



July 2023

## **Healthcare Use and Expenditures for COVID-19, U.S. Civilian Noninstitutionalized Population, 2020**

*Emily Mitchell, PhD, Rebecca Ahrnsbrak, MPS, and Zhengyi Fang, MS*

### **Highlights**

- In 2020, 3.8 percent of people in the U.S. civilian noninstitutionalized population had a COVID-19-related medical visit or prescribed medicine purchase.
- COVID-19-related expenses for people with any COVID-19-related events were around \$2,678 per person.
- People older than 45 were more likely to have a hospital inpatient stay or emergency room (ER) visit for COVID-19 than children or younger adults.
- People with any private insurance in 2020 were more likely to have a COVID-19-related medical event than people with only public insurance.
- Among people with any treatment for COVID-19, those with middle or high income were more likely to have an ambulatory visit and less likely to have a hospital inpatient stay or ER visit for COVID-19 than people with lower income.

### **Introduction**

By the end of 2020, around 20 million people in the United States had experienced a confirmed case of COVID-19 [1, 2], and certain populations were disproportionately impacted by the disease. Previous studies suggest that some sociodemographic groups, such as racial/ethnic minorities and individuals living in areas with higher poverty levels, experienced higher rates of COVID-19 [3, 4].

In this Statistical Brief, we describe COVID-19-related utilization and expenditures for the U.S. civilian noninstitutionalized population in 2020. Note that this population does not include people residing in nursing homes or other institutions, nor does it include active-duty military personnel. We present the percentage of individuals with COVID-19-related ambulatory visits<sup>1</sup> and hospital inpatient stays or emergency room (ER) visits, and we highlight differences in COVID-19 treatment and expenditures by demographic groups, including age group, insurance coverage status, income level, race/ethnicity, region, and urbanicity. All differences discussed in the text are statistically significant at the 0.05 level unless otherwise noted.

The percentages of people presented in this report are estimates of the treated prevalence for COVID-19, where treatment includes any ambulatory visit, hospital inpatient stay, ER visit, prescribed medicine purchase, or home health visit related to COVID-19. Note that all healthcare utilization in the Medical Expenditure Panel Survey (MEPS) is reported by household respondents, and medical conditions associated with events are not verified by healthcare professionals.

The estimates in this Brief represent the *treated* prevalence of COVID-19, which differs from the true prevalence of COVID-19. Estimates of true prevalence attempt to capture the number of people with COVID-19, regardless of whether they received medical care related to the disease. Treated prevalence is a subset of true prevalence because it represents people who had COVID-19 *and* had a medical event related to COVID-19. Estimates of both treated prevalence from MEPS and overall prevalence estimates from other sources may underestimate the true disease prevalence in 2020 due to limited availability of COVID-19 testing early in the pandemic and lack of reporting of at-home test results to public health authorities. In addition, as noted above, MEPS utilization estimates are reported by household respondents, and as such can be susceptible to recall bias and reporting error. The onset of the COVID-19 pandemic created additional concerns about reporting accuracy, due to impacts on MEPS field operations and response mode and lower response rates. Most MEPS interviews switched from in-person to phone and video modes during the early stages of the pandemic. However, recent analyses indicate that these changes did not adversely affect the quality of reporting healthcare use in MEPS [5].

---

<sup>1</sup> In this Statistical Brief, ambulatory visits include office-based medical visits or hospital outpatient visits. Both in-person and telehealth visits are included.

## Findings

*Overall (figure 1 and table 1)*

According to data from the 2020 MEPS, over 12.4 million people (3.8 percent) in the U.S. civilian noninstitutionalized population received treatment for COVID-19 during 2020. Total expenditures for COVID-19-related treatment were around \$33 billion, with treatment averaging around \$2,678 per person with care for COVID-19.

Among people with any COVID-19 treatment, a majority (87.9 percent) had at least one ambulatory visit. The average cost for COVID-19-related ambulatory visits was \$242. While fewer people had an inpatient hospital stay or ER visit (19.0 percent), these events were much more expensive, averaging \$9,913 per event. Looking at these events by subtype, average costs per event were around \$22,146 for inpatient stays, and \$1,244 for ER visits.

**Table 1. Healthcare use and expenditures among people with any COVID-19 treatment, by event type, 2020**

Event Type	Number of people with COVID-19 visit	Percentage of people with specific visit type	Number of visits	Average cost per event
Ambulatory visit*	10,908,588	87.9%	17,839,715	\$242
Inpatient or ER**	2,365,049	19.0%	2,841,626	\$9,913
Inpatient stay	1,135,644	9.2%	1,178,567	\$22,146
ER visit	1,463,568	11.8%	1,663,059	\$1,244

\* An ambulatory visit is an office-based medical visit or hospital outpatient department visit.

