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Concentration of Health Expenditures and Selected Characteristics of High Spenders, U.S. Civilian Noninstitutionalized Population, 2015

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Introduction

In 2015, spending on health care accounted for 17.8 percent of the United States GDP[1], yet the majority of this spending was concentrated in a relatively small percentage of the population. In fact, about 15 percent of the U.S. civilian noninstitutionalized population had no health care expenditures in 2015, and only five percent of the population accounted for over half of health care spending. An individual's annual health care spending is a combination of multiple factors, including their need for and access to health care.

In this Statistical Brief, data from the Household Component of the Agency for Healthcare Research and Quality's (AHRQ) Medical Expenditure Panel Survey (MEPS-HC) are used to describe the overall concentration of health care expenses across the U.S. civilian noninstitutionalized population. The distribution of spending is further described by age and among persons treated for selected health conditions (mostly chronic), which are two key policy relevant factors. All differences discussed in the text are statistically significant at the 0.05 level.

Findings

Overall (Figures 1-2)

In 2015, the top 1 percent of persons ranked by their health care expenditures accounted for 22.5 (100 minus 77.5) percent of total health care expenditures (Figure 1), with an annual mean expenditure of $112,395 (Figure 2). The top 5 percent of the population accounted for 50.8 (100 minus 49.2) percent of total expenditures with an annual mean expenditure of $50,572, while the bottom 50 percent accounted for only 2.8 percent of total health care expenditures. Average annual spending in this bottom half of the population was $278.

Age (Figure 3)

Older persons are disproportionately represented in the higher health care spending tiers (Figure 3). Among the entire U.S. civilian noninstitutionalized population in 2015, 15.4 percent were 65 and older, while 23.1 percent were under age 18. Among the top 5 percent of spenders, however, 41.9 percent were 65 and older, while only 4.0 percent were children under age 18. In contrast, among the bottom 50 percent of spenders, 31.5 percent were children while only 5.2 percent were 65 and older.

Health Conditions (Figure 4)

The most common treated condition among the top 5 percent of spenders in 2015 was hypertension (53.9 percent), followed by osteoarthritis/ other non-traumatic joint disorders (44.6 percent) and hyperlipidemia (42.4 percent) (Figure 4). In the overall population, however, the percentages of persons who received treatment for these conditions were only 19.7, 12.7 and 15.0, respectively. Other conditions for which at least 25 percent of persons in the top 5 percent were treated include mental disorders, heart disease, COPD/asthma, diabetes mellitus, trauma-related disorders, upper GI disorders and systemic lupus/connective tissues disorders.

Data Source

The estimates shown in this Statistical Brief are based on data from the MEPS 2015 Full Year Consolidated Data File (HC-181).

Definitions

Age

Age was defined as age at the end of the year 2015 (or on last date of MEPS eligibility if person was out of scope at the end of the year).

Selected Treated Chronic Conditions

Persons were classified as treated for a particular condition if they had one or more health care events (i.e., office-based, hospital outpatient and emergency room visits, hospital inpatient stays, and prescribed medicine purchases) where the condition was reported as leading to or discovered during the event. The 10 most commonly treated conditions among the top 5 percent of spenders in 2015 are summarized in the following table:

Highlights

- In 2015, the top 1 percent of persons ranked by their health care expenditures accounted for about 23 percent of total health care expenditures, while the bottom 50 percent accounted for only about 3 percent.

- Persons age 65 and older comprised about 15 percent of the U.S. civilian noninstitutionalized population, but 42 percent of the top 5 percent of spenders. In contrast, children under age 18 comprised 23 percent of the population but only 4 percent of the top 5 percent of spenders.

- While one in five persons in the overall population were treated for hypertension, those persons comprised over half of the top 5 percent of spenders.

[1]Keehan, S, et al. *National Health Expenditure Projections, 2016–25: Price Increases, Aging Push Sector to 20 Percent of Economy*. Health Affairs, February 2017.

