AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

STATISTICAL BRIEF #540

February 2022

Concentration of Healthcare Expenditures and Selected Characteristics of Persons with High Expenses, U.S. Civilian Noninstitutionalized Population, 2019

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Highlights

- In 2019, 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 3 percent.

- Hypertension and osteoarthritis/other non-traumatic joint disorders were the most commonly treated conditions among the top 5 percent of spenders.

- Persons ages 65 and older and Whites were disproportionately represented in the top spending tiers.

- Inpatient hospital care accounted for about 37 percent of spending for persons in the top 5 percent of spenders.

- Over three-quarters of aggregate expenses for persons in the top 5 percent of spenders were paid for by private insurance or Medicare.

Introduction

Data from the Medical Expenditure Panel Survey (MEPS) indicate that in 2019, spending on healthcare for the U.S. civilian noninstitutionalized population surpassed $2 trillion, yet the majority of this spending was concentrated in a small percentage of the population. About 14 percent of the U.S. population had no personal healthcare expenditures in 2019, while 5 percent accounted for nearly half of healthcare spending. This spending includes all sources of payment for medical care, including payments by private insurance, Medicare, Medicaid, out-of-pocket spending, and other sources.

In this Statistical Brief, data from the Agency for Healthcare Research and Quality's 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 2019. The most commonly treated conditions among top spenders are identified, and the shares of spending by age groups, race/ethnicity, type of medical service, and source of payment are illustrated. All differences discussed in the text are statistically significant at the 0.05 level.

Findings

Overall (table 1, figures 1 and 2)

In 2019, the top 1 percent of persons ranked by their healthcare expenditures accounted for 20.7 percent of total healthcare expenditures (100 minus 79.3 percent; figure 1), with an annual mean expenditure of $130,087 (figure 2). The group within the top 1 percent is defined as persons who spent $78,125 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 48.8 percent of total expenditures (100 minus 51.2 percent), with an annual mean expenditure of $61,007. The bottom 50 percent accounted for only 3.0 percent of total healthcare expenditures. Every person in this group spent less than $1,313 during the year (table 1), with an average annual expenditure of $374 (figure 2).

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

Percentile of Population	2019 Expenditure
Top 1%	$78,125 or more
Top 5%	$27,560 or more
Top 10%	$15,173 or more
Top 30%	$3,762 or more
Bottom 50%	Less than $1,313

Health conditions (figure 3)

The most commonly treated condition among the top 5 percent of spenders in 2019 was hypertension (46.2 percent), followed by osteoarthritis/other non-traumatic joint disorders (44.5 percent) and nervous system disorders (38.7 percent). In the overall population, the percentages of persons who received treatment for these conditions were only 18.6, 15.5, and 11.9, respectively. Other commonly treated conditions for persons in the top 5 percent of spenders include mental disorders; hyperlipidemia; heart disease; chronic obstructive pulmonary disease (COPD), asthma, and other

respiratory conditions; 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. In 2019, persons 65 and older constituted 16.7 percent of the U.S. civilian noninstitutionalized population, while 22.6 percent were under age 18. Among the top 5 percent of spenders, however, 40.5 percent were 65 and older, while only 4.4 percent were under age 18. In contrast, among the bottom 50 percent of spenders, 30.7 percent were under age 18 while only 5.9 percent were 65 years and older.

Race/ethnicity (figure 5)

Whites were disproportionately represented among the top 50 percent of spenders, while Hispanics were underrepresented in this higher spending group. Whites comprised 59.7 percent of the U.S. civilian noninstitutionalized population in 2019 but accounted for 69.7 percent of the top half of spenders. Hispanics, on the other hand, comprised 18.5 percent of the population but only 12.2 percent of the top half of spenders.

Type of service (figure 6)

For persons in the bottom 50 percent of spenders, over half of their medical expenses were for ambulatory events (55.7 percent), while the proportion of spending on inpatient stays and home health expenses in this group was negligible (less than 0.3 percent of expenditures).

Among the top 5 percent of spenders, 36.7 percent of their expenses were for inpatient stays. This comparatively high proportion of expenditures stems from 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 inpatient stays tend to cost much more than other types of service.

Source of payment (figure 7)

Medicare and private insurance paid for over three-quarters of expenses for persons in the top 5 percent spending tier (Medicare: 31.3 percent; private insurance: 45.4 percent), while out-of-pocket payments comprised only 7.3 percent of expenses.