\*\* ER visits resulting in hospital admission are included in estimates for the corresponding inpatient stay. Aggregate person-level estimates will not add up to the total of hospital inpatient and ER, since one person can have multiple visit types.

Note that while overall treated prevalence for COVID-19 includes people with home health visits and prescribed medicine purchases, we do not report estimates for these event types for the following reasons:

- The number of people with home health visits for COVID-19 was too small to produce reliable estimates for these events.
- MEPS collects information only on retail prescribed medicines and does not collect information on drugs administered during a hospital stay or

medical visit. In 2020, there were limited options available for treating COVID-19 with prescribed medicines, and most medicines used to treat COVID-19 were administered in a healthcare setting. Because MEPS excludes medicines administered in a healthcare setting, estimates for prescribed medicine treatment of COVID-19 are not separately presented in this Brief.

*Age groups (figure 2 and tables 2a,b)*

Nearly 5 percent of adults between the ages of 45 and 64 and 4.5 percent of adults ages 18–44 had a medical visit or prescribed medicine purchase for COVID-19 in 2020. These age groups were more likely to have a COVID-19-related event than children ages 5–17.<sup>2</sup>

Among people with any COVID-19 treatment, average per-person costs for COVID-19-related events were over \$4,000 for people older than 45, while average costs for children ages 5–17 and younger adults (ages 18–44) were under \$1,000 per person. This difference is partially attributable to the fact that older adults were more likely to have a hospital inpatient stay or emergency room visit (38.2 percent of adults ages 65+ vs. 12.4 percent of adults ages 18–44), which tend to be more expensive than ambulatory visits.

**Table 2a. Treated prevalence for COVID-19, by age group, 2020**

<b>Age Group</b>	<b>Number of people</b>	<b>Number of people with COVID-19 treatment</b>	<b>Percentage of people with COVID-19 treatment</b>
Age 5–17	53,489,928	824,143	1.5%
Age 18–44	115,746,219	5,206,761	4.5%
Age 45–64	82,062,769	3,989,692	4.9%
Age 65+	58,265,600	1,953,770	3.4%

---

<sup>2</sup> The number of children under age 5 with COVID-19-related treatment was too small to present reliable estimates for this age group.

**Table 2b. Healthcare use and expenditures among people with any COVID-19 treatment, by age group, 2020**

<b>Age Group</b>	<b>Average per-person expenditures</b>	<b>Percentage of people with ambulatory visits</b>	<b>Percentage of people with inpatient or ER visits</b>
Age 5–17	\$310	91.8%	7.4%*
Age 18–44	\$964	92.1%	12.4%
Age 45–64	\$4,273	89.4%	21.2%
Age 65+	\$4,603	71.1%	38.2%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

*Insurance coverage (figure 3 and tables 3a,b)*

People with any private insurance in 2020 were more likely to receive treatment for COVID-19 than people with only public insurance, and this was true for all ages (4.2 percent vs. 2.9 percent) as well as those under age 65 (4.3 percent vs. 2.9 percent). Similarly, people ages 65 and over with Medicare and private insurance were more likely to have treatment for COVID-19 than people with Medicare and other public insurance (3.8 percent vs. 1.9 percent).

Among people with any treatment for COVID-19, those with private insurance were more likely to have an ambulatory visit for COVID-19 than people with only public insurance, for all ages (92.4 percent vs. 74.5 percent) as well as those under 65 (94.3 percent vs. 80.3 percent). Conversely, people with only public insurance were more likely to have an inpatient stay or ER visit than those with private insurance, for all ages (31.2 percent vs. 15.3 percent) as well as those under age 65 (25.7 percent vs. 12.7 percent). As noted previously, persons over age 65 with COVID-19 treatment were more likely to have an inpatient stay or ER visit than persons under age 65. However, among older people (ages 65+) there were no significant differences in the percentages of people with an inpatient stay or ER visit by insurance coverage.

Although the percentage of uninsured people with inpatient or ER visits was not statistically different from people with only public insurance, average per-person expenditures for COVID-19-related treatment were lower for uninsured people than for those with only public insurance, as well as for those with any private coverage.

