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Expenditures for Commonly Treated Conditions Among Older Adults: Estimates From the Medical Expenditure Panel Survey, 2019

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Highlights

- Hypertension, hyperlipidemia, and arthritis/other joint disorders were the top three commonly treated conditions among older adults (65 and older) in 2019.

- Among the nine commonly treated conditions for older adults, total health care spending in 2019 was highest for heart disease and lowest for hyperlipidemia and mental disorders.

- Prescription drugs accounted for the largest proportion of annual medical expenditures for diabetes and hyperlipidemia among the different types of medical service.

- Ambulatory care accounted for the largest proportion of annual medical expenditures for arthritis/other joint disorders and cancer.

- Inpatient care accounted for the largest proportion of medical spending for heart disease.

- Out-of-pocket payments as a share of annual treatment expenses were higher for mental disorders than for other treated conditions.

Introduction

About 88 percent of civilian noninstitutionalized adults 65 and older in the United States had at least one of 10 selected diagnosed chronic conditions in 2018 (1). In addition, just over three-fourths of Americans 80 years and older had at least one of four chronic diseases (cardiovascular disease,

cancer, diabetes, and chronic lung disease) between 1998 and 2014 (2). Since 1996, the Medical Expenditure Panel Survey Household Component (MEPS-HC) has collected a wide range of healthcare data annually for the U.S. civilian noninstitutionalized population.

This statistical brief presents data from the 2019 MEPS-HC on condition-specific[i] total annual expenditures and the share of those expenses associated with different medical services[ii] and sources of payments for nine commonly treated conditions (those with an estimated treated disease prevalence of about 20 percent or higher) among adults 65 and older[iii]. These conditions include: (a) hypertension, (b) hyperlipidemia, (c) arthritis and other joint disorders (including joint pain and back pain), (d) nervous system disorders, (e) heart disease, (f) diabetes, (g) cancer, (h) mental disorders, and (i) chronic obstructive pulmonary disease (COPD), asthma, and other respiratory conditions. All estimates are weighted to represent older adults in the U.S. civilian noninstitutionalized population, and standard errors are adjusted to account for the MEPS complex survey design. Most figures in this brief present estimates with a 95-percent confidence interval.

Findings

Percentage distribution of the number of treated conditions among older adults

Table 1 shows the percentage of older adults according to the number of conditions for which they received treatment. About one-half of older persons (47.0 percent) reported receiving treatment for three to nine conditions examined here, 18.2 percent for one condition, and 22.3 percent for two conditions[iv] in 2019. Conversely, 5.8 percent received treatment for other conditions (but none of the nine commonly treated conditions), while 6.7 percent of older adults reported none (i.e., neither any of the nine commonly treated conditions nor any other condition). Thus, in 2019, 87.5 percent of older adults reported receiving treatment for at least one of these nine conditions, and 69.3 percent reported receiving treatment for more than one of them.

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[i] See the "Definitions" section and Table A.1 about how the nine commonly treated conditions were determined.
[ii] These services include office-based medical provider visits and outpatient visits combined, emergency department visits, inpatient hospital stays, home health visits, and prescribed medicine purchases. See also the "Definitions" section for details.
[iii] Hereafter referred to as "older adults" or "older persons."
[iv] Individuals in these three categories might also have received treatment for other conditions.

Prevalence of commonly treated conditions

As shown in Figure 1, in 2019 hypertension was the top commonly treated condition among older adults, with 56.2 percent of the population (31 million older adults) receiving treatment. This was followed by hyperlipidemia (44.4 percent; 24 million older adults), arthritis/other joint disorders (36.1 percent; 20 million older adults), nervous system disorders (27.2 percent; 15 million older adults), heart disease (25.6 percent; 14 million older adults), and diabetes (22.1 percent; 12 million older adults). The treated prevalence estimates for the remaining three conditions were each about 20 percent (19.9 percent for cancer, 19.8 percent for mental disorders, and 19.4 percent for COPD/asthma/other respiratory conditions; about 11 million older adults for each condition).

Mean annual expenditures per person and median expenditures by condition

As shown in Figure 2, mean annual expenditures per person among older adults with expenses[v] for these nine conditions were highest for cancer ($5,681), heart disease ($5,397), and diabetes ($4,766), and lowest for hyperlipidemia ($622) and hypertension ($885) in 2019. Median expenditures followed a similar pattern, with the highest amount paid for treatment of diabetes ($1,390) and heart disease ($849) and the lowest for hypertension ($207) and hyperlipidemia ($151).