Condition Category	CCS Codes
Hypertension	98, 99
Osteoarthritis/other non-traumatic joint disorders	201-204
Hyperlipidemia	53
Mental disorders	65-75, 650-670
Heart disease	96, 97, 100-108
COPD/asthma	127-134
Diabetes mellitus	49, 50
Trauma-related disorders	225-236, 239, 240, 244
Disorders of the upper GI	138-141
Systemic lupus/connective tissue disorders	210-211

The relationship between CCS codes and ICD-9 codes can be found at the HCUP website:
https://www.hcup-us.ahrq.gov/toolssoftware/ccs/AppendixASingleDX.txt

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% and the Y-axis value of 10%, for instance, indicates that the bottom 50% of the population accounts for 10% of total spending, and subsequently, the top 50% accounts for 90% of total spending. Similarly, a point at the X-axis value of 99% and the Y-axis value of 82% indicates that the bottom 99% of the population accounts for 82% of spending, and conversely, that the top 1% of the population accounts for 18% of expenditures.

Expenditures
MEPS-HC defines total expense as the sum of payments from all sources to hospitals, physicians, other health care providers (including dental care), and pharmacies for services reported by respondents in the MEPS-HC.

Percentiles
Percentiles of spending were formed by ordering sampled persons by their total expenditures, 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 their 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%' and 'Top 50%' are mutually exclusive, while the 'Top 50%', 'Top 30%','Top 10%', 'Top 5%' and 'Top 1%' are not.

About MEPS-HC

MEPS-HC is a nationally representative longitudinal survey that collects detailed information on health care utilization and expenditures, health insurance, and health status, as well as a wide variety of social, demographic, and economic characteristics for the U.S. civilian noninstitutionalized population. It is cosponsored by the Agency for Healthcare Research and Quality and the National Center for Health Statistics.

References

The following methodology reports contain information on the survey and sample designs for the MEPS Household and Medical Provider Components (HC and MPC, respectively). Data collected in these two components are jointly used to derive MEPS health care 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. Rockville, MD. Agency for Healthcare Policy and Research, 1997.
http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf

Ezzati-Rice, T.M., Rohde, F., 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., 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. http://www.meps.ahrq.gov/mepsweb/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. http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr23/mr23.pdf
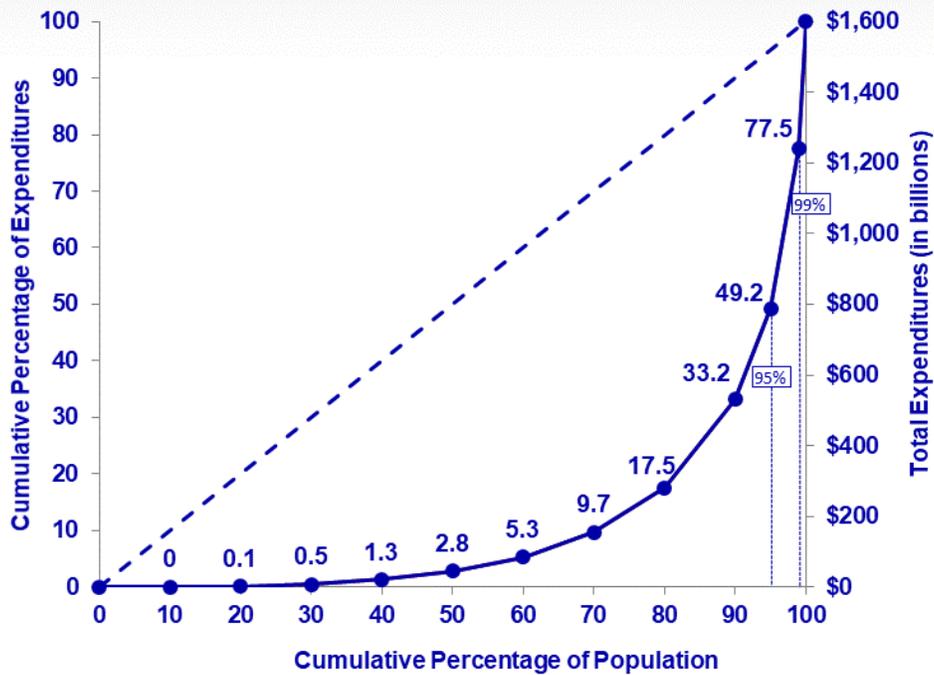
Suggested Citation