For the bottom 50 percent of spenders, out-of-pocket payments accounted for just over a quarter of their expenditures (26.7 percent), while Medicare payments comprised only 5.0 percent of payments for this lower spending group.

Data Source

The estimates shown in this Statistical Brief are based on data from the MEPS 2019 Full Year Consolidated File (HC-216).

Definitions

Age
Age was defined as age at the end of the year 2019 (or on last date of MEPS eligibility if 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 3 percent, for instance, indicates that the bottom 50 percent of the population accounts for 3 percent of total spending, and conversely, the top 50 percent accounts for 97 percent of total spending. Similarly, a point at the X-axis value of 99 percent and the Y-axis value of 79 percent indicates that the bottom 99 percent of the population accounts for 79 percent of spending, and conversely, that the top 1 percent of the population accounts for 21 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
The health conditions reported in this Statistical Brief were the most commonly treated conditions among persons with high expenses and are not mutually exclusive. 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 having been discovered during the event. Conditions reported by the household were coded into *International Classification of Diseases, 10th Revision* codes, which were then collapsed to Clinical Classifications Software Refined (CCSR) codes (see https://www.hcup-

us.ahrq.gov/toolssoftware/ccsr/ccs_refined.jsp for details). Similar CCSR codes were further grouped into broader condition categories. The conditions discussed in this brief were defined as follows:

Collapsed Condition Category	CCSR Codes
Hypertension	CIR007, CIR008
Osteoarthritis and other non-traumatic joint disorders	MUS001–MUS010, MUS032
Nervous system disorders	EAR000, EAR003, EAR004, EAR006, NVS000, NVS001–NVS008, NVS013–NVS020, NVS022, SYM010, SYM015
Mental disorders	FAC002, FAC007, MBD000, MBD001–MBD034, NVS011, SYM008, SYM009
Hyperlipidemia	END010
Heart disease	CIR001-CIR006, CIR009-CIR019
COPD, asthma, and other respiratory conditions	RSP000, RSP007-RSP009, RSP011-RSP014, RSP016, SYM013
Diabetes mellitus	END002–END006

Percentiles
Percentiles of spending were formed by ordering sampled persons by their total expenditures from highest to lowest, 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 higher 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 (MEPS-MPC). 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.
http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf

Ezzati-Rice, T. M., Rohde, F., and Greenblatt, J. *Sample Design of the Medical Expenditure Panel Survey Household Component, 1998–2007*. Methodology Report No. 22. March 2008. Agency for Healthcare Research and Quality, Rockville, MD.
http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr22/mr22.pdf

Machlin, S. R., Chowdhury, S. R., Ezzati-Rice, T., DiGaetano, R., Goksel, H., Wun, L.-M., Yu, W., and Kashihara, D. *Estimation Procedures for the Medical Expenditure Panel Survey Household Component*. Methodology Report #24. September 2010. Agency for Healthcare Research and Quality, Rockville, MD. https://www.meps.ahrq.gov/data_files/publications/mr24/mr24.shtml

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. https://www.meps.ahrq.gov/data_files/publications/mr23/mr23.pdf

Suggested Citation

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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 or send a letter to the address below:

Joel W. Cohen, PhD, Director

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Figure 1. Concentration curve of healthcare expenditures, U.S. civilian noninstitutionalized population, 2019
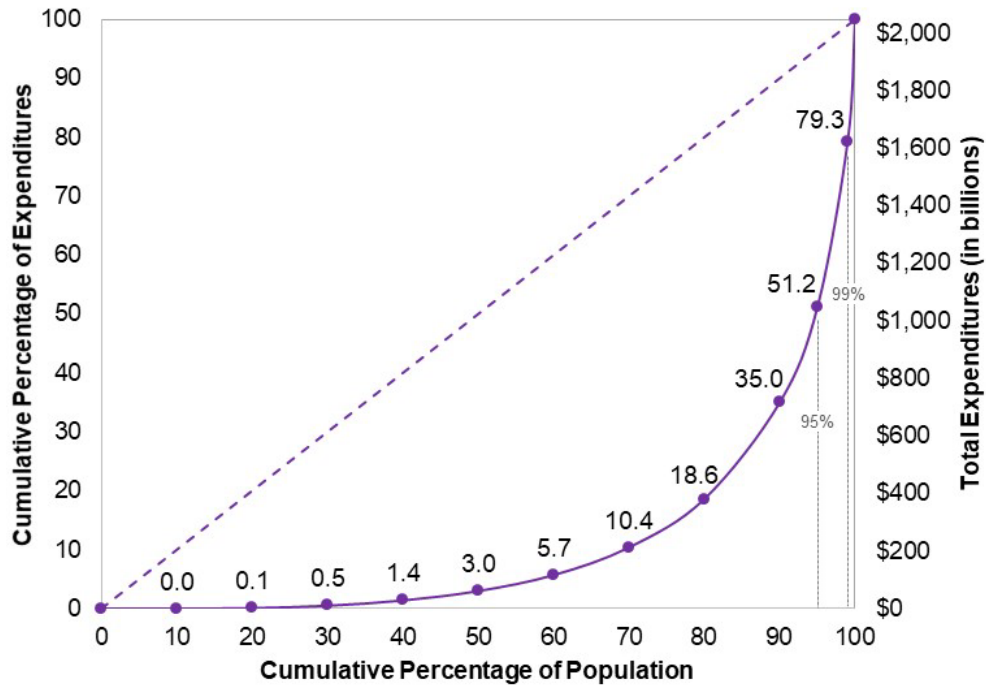
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 1. Concentration curve of health care expenditures, U.S. civilian noninstitutionalized population, 2019

Cumulative Percentage of Population	Cumulative Percentage of Expenditures	Total Expenditures ($, in billions)
0	0.0	0
10	0.0	0
20	0.1	1.7
30	0.5	10.2
40	1.4	28.4
50	3.0	61.2
60	5.7	117.5

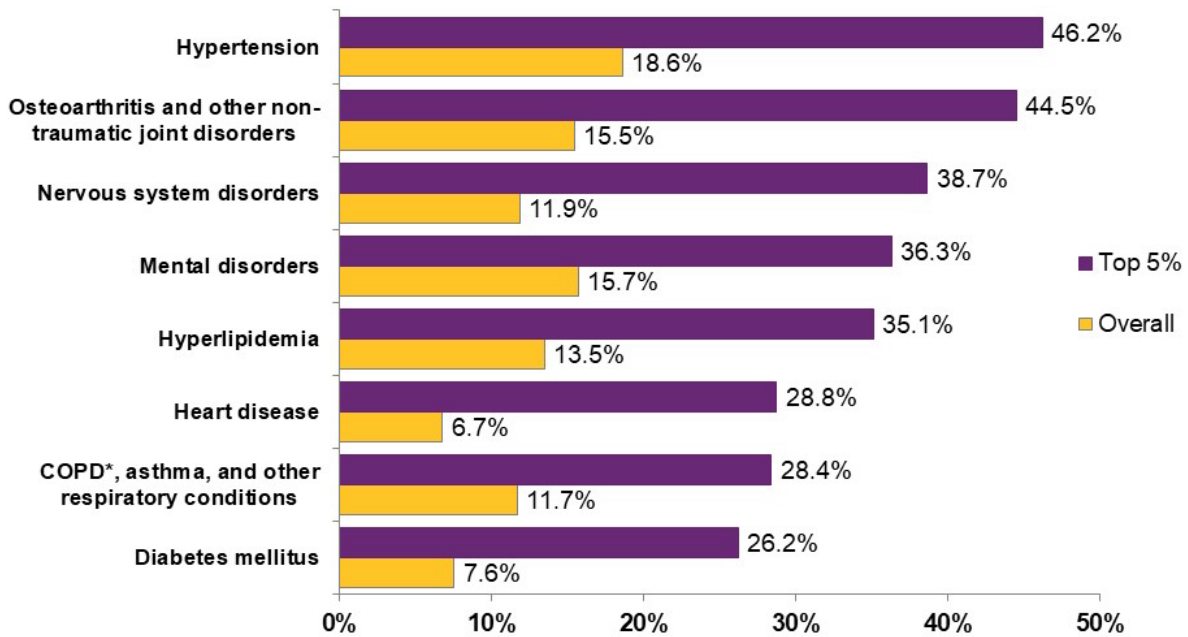| Cumulative Percentage of Population	Cumulative Percentage of Expenditures	Total Expenditures ($, in billions)
70	10.4	213.1
80	18.6	380.7
90	35.0	716.5
95	51.2	1,048.6
99	79.3	1,622.3
100	100.0	2,046.8