Total expenditures by condition

Figure 3 shows total annual expenditures for these nine commonly treated conditions among older adults. In 2019, among older adults, annual healthcare expenditures totaled $75.6 billion for heart disease, $61.7 billion for cancer, $58.6 billion for arthritis/other joint disorders, $57.5 billion for diabetes, $35.1 billion for nervous system disorders, and $34.7 billion for COPD/asthma/other respiratory condition. Despite the higher treated prevalence of hypertension and hyperlipidemia, estimates of total annual expenses for treating these conditions were relatively low ($27.2 billion and $15.0 billion, respectively) due to low average expenses per person. In addition, the total annual spending for treating mental disorders, one of the less prevalent conditions among the nine, was also low ($18.1 billion).

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[v] These expenses exclude zero expenses associated with medical events reported by respondents where the payments were zero. See the reasons for zero responses here: https://meps.ahrq.gov/data_files/publications/mr33/mr33.shtml.

Treatment expenditures by type of medical service (condition-specific)
Figure 4 presents the distribution of annual healthcare expenditures[vi] by type of medical service for each of the nine treated conditions. Compared across these service categories, the proportion of yearly medical expenses associated with prescription drugs was largest for diabetes and hyperlipidemia (65.9 percent and 45.7 percent, respectively) in 2019. Ambulatory care accounted for the largest share of spending for arthritis/other joint disorders and cancer (50.2 percent and 45.7 percent, respectively). Inpatient care accounted for the largest share of spending for heart disease (45.9 percent). Finally, home healthcare accounted for the largest share of spending on treatment for mental disorders (48.9 percent).

Condition-specific treatment expenditures by source of payment

Figure 5 shows the share of the total healthcare spending for older adults on these nine treated conditions by source of payment. Overall, Medicare paid the largest share of healthcare expenses for treating these nine conditions in 2019. The share of expenditures paid by Medicare ranged from 55.5 percent for nervous system disorders to 68.9 percent for heart disease. In comparison, the private insurance share ranged from 8.3 percent for mental disorders to 21.5 percent for cancer treatment. Medicaid paid a smaller proportion, ranging from 1.8 percent for cancer treatment to 11.1 percent for hypertension and 11.7 percent for hyperlipidemia. Out-of-pocket payments were highest for mental disorders (19.1 percent) followed by nervous system disorders (15.3 percent) among these nine commonly treated conditions. In general, however, overall out-of-pocket expenses accounted for a relatively small proportion of annual expenditures for treatment of most conditions, accounting for less than 10 percent of expenditures for seven of the nine conditions examined.

Data Source

This statistical brief uses the 2019 MEPS public use files: (a) Medical Conditions File (H214), (b) Condition-Event Link File (H213IF1), (c) Office-Based Medical Provider Visits File (H213G), (d) Outpatient Visits File (H213F), (e) Emergency Room Visits File (H213E), (f) Prescribed Medicines File (H213A), (g) Hospital Inpatient Stays File (H13D), (h) Home Health File (H213H), and (i) Full-Year Consolidated Data File (H216). These data files are publicly available from this site: https://meps.ahrq.gov/data_stats/download_data_files.jsp. For the 2019

[vi] These expenditures are the sum of the treatment costs across medical service categories for a given condition, not all expenditures for all services combined including dental visits and other medical equipment and services (e.g., eyeglasses, contact lenses, ambulance services, orthopedic items, hearing devices) during the year.

data year, the medical conditions files were merged into the different medical events files and the person-level, full-year consolidated file.

Definitions

Older adults
Individuals in this subpopulation are adults 65 and older. Data on age are based on the sample person's age at the end of the year. However, if the MEPS-HC did not collect the age data during a data collection round due to the sample person being out of scope (e.g., deceased or institutionalized), it then used the age data collected at the time of the previous round to determine the person's age.

Treated Conditions
The health conditions reported in this statistical brief were the most commonly treated conditions whose prevalence was about 20 percent or higher among older adults and were 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 (ICD), 10th Revision codes, which were then collapsed to Clinical Classifications Software Refined (CCSR) codes. Similar CCSR codes were further grouped into broader condition categories. Table A.1 presents CCSR codes corresponding to nine treated conditions based on the array of three CCSR categories (i.e., CCSR1X, CCSR2X, and CCSR3X).

