

## STATISTICAL BRIEF #487

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### Expenditures for Commonly Treated Conditions among Adults Age 18 and Older in the U.S. Civilian Noninstitutionalized Population, 2013

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#### Introduction

The Medical Expenditure Panel Survey (MEPS) collects a broad range of data related to the health care of the U.S. civilian noninstitutionalized population including health insurance coverage, the number and types of health care events and the sources of payment and payment amounts for those events. The survey also gathers information on which medical conditions are associated with the reported health care events. Condition-specific health care expenditure information derived from MEPS data is useful for policy makers in determining where to focus health policies to improve the quality and efficiency of the health care system from the perspective of disease treatment and management.

This Statistical Brief presents data from the MEPS-Household Component (MEPS-HC) regarding medical expenditures for nine common conditions for which an estimated 10 percent or more of the U.S. civilian noninstitutionalized population (individuals age 18 and older) received health care in 2013. These conditions (see “Definitions” section for more detail) include hypertension, hyperlipidemia, mental disorders, osteoarthritis, COPD/asthma, trauma-related disorders, GI problems, diabetes, and heart conditions, which together account for approximately half of condition-related health care expenses for adults. In all figures presented in this Brief, estimates are shown by estimated number of persons treated in descending order of treatment prevalence. In addition, 95 percent confidence intervals (see “Definitions” section) are illustrated in figures 1–3. Only differences between estimates that are statistically significant at the 0.05 level are discussed in the text.

#### Findings

##### *Treated prevalence*

In 2013, there were nine conditions that were cited as a reason for obtaining medical care for approximately 10 percent or more of the U.S. adult population (figure 1). Among these conditions, treated prevalence ranged from about 10 percent for heart conditions and diabetes to about 25 percent for hypertension. The one-fourth of the adult population treated for hypertension (61.1 million adults), was more than twice the population that was treated for trauma-related disorders (12.2 percent), gastrointestinal (GI) disorders (11.8 percent), diabetes mellitus (10.0 percent) or heart conditions (9.7 percent). The second most widely treated condition was hyperlipidemia, which comprised about one-fifth (19.6 million) of the population, or 47.4 million adults. The next most commonly treated conditions were mental disorders (39.2 million adults; 16.2 percent), osteoarthritis/other non-traumatic joint disorders (38.1 million adults; 15.8 percent), and COPD/asthma (35.3 million adults; 14.6 percent).

##### *Mean per-person expenditures*

The most commonly treated conditions tended to be least expensive to treat (figure 2). Among the nine most treated conditions the mean annual expense per person ranged from less than \$800 for hypertension (\$776) and hyperlipidemia (\$728) to over \$2,500 for diabetes (\$2,565), trauma-related disorders (\$3,070), and heart conditions (\$3,794). Average expenditures for GI disorders, mental disorders, COPD/asthma, and osteoarthritis/other non-traumatic joint disorders were in between these extremes (\$1,457–\$1,913).

#### Highlights

- Among the nine conditions reported as a reason for receiving treatment for ten percent or more of the total U.S. adult population in 2013, the five most prevalently treated conditions were hypertension, hyperlipidemia, mental disorders, osteoarthritis and other non-traumatic joint disorders, and COPD/asthma.
- The highest average expenses per person were for the treatment of heart conditions, trauma-related disorders, and diabetes mellitus, while hyperlipidemia and hypertension had the lowest.
- Medicare and private insurance together paid more than half the expenditures for all of the top treated conditions.
- Trauma-related disorders had the highest percentage of expenditures associated with emergency room visits and lowest percentage associated with prescription medicines.
- Heart conditions had the highest percentage of expenditures associated with inpatient stays, as well as the highest percentage of Medicare payments and the lowest percentage of out-of-pocket payments.