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 2. Mean total expenditure per person by percentile of spending, 2019
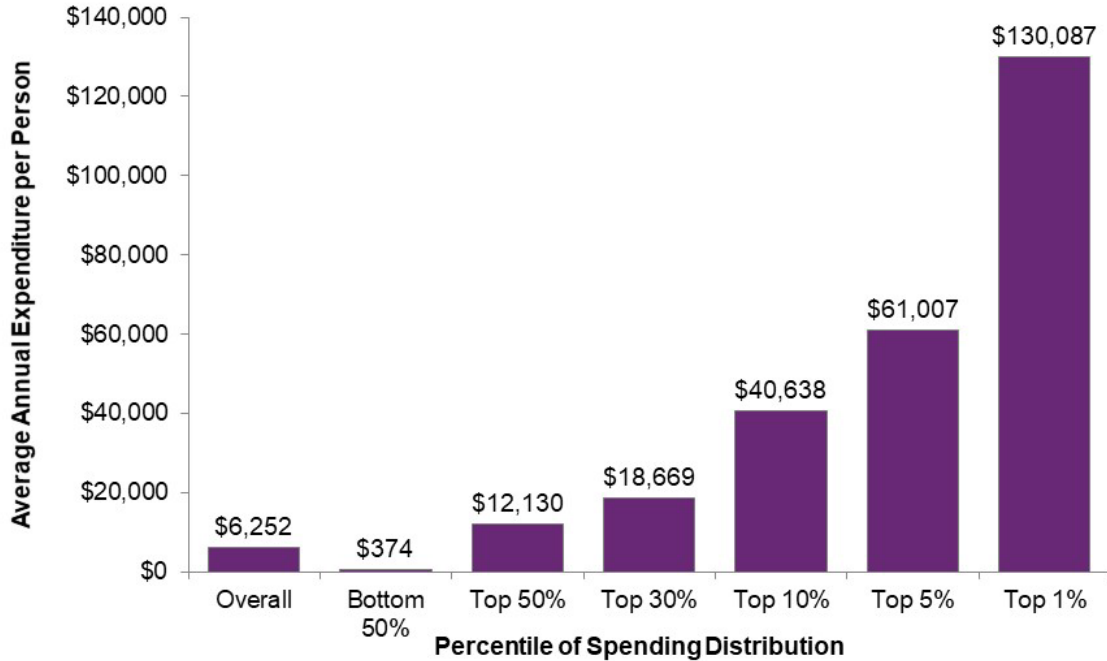
Figure 2. Mean total expenditure per person by percentile of spending, 2019

Percentile of Spending Distribution	Average Annual Expenditure per Person ($)
Overall	6,252
Bottom 50%	374
Top 50%	12,130
Top 30%	18,669
Top 10%	40,638
Top 5%	61,007
Top 1%	130,087

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 3. Most commonly treated conditions among top 5% of spenders: Percentage of persons treated, 2019

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Condition	Overall	Top 5%
Diabetes mellitus	7.6	26.2
COPD*, asthma, and other respiratory conditions	11.7	28.4
Heart disease	6.7	28.8
Hyperlipidemia	13.5	35.1
Mental disorders	15.7	36.3
Nervous system disorders	11.9	38.7
Osteoarthritis and other non-traumatic joint disorders	15.5	44.5
Hypertension	18.6	46.2