Table A.1. Condition Categories and CCSR Codes for ICD-10-CM diagnoses, 2019[vii]

Conditions	CCSR codes[viii]	Number of CCSR codes
Hypertension	CIR007-CIR008	2
Hyperlipidemia	END010	1
Arthritis and other joint disorders (including joint pain and back pain)	MUS001-MUS010, and MUS032	11
Nervous system disorders	EAR000, EAR003, EAR004, EAR006, NVS000, NVS001-NVS008, NVS013-NVS020, NVS022, SYM010, and SYM015	24
Heart disease	CIR001-CIR006, CIR009, and CIR010-CIR019	17
Diabetes	END002-END006	5
Cancer	FAC006, NEO000, NEO001-NEO072, and NEO074	75
Mental disorders	FAC002, FAC007, MBD000-MBD034, NVS011, SYM008, and SYM009	40
COPD, asthma, and other respiratory conditions	RSP000, RSP007-RSP009, RSP011-RSP014, RSP016, and SYM013	10

Additionally, this statistical brief uses a five-category condition variable: (a) none (i.e., neither any of the nine commonly treated conditions nor any other condition); (b) one commonly treated condition (with or without other conditions); (c) two commonly treated conditions (with or without other conditions); (d) three to nine commonly treated conditions (with or without

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[vii] Agency for Healthcare Research and Quality, Healthcare Cost & Utilization Project. Clinical Classifications Software Refined (CCSR). https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccs_refined.jsp.
[viii] For confidentiality purposes, some of the CCSR categories were collapsed into a broader "zero-filled" code for the appropriate body system (e.g., EAR000, NVS000, and NEO000). Fewer than 3 percent of the CCSR categories were collapsed into broader codes for this purpose.

other conditions); and (e) other conditions (but none of the nine commonly treated conditions).

Expenditures (condition-specific)
For each of the nine commonly treated conditions, expenditures on treatment comprise payments from all sources (defined below) for prescribed medicines and for services provided in medical providers' offices and hospital outpatient departments combined, emergency departments, inpatient hospitals, and patients' homes (home health). Total expenditures for each condition include expenses for any event linked to that condition. Consequently, expenditures may be counted more than once if an event is reported associated with multiple conditions. Finally, the report sums the treatment costs across service categories for each medical condition to create a person-level total.

Expenditures (condition-specific) by type of medical service
- *Ambulatory*: Expenses for this event type include those for office-based provider visits (physician and nonphysician medical providers seen in office settings) and hospital outpatient visits. These expenses include payments for services provided by the facility and by physicians who bill separately from the facility.
- *Hospital inpatient stays*: Expenses for this medical service category include room and board and all hospital diagnostic and laboratory expenses associated with the basic facility charge, payments for separately billed physician services, and emergency room expenses for patients who were admitted as an inpatient from the same hospital's emergency department.
- *Emergency room*: Expenses include payments for services covered under the basic facility charge and those for separately billed physician services, excluding expenses for emergency room services included in an inpatient hospital bill.
- *Prescribed medicines*: Expenses in this medical service category are for all prescribed medications initially purchased or refilled during the year and expenses for diabetic supplies.
- *Home health*: Expenses for this category are for home healthcare services provided by agencies and paid independent providers.

Source of payment (condition-specific)
Sources of direct payment for various types of medical service associated with each treated condition for the sample person are classified into five categories: (a) private insurance (including Tricare for military services), (b) Medicare, (c) Medicaid, (d) out of pocket (by patient or patient's family), and (e) other. The "other" category includes other federal government sources (e.g., Indian Health Service); (b) state/local government sources (other than

Medicaid); workers' compensation; and Veterans Administration/Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA).

About MEPS

MEPS-HC collects nationally representative data on healthcare use, expenditures, sources of payment, and insurance coverage for the U.S. civilian noninstitutionalized population. MEPS-HC is cosponsored by the Agency for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics. More information about the MEPS-HC can be found on the MEPS website at http://www.meps.ahrq.gov.

References

1. Boersma P, Black LI, Ward BW. Prevalence of multiple chronic conditions among US adults, 2018. Prev Chronic Dis 2020;17:200130. DOI: http://dx.doi.org/10.5888/pcd17.200130.

2. Fong, J.H. Disability incidence and functional decline among older adults with major chronic diseases. BMC Geriatr 19, 323 (2019). https://doi.org/10.1186/s12877-019-1348-z.

3. Centers for Disease Control and Prevention (CDC)/National Center of Health Statistics (NCHS). Percent of U.S. Adults 55 and Over with Chronic Conditions. Hyattsville, MD; September 2009. https://www.cdc.gov/nchs/data/health_policy/adult_chronic_conditions.pdf.

For a detailed description of the MEPS-HC survey design, sample design, and methods used to minimize sources of nonsampling error, see the following publications:

4. Chowdhury, SR, Machlin, SR, and Gwet KL. Sample designs of the Medical Expenditure Panel Survey Household Component, 1996–2006 and 2007–2016. Methodology Report #33. Rockville, MD: Agency for Healthcare Research and Quality; January 2019. https://meps.ahrq.gov/data_files/publications/mr33/mr33.shtml.