### *Total expenditures*

Estimates of total expenditures associated with particular conditions are jointly driven by the total number of people receiving treatment for the condition (figure 1) and the average expense of treatment per person (figure 2). Total expenditures for the treatment of the nine most commonly treated conditions ranged from \$34.5 billion for hyperlipidemia to approximately \$90 billion each for trauma-related disorders and heart conditions (figure 3). Although hypertension and hyperlipidemia were the most commonly treated conditions, total expenditures for treatment of these conditions were among the lowest, due to their relatively low expense per person. Due to both relatively low prevalence and low average expenses per person, GI disorders also had comparatively low total expenditures (\$41.6 billion). While total expenses for the six other conditions were higher, most differences in annual total spending among those conditions were not statistically significant.

### *Expenditures by type of service*

Office-based or hospital outpatient visits accounted for 20 percent (COPD/asthma) to 40 percent (osteoarthritis and other non-traumatic joint disorders) of total condition specific expenditures, while home health care accounted for less than 14 percent among the top nine most commonly treated conditions (figure 4). Inpatient visits accounted for a substantial share of expenditures for the treatment of heart conditions (53.1 percent) and trauma-related disorders (44.1 percent). This was at least three times the proportion associated with inpatient care for hypertension (14.7 percent), mental disorders (13.1 percent), diabetes (6.4 percent), or hyperlipidemia (5.9 percent). The greatest percentage of expenditures attributable to emergency room visits was for trauma-related disorders (12.0 percent), followed by GI disorders (6.9 percent), and heart conditions (6.8 percent). A negligible percentage (less than 2) of expenditures were attributable to emergency room visits for mental disorders, diabetes, osteoarthritis/other non-traumatic joint disorders, and hyperlipidemia. Of these nine most commonly treated conditions, prescription medicines accounted for a substantial share of the total expenditures for four: hyperlipidemia (61.2 percent), diabetes mellitus (60.1 percent), mental disorders (44.6 percent) and hypertension (42.8 percent). In contrast, prescription medicines accounted for only 10.6 percent of expenditures for heart conditions and 1.8 percent for trauma-related disorders.

### *Expenditures by source of payment*

More than half of the expenditures for each condition examined were paid by private insurance or Medicare. Private insurance payments ranged from 23.5 percent for hypertension to 44.6 percent for GI disorders. Medicare payments associated with eight of the nine conditions ranged from 27.0 percent (mental disorders) to 37.8 percent (hypertension). Heart conditions had the highest proportion of expenses covered by Medicare (46.7 percent), as well as the lowest percentage of out-of-pocket payments (5.4 percent). The three conditions with the highest out-of-pocket percentages were mental disorders (15.9 percent), hypertension (15.5 percent), and hyperlipidemia (14.6 percent). Treatment of mental disorders had the highest proportion of expenditures paid by Medicaid (23.3 percent), followed by hypertension (16.6 percent) and diabetes (16.3 percent). Trauma-related disorders and heart conditions had the lowest percentage of expenditures paid by Medicaid, at 8.2 and 8.5 percent, respectively. Other sources of payment accounted for less than 9 percent of expenditures for all of the nine conditions except trauma-related disorders (20.8 percent).

## **Data Source**

The estimates shown in this Statistical Brief are based on data from the MEPS 2013 Full Year Consolidated File (HC-163), Medical Condition File (HC-162), Office-Based Medical Provider Visit File (HC-160G), Outpatient Department Visits File (HC-160F), Hospital In-Patient Stays File (HC-160D), Home Health File (HC-160H), Emergency Room Visit File (HC-160E), and Prescribed Medicines File (HC-160A).

## **Definitions**

### *Conditions*

Conditions reported as a reason for receiving health care (including office-based provider visits, hospital outpatient or emergency room visits, inpatient stays, prescribed medicine purchases, and care provided by home health agencies) in the MEPS-HC are recorded by the interviewer as verbatim text and then coded by professional coders using the International Classification of Diseases, Ninth Revision (ICD-9). These ICD-9 condition codes are then aggregated into clinically meaningful categories that group similar conditions using the Clinical Classification System (CCS) software provided by the Healthcare Cost and Utilization Project (HCUP). The nine condition categories in this Brief comprise CCS codes as described in table 1. Detailed definitions of the CCS codes and their relation to the original ICD-9 condition codes are available on the HCUP Web site<sup>1</sup>. This website is updated regularly, and therefore the codes used in this Brief may not correspond exactly to the current information on the HCUP Web site.