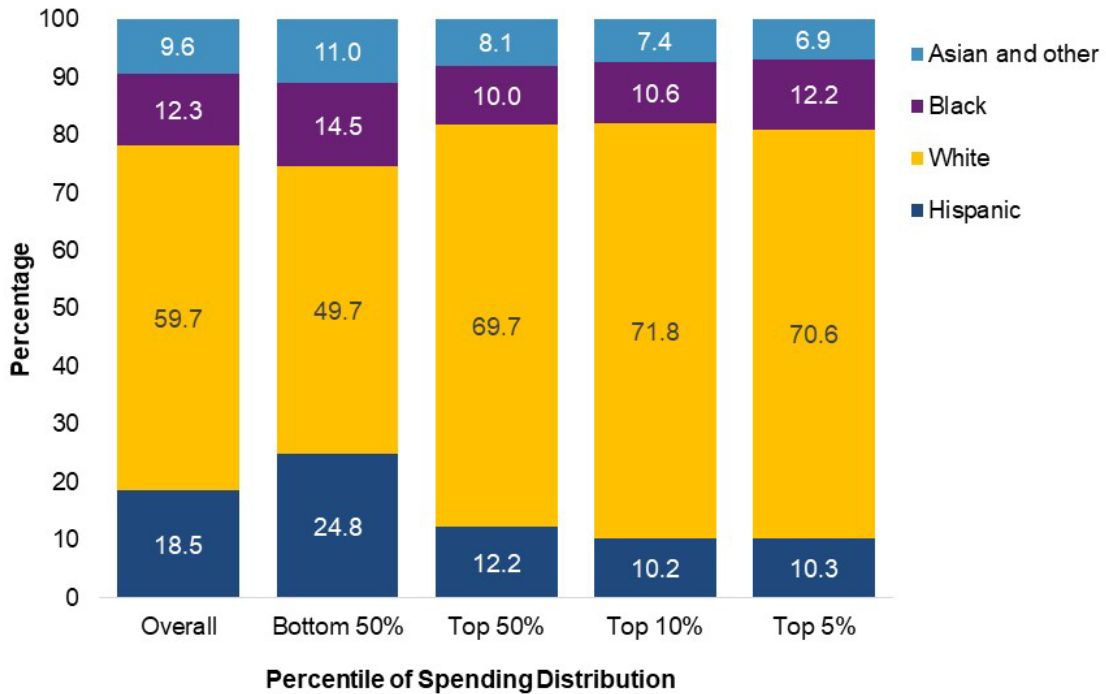*COPD: Chronic Obstructive Pulmonary Disease
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 4. Percentage of persons by age group and percentile of spending, 2019

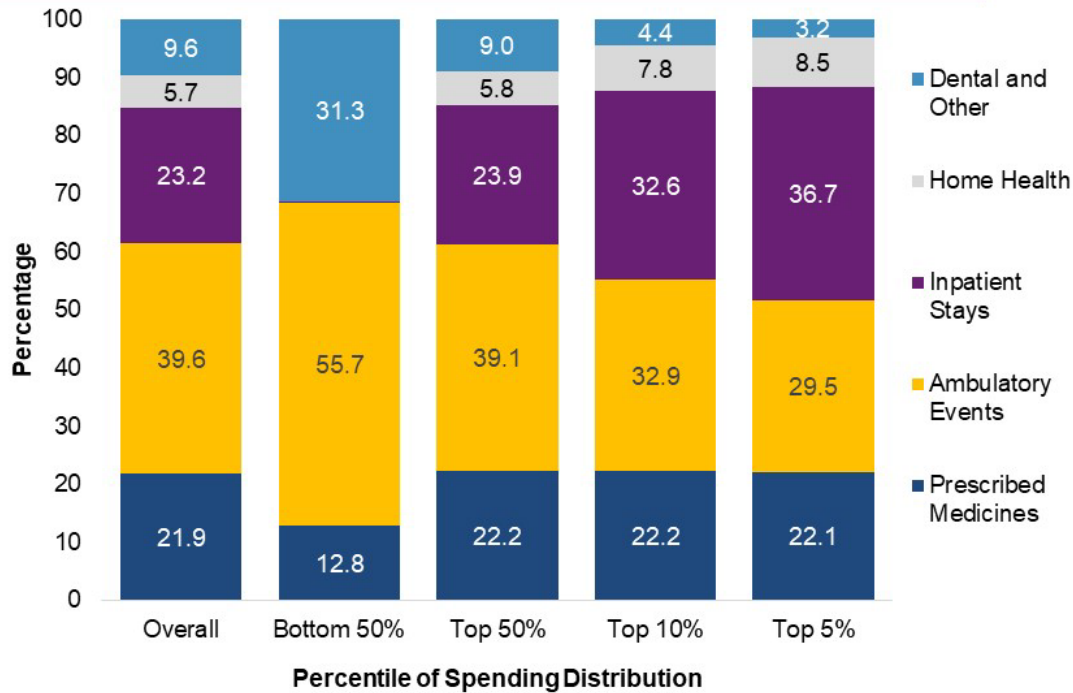| Age Group	Overall	Bottom 50%	Top 50%	Top 10%	Top 5%
0-17	22.6	30.7	14.4	6.1	4.4
18-44	35.3	42.7	27.9	19.5	19.6
45-64	25.4	20.7	30.2	33.5	35.5
65+	16.7	5.9	27.6	40.8	40.5