**Table 3a. Treated prevalence for COVID-19, by insurance coverage status and age, 2020**

<b>Insurance Coverage, Overall and by Age</b>	<b>Number of people</b>	<b>Number of people with COVID-19 treatment</b>	<b>Percentage of people with COVID-19 treatment</b>
<b>Overall</b>			
Any private	217,356,009	9,125,667	4.2%
Public only	89,798,382	2,617,495	2.9%
Uninsured	21,390,906	673,206	3.1%
<b>By Age*</b>			
<65 Any private	189,976,444	8,111,262	4.3%
<65 Public only	59,152,258	1,688,372	2.9%
<65 Uninsured	21,150,995	662,964	3.1%
65+ Medicare only	22,172,278	769,881	3.5%
65+ Medicare and private	26,611,522	1,014,405	3.8%
65+ Medicare and other public only	8,464,795	159,243	1.9%

\* Persons age 65+ who reported no Medicare are excluded from the insurance coverage by age categories due to small sample size.

**Table 3b. Healthcare use and expenditures among people with any COVID-19 treatment, by insurance coverage status and age, 2020**

<b>Insurance Coverage, Overall and by Age</b>	<b>Average per-person expenditures</b>	<b>Percentage of people with ambulatory visits</b>	<b>Percentage of people with inpatient or ER visits</b>
<b>Overall</b>			
Any private	\$2,478	92.4%	15.3%
Public only	\$3,773	74.5%	31.2%
Uninsured	\$1,124*	78.1%	22.7%
<b>By Age**</b>			
<65 Any private	\$2,252	94.3%	12.7%
<65 Public only	\$3,100*	80.3%	25.7%
65+ Medicare only	\$4,496	66.3%	37.7%
65+ Medicare and private	\$4,286	77.3%	35.8%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

\*\* Persons age 65+ who reported no Medicare are excluded from the insurance coverage by age categories due to small sample size. In addition, the number of people with treatment for COVID-19

who were uninsured or ages 65+ with Medicare and other public insurance was too small to present reliable estimates for these groups.

*Income (figure 4 and tables 4a,b)*

People with middle or high income were more likely to have COVID-19-related treatment in 2020 than people with poor or near-poor income levels (4.1 percent vs. 2.6 percent). Among people with any COVID-19 treatment, those with higher income were also more likely to have an ambulatory visit than people with lower income (90.6 percent vs. 74.7 percent) and less likely to have an inpatient stay or ER visit than people with lower income (16.4 percent vs. 31.9 percent). Despite these differences in event-specific utilization, there were no statistically significant differences in average per-person expenditures across income levels.

**Table 4a. Treated prevalence for COVID-19, by income level, 2020**

<b>Income</b>	<b>Number of people</b>	<b>Number of people with COVID-19 treatment</b>	<b>Percentage of people with COVID-19 treatment</b>
Poor or near poor	50,276,150	1,321,032	2.6%
Low income	40,663,503	1,342,074	3.3%
Middle or high income	237,605,644	9,753,262	4.1%

**Table 4b. Healthcare use and expenditures among people with any COVID-19 treatment, by income level, 2020**

<b>Income</b>	<b>Average per-person expenditures</b>	<b>Percentage of people with ambulatory visits</b>	<b>Percentage of people with inpatient or ER visits</b>
Poor or near poor	\$2,202*	74.7%	31.9%
Low income	\$2,760	80.6%	25.7%
Middle or high income	\$2,731	90.6%	16.4%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

*Race/ethnicity (figure 5 and tables 5a,b)*

Asian people were less likely to have treatment for COVID-19 in 2020 compared to White non-Hispanic people (2.3 percent vs. 4.0 percent). Among people with any treatment for COVID-19, Black non-Hispanic people were more likely to have an inpatient stay or ER visit for COVID-19 (32.5

percent) than White non-Hispanic people (17.1 percent). Average per-person expenditures for Black non-Hispanics were around \$7,194, compared to average per-person expenditures of around \$2,131 for White non-Hispanics. Despite this large apparent discrepancy in expenditures, this difference was only statistically significant at the 0.1 significance level, due to the higher level of uncertainty around the point estimates for average expenditures.