<sup>1</sup> HCUP Clinical Classifications Software (CCS). Healthcare Cost and Utilization Project (HCUP). U.S. Agency for Healthcare Research and Quality, Rockville, MD. Accessed May 2016.

<http://www.hcup-us.ahrq.gov/toolsoftware/ccs/AppendixASingleDX.txt>

**Table 1. Clinical Classification System (CCS) codes and corresponding conditions**

<b>Condition Category</b>	<b>CCS Codes</b>
Hypertension	98,99
Hyperlipidemia	53
Mental disorders	650-670
Osteoarthritis and other non-traumatic joint disorders	201-204
COPD, asthma	127-134
Trauma-related disorders	225-236, 239, 240, 244
GI disorders	138-141, 153-155
Diabetes mellitus	49, 50
Heart conditions	96, 97, 100-108

*Confidence intervals*

A confidence interval for a population estimate (e.g. prevalence, mean expense, total expense) provides a measure of confidence in the accuracy of the estimate, where a narrower interval implies higher confidence. Each estimate that is generated from a probability sample has a measurable precision, or sampling error, which indicates how closely the estimate from the sample approximates the results that would be obtained if a complete count of the population were available. To account for sampling error, upper and lower bounds for an estimate can be calculated, called a confidence interval, which is stated at a certain confidence level. For example, a 95 percent confidence interval means that in 95 of 100 instances, the sampling procedure would produce a confidence interval containing the true population value that is being estimated.

*Expenditures*

Total expenditures are defined as payments from all sources (see definition for sources of payment below) for hospital inpatient care, ambulatory care provided in offices and hospital outpatient departments, care provided in emergency departments, home health care, and prescribed medicine purchases reported by respondents in the MEPS-HC. Payments for other medical expenses, such as durable and nondurable supplies, medical equipment, eyeglasses, ambulance services, and for dental expenses are excluded because these items are not linked to specific conditions in MEPS. It should be noted that expenditures may be associated with more than one condition and are not unduplicated in the condition totals. Therefore, summing over conditions in this Brief double-counts some expenses (aggregate of about 2 percent across the nine conditions).

*Sources of payment*

Sources of payment are classified into 5 categories in this Brief: 1) Out of pocket (e.g., direct payments from individuals and families), 2) Private insurance (including TRICARE for military families), 3) Medicare, 4) Medicaid, and 5) Other. The 'Other' category comprises several miscellaneous sources including public programs such as Department of Veterans Affairs (except TRICARE); other Federal sources (Indian Health Service, military treatment facilities, and other care provided by the Federal Government); other State and local sources (community and neighborhood clinics, State and local health departments, and State programs other than Medicaid); Workers' Compensation; other unclassified sources (e.g., automobile, homeowner's, liability, and other miscellaneous or unknown sources); other private insurance (any type of private insurance payments reported for persons without private health insurance coverage during the year, as defined in MEPS) and other public insurance (Medicaid payments reported for persons who were not enrolled in the Medicaid program at any time during the year).