5. 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 Health Care Policy and Research; 1997. https://meps.ahrq.gov/data_files/publications/mr1/mr1.shtml.

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:
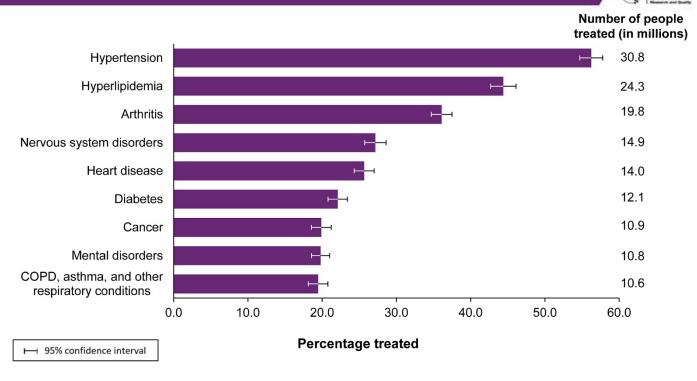
Joel W. Cohen, PhD, Director

Center for Financing, Access, and Cost Trends

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Table 1: Percentage distribution of older adults according to the number of treated conditions[ix], 2019

Number of conditions	Unweighted N	Percentage 95 percent CI
None	363	6.7 (5.9-7.4)
One commonly treated condition	1,006	18.2 (17.0-19.5)
Two commonly treated conditions	1,215	22.3 (20.8 23.7)
Three to nine commonly treated conditions	2,606	47.0 (45.4-48.6)
Other conditions	313	5.8 (5.1-6.5)

[ix] See the 'Definition' section for operationalization of the variable.

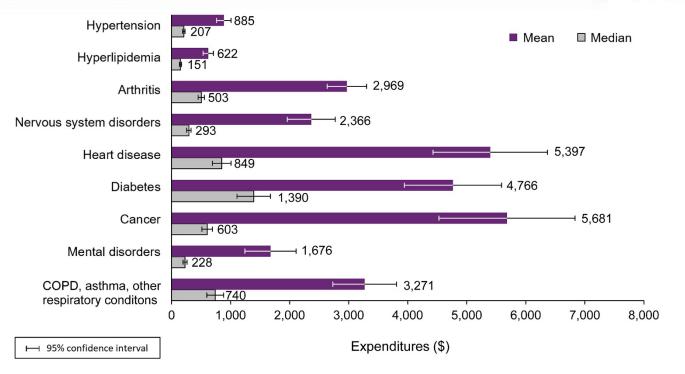Figure 1. Percentage of older adults with commonly treated conditions, 2019

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

Figure 1. Percentage of older adults with commonly treated conditions, 2019

Condition	Number treated (millions)	Percent treated
Hypertension	30.8	56.2
Hyperlipidemia	24.3	44.4
Arthritis and other joint disorders	19.8	36.1
Nervous system disorders	14.9	27.2
Heart disease	14.0	25.6
Diabetes	12.1	22.1
Cancer	10.9	19.9
Mental disorders	10.8	19.8
COPD, asthma, and other respiratory conditions	10.6	19.4

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

Figure 2. Mean and median expenditures per person, for commonly treated conditions among older adults with expenses, 2019
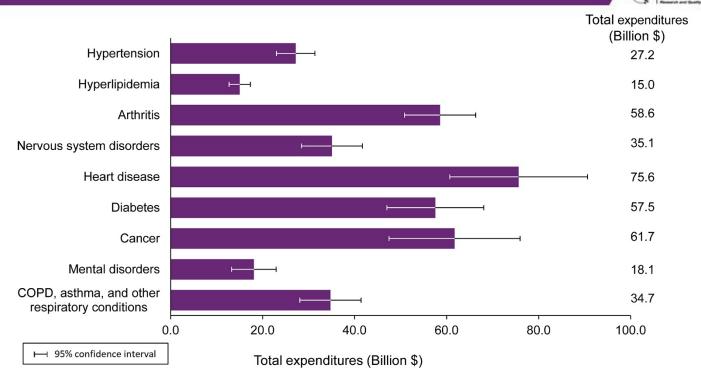
Source: Agency for Healthcare research and Quality, Medical Expenditure Panel Survey, Household Component, 2019

Figure 2. Mean and median expenditures per person for commonly treated conditions among older adults with expenses, 2019