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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 health care 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 Cohen, PhD, Director
Center for Financing, Access, and Cost Trends
Agency for Healthcare Research and Quality
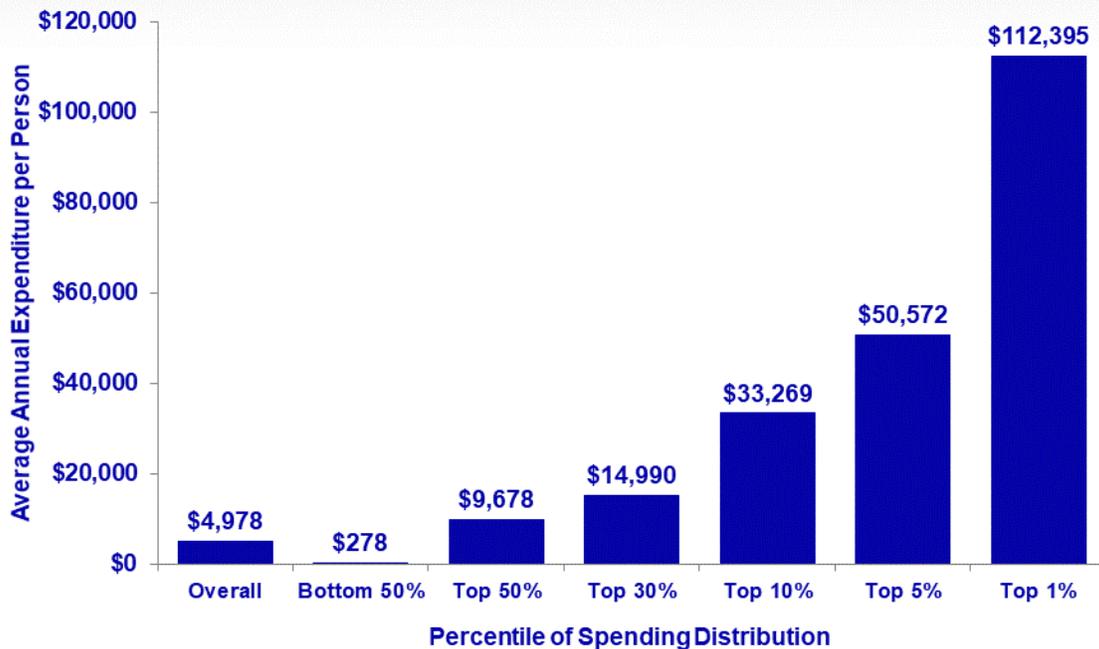5600 Fishers Lane
Rockville, MD 20857

Figure 1. Concentration curve of health care expenditures, U.S. civilian noninstitutionalized population, 2015

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2015.
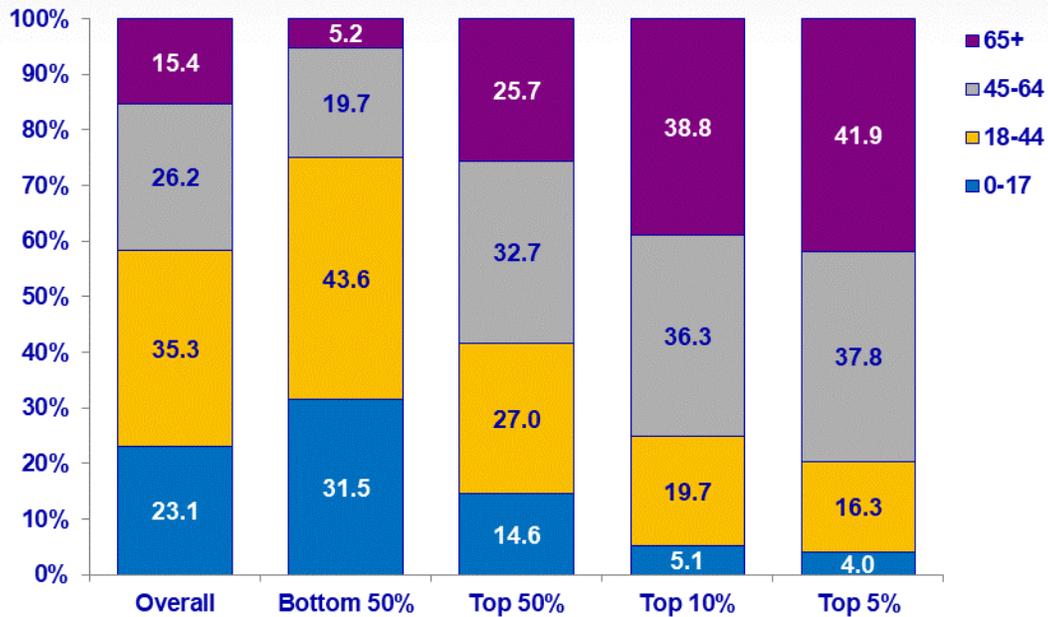
Figure 2. Mean expenditure per person by percentile of spending, 2015