**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](http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf)

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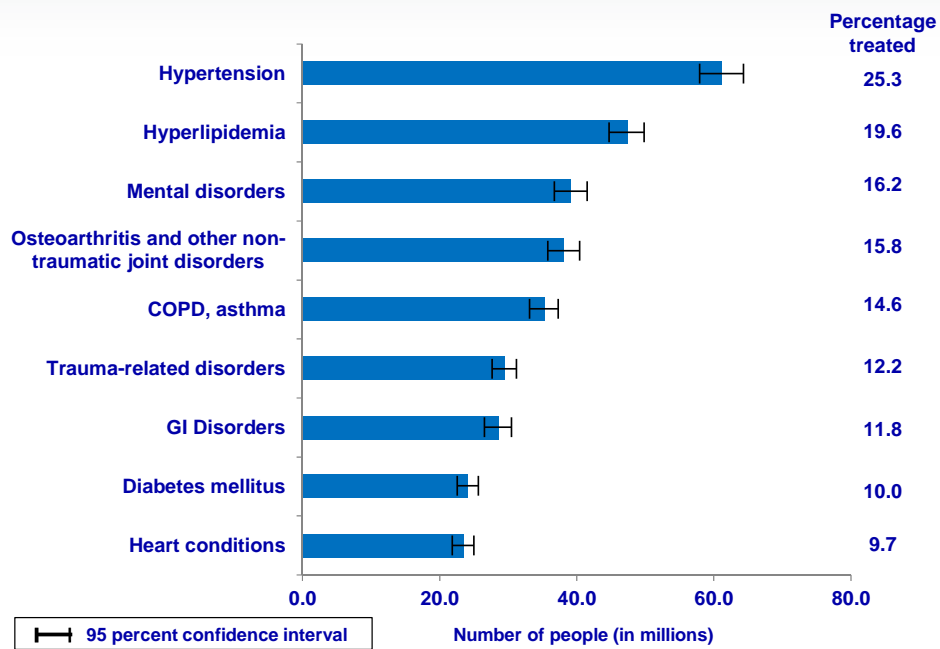
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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using 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](mailto:MEPSProjectDirector@ahrq.hhs.gov) or send a letter to the address below:

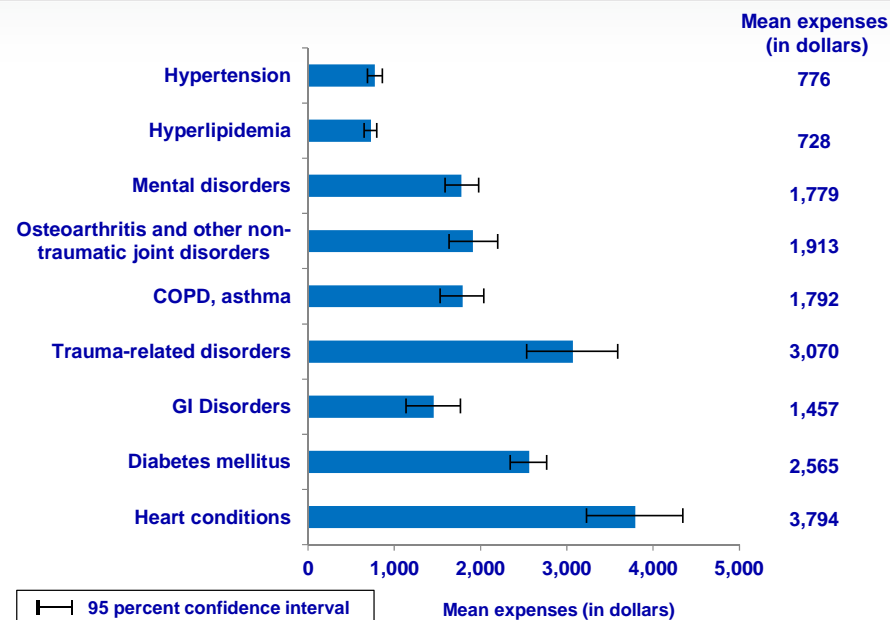
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**Figure 1. Number and percentage of people treated for conditions with at least 10 percent prevalence, adults age 18 and older, 2013**