Condition	Mean expenditures ($)	Median expenditures ($)
Hypertension	885	207
Hyperlipidemia	622	151
Arthritis and other joint disorders	2,969	503
Nervous system disorders	2,366	293
Heart disease	5,397	849
Diabetes	4,766	1,390
Cancer	5,681	603
Mental disorders	1,676	228
COPD, asthma, other respiratory conditions	3,271	740

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

Figure 3. Total annual expenditures for commonly treated conditions among older adults, 2019
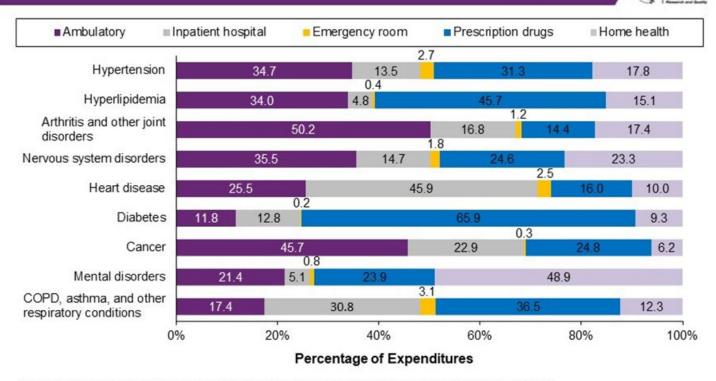
Source: Agency for Healthcare research and Quality, Medical Expenditure Panel Survey, Household Component, 2019

Figure 3. Total annual expenditures for commonly treated conditions among older adults, 2019

Condition	Total expenditures (billions $)
Hypertension	27.18
Hyperlipidemia	15.02
Arthritis and other joint disorders	58.57
Nervous system disorders	35.06
Heart disease	75.64
Diabetes	57.54
Cancer	61.72
Mental disorders	18.10
COPD, asthma, and other respiratory conditions	34.74

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

Figure 4. Percentage of treatment expenditures for different types of
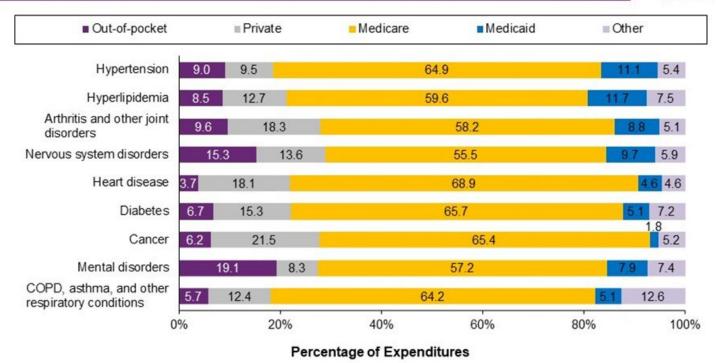medical service by condition among older adults, 2019

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

Figure 4. Percentage of treatment expenditures for different types of medical service by condition among older adults, 2019

Condition	Ambulatory	Inpatient hospital	Emergency room	Prescription drugs	Home health
Hypertension	34.7	13.5	2.7	31.3	17.8
Hyperlipidemia	34.0	4.8	0.4	45.7	15.1
Arthritis and other joint disorders	50.2	16.8	1.2	14.4	17.4
Nervous system disorders	35.5	14.7	1.8	24.6	23.3
Heart disease	25.5	45.9	2.5	16.0	10.0
Diabetes	11.8	12.8	0.2	65.9	9.3
Cancer	45.7	22.9	0.3	24.8	6.2
Mental disorders	21.4	5.1	0.8	23.9	48.9
COPD, asthma, and other respiratory conditions	17.4	30.8	3.1	36.5	12.3

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

Figure 5. Percentage of treatment expenditures for different payment sources by condition among older adults, 2019

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

Figure 5. Percentage of treatment expenditures for different payment sources by condition among older adults, 2019

Condition	Out-of-pocket	Private	Medicare	Medicaid	Other
Hypertension	9.0	9.5	64.9	11.1	5.4
Hyperlipidemia	8.5	12.7	59.6	11.7	7.5
Arthritis and other joint disorders	9.6	18.3	58.2	8.8	5.1
Nervous system disorders	15.3	13.6	55.5	9.7	5.9
Heart disease	3.7	18.1	68.9	4.6	4.6
Diabetes	6.7	15.3	65.7	5.1	7.2
Cancer	6.2	21.5	65.4	1.8	5.2
Mental disorders	19.1	8.3	57.2	7.9	7.4
COPD, asthma, and other respiratory conditions	5.7	12.4	64.2	5.1	12.6

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