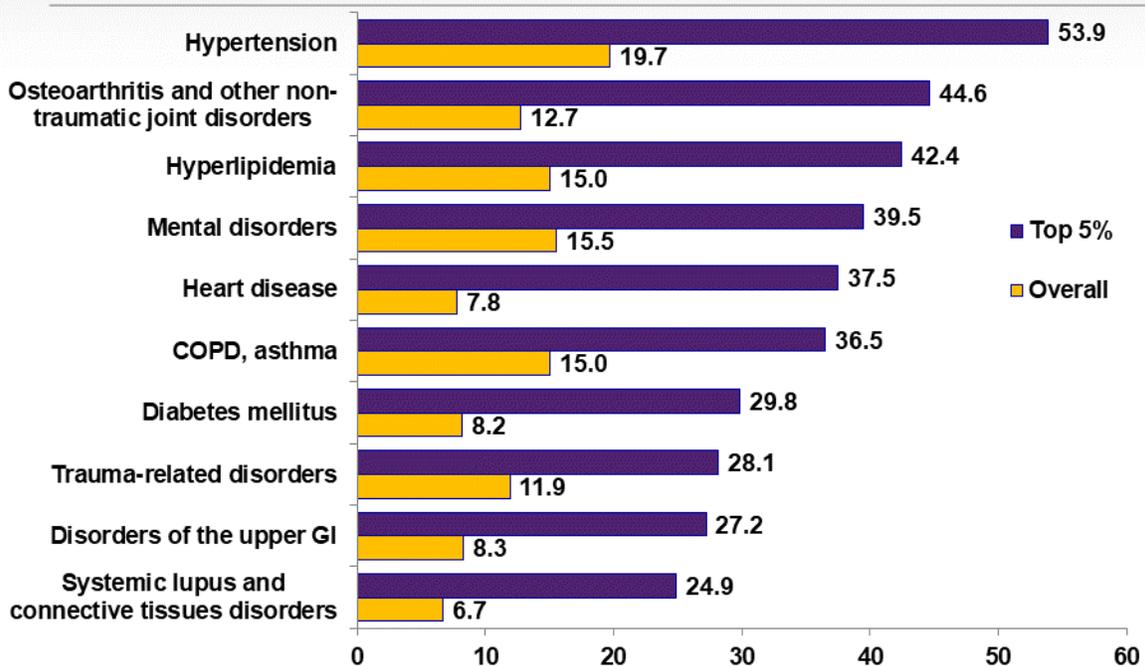Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2015.

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Figure 3. Age distribution by percentile of spending, 2015

	Overall	Bottom 50%	Top 50%	Top 10%	Top 5%
65+	15.4	5.2	25.7	38.8	41.9
45-64	26.2	19.7	32.7	36.3	37.8
18-44	35.3	43.6	27.0	19.7	16.3
0-17	23.1	31.5	14.6	5.1	4.0

Note: Percentages may not add to 100 because of rounding.
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2015.

Figure 4. Ten most commonly treated conditions among top 5% of spenders: Percentage of persons treated, 2015

Condition	Top 5%	Overall
Hypertension	53.9	19.7
Osteoarthritis and other non-traumatic joint disorders	44.6	12.7
Hyperlipidemia	42.4	15.0
Mental disorders	39.5	15.5
Heart disease	37.5	7.8
COPD, asthma	36.5	15.0
Diabetes mellitus	29.8	8.2
Trauma-related disorders	28.1	11.9
Disorders of the upper GI	27.2	8.3
Systemic lupus and connective tissues disorders	24.9	6.7

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2015.

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