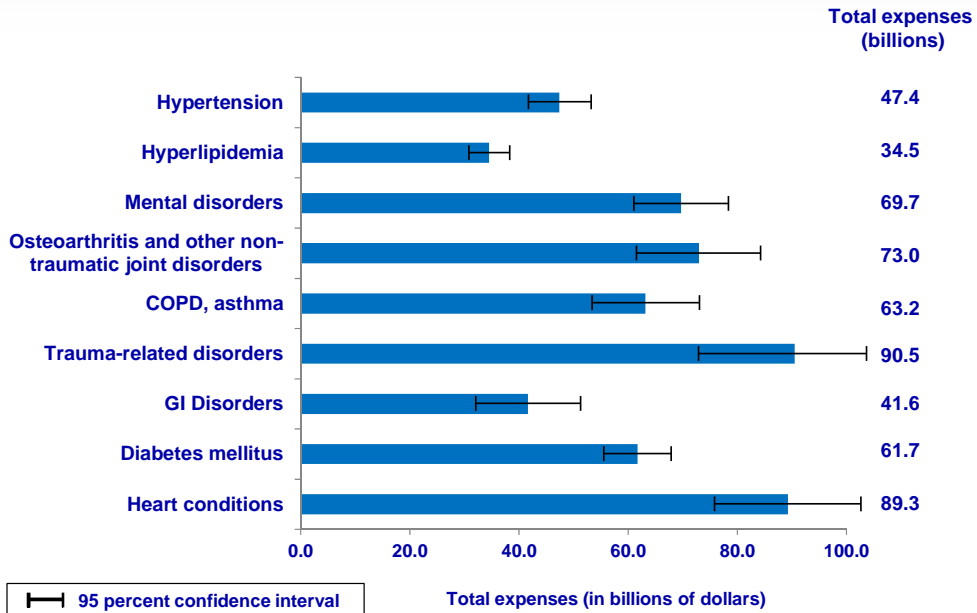


**Figure 2. Mean expense per person for treated conditions with at least 10 percent prevalence, adults age 18 and older, 2013**

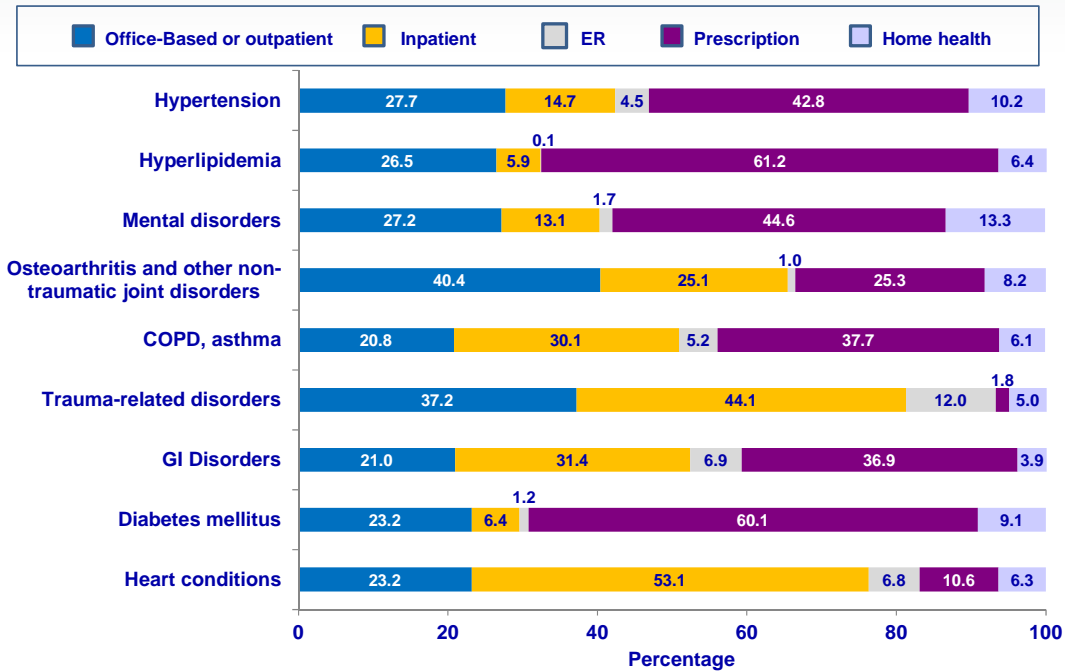




**Figure 3. Total expenditures for treated conditions with at least 10 percent prevalence, adults age 18 and older, 2013**



**Figure 4. Percentage distribution of expenditures by type of service for treated conditions with at least 10 percent prevalence, adults age 18 and older, 2013**





**Figure 5. Percentage distribution of expenditures by source of payment for treated conditions with at least 10 percent prevalence, adults age 18 and older, 2013**