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 5. Percentage of persons by race/ethnicity and percentile of spending, 2019

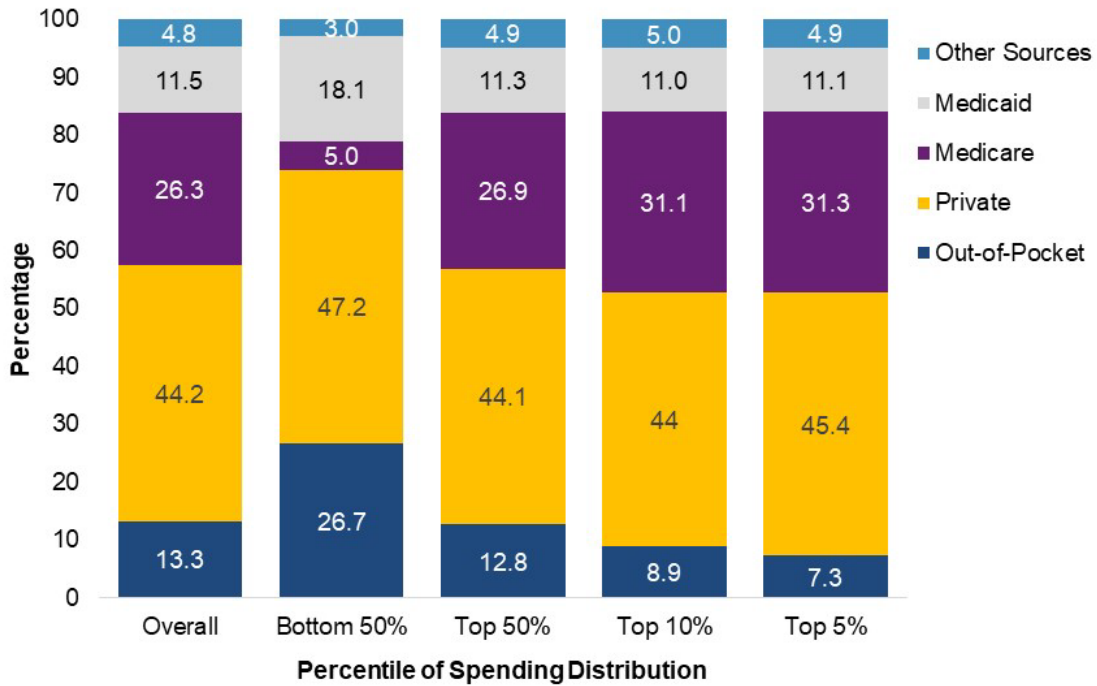| Group	Overall	Bottom 50%	Top 50%	Top 10%	Top 5%
Hispanic	18.5	24.8	12.2	10.2	10.3
White	59.7	49.7	69.7	71.8	70.6
Black	12.3	14.5	10.0	10.6	12.2
Asian and Other	9.6	11.0	8.1	7.4	6.9

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 6. Proportion of expenditures by type of service and spending percentile, 2019

Group	Overall	Bottom 50%	Top 50%	Top 10%	Top 5%
Prescribed Medicines	21.9	12.8	22.2	22.2	22.1
Ambulatory Events	39.6	55.7	39.1	32.9	29.5
Inpatient Stays	23.2	0.2	23.9	32.6	36.7
Home Health	5.7	0.0	5.8	7.8	8.5
Dental and Other	9.6	31.3	9.0	4.4	3.2

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.

Figure 7. Proportion of expenditures by source of payment and spending percentile, 2019

Figure 7. Proportion of expenditures by source of payment and spending percentile, 2019

Group	Overall	Bottom 50%	Top 50%	Top 10%	Top 5%
Out-of-Pocket	13.3	26.7	12.8	8.9	7.3
Private	44.2	47.2	44.1	44.0	45.4
Medicare	26.3	5.0	26.9	31.1	31.3
Medicaid	11.5	18.1	11.3	11.0	11.1
Other Sources	4.8	3.0	4.9	5.0	4.9

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2019.