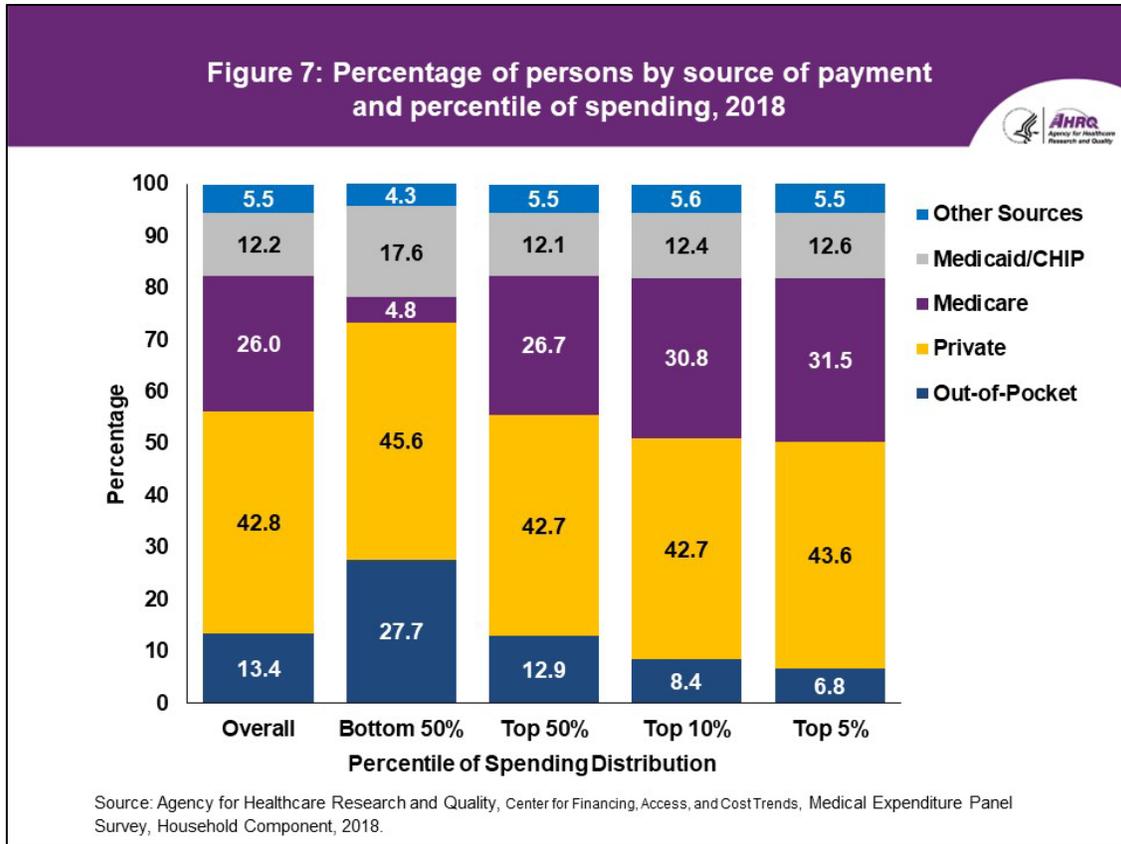


**Figure 6: Percentage of persons by type of service and percentile of spending, 2018**

Type of service	Overall percentage	Bottom 50%*	Top 50%	Top 10%	Top 5%
Prescribed medicines	22.9	13.5	23.2	23.1	22.6
Ambulatory events	38.4	55.7	37.9	32.1	29.2
Inpatient stays	22.8	0.1	23.5	32.7	36.4
Home health	5.3	0.1	5.5	7.4	8.2
Dental and other	10.5	30.6	9.9	4.7	3.5

\* Home health and inpatient stays each comprise 0.1 percent of the bottom 50 percent.

Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.



**Figure 7. Percentage of persons by source of payment and percentile of spending, 2018**

Source of payment	Overall percentage	Bottom 50%	Top 50%	Top 10%	Top 5%
Out-of-Pocket	13.4	27.7	12.9	8.4	6.8
Private	42.8	45.6	42.7	42.7	43.6
Medicare	26.0	4.8	26.7	30.8	31.5
Medicaid/CHIP	12.2	17.6	12.1	12.4	12.6
Other sources	5.5	4.3	5.5	5.6	5.5

Source: Agency for Healthcare Research and Quality, Center for Financing, Access, and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.