**Table 5a. Treated prevalence for COVID-19, by race/ethnicity, 2020**

Race/ethnicity	Number of people	Number of people with COVID-19 treatment	Percentage of people with COVID-19 treatment
Hispanic	61,612,487	2,363,992	3.8%
White, non-Hispanic	194,633,575	7,748,056	4.0%
Black, non-Hispanic	40,990,699	1,445,659	3.5%
Asian, non-Hispanic	19,596,637	451,491	2.3%
Other non-Hispanic or multiple races	11,711,898	407,170	3.5%

**Table 5b. Healthcare use and expenditures among people with any COVID-19 treatment, by race/ethnicity, 2020**

Race/ethnicity**	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Hispanic	\$1,695*	86.6%	17.2%
White, non-Hispanic	\$2,131	89.3%	17.1%
Black, non-Hispanic	\$7,194*	80.4%	32.5%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

\*\* The numbers of Asian, non-Hispanic and other non-Hispanic or multiple races with treatment for COVID-19 were too small to present reliable estimates for these groups.

*Region (figure 6 and tables 6a,b)*

Over 4 percent of people living in the Midwest or South received treatment for COVID-19 in 2020, compared with around 3 percent of people living in the Northeast or West. Other differences between average per-person expenditures as well as percentages of people with ambulatory or hospital or ER visits were not statistically different across regions.

**Table 6a. Treated prevalence for COVID-19, by region, 2020**

Region	Number of people	Number of people with COVID-19 treatment	Percentage of people with COVID-19 treatment
Northeast	55,400,174	1,661,021	3.0%
Midwest	68,058,868	2,981,934	4.4%
South	126,383,110	5,458,137	4.3%
West	78,703,145	2,315,275	2.9%

**Table 6b. Healthcare use and expenditures among people with any COVID-19 treatment, by region, 2020**

Region	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Northeast	\$2,766*	90.1%	18.2%
Midwest	\$2,376	89.2%	16.6%
South	\$3,203	85.1%	21.7%
West	\$1,766	90.8%	16.7%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

*Urbanicity (figure 7 and tables 7a,b)*

Around 5.4 percent of people living in more rural areas (defined as living outside of a metropolitan statistical area [MSA]) received treatment for COVID-19, which was higher than the percentage of people living in more urban areas (3.5 percent).

Among people with any COVID-19 treatment, those living in more urban areas had higher average per-person expenditures for COVID-19 than those living in more rural areas (\$2,900 for MSA vs. \$1,739 for non-MSA), although this difference was only statistically significant at the 0.1 significance level. Other differences between average per-person expenditures as well as percentages of people with ambulatory or hospital or ER visits were not statistically different across urbanicity.

**Table 7a. Treated prevalence for COVID-19, by urbanicity, 2020**

<b>Urbanicity</b>	<b>Number of people</b>	<b>Number of people with COVID-19 treatment</b>	<b>Percentage of people with COVID-19 treatment</b>
MSA	284,829,051	10,045,299	3.5%
Non-MSA	43,716,246	2,371,069	5.4%

**Table 7b. Healthcare use and expenditures among people with any COVID-19 treatment, by urbanicity, 2020**

<b>Urbanicity</b>	<b>Average per-person expenditures</b>	<b>Percentage of people with ambulatory visits</b>	<b>Percentage of people with inpatient or ER visits</b>
MSA	\$2,900	87.8%	18.5%
Non-MSA	\$1,739	88.0%	21.2%

### **Data Source**

The estimates reported in this Brief are based on data from the following MEPS data files:

- 2020 Full-Year Consolidated Public Use File (HC-224)
- 2020 Medical Conditions Public Use File (HC-222)
- 2020 Office-Based Medical Provider Visits Public Use File (HC-220G)
- 2020 Outpatient Visits Public Use File (HC-220F)
- 2020 Hospital Inpatient Stays Public Use File (HC-220D)
- 2020 Emergency Room Visits Public Use File (HC-220E)
- 2020 Prescribed Medicines Public Use File (HC-220A)
- 2020 Home Health Public Use File (HC-220H)
- 2020 Condition-Event Link (CLNK) Public Use File (HC-220I File 1)
- 2020 MEPS internal data file with MSA variables

### **Definitions**

#### *Age*

Age is defined as age at the end of the year 2020 (or on last date of MEPS eligibility if person was out of scope at the end of the year).

#### *COVID-19*

A person in the MEPS sample is defined as having treatment for COVID-19 if the household respondent reports one or more healthcare events (i.e., office-based, hospital outpatient or ER visits, hospital inpatient stays,

prescribed medicine purchases, or home healthcare) where the respondent reported that COVID-19 led to or was discovered during the event. COVID-19 conditions can be identified on the MEPS Medical Conditions Public Use Files with an *International Classification of Diseases, 10th Revision, Clinical Modification* (ICD-10-CM) code starting with "U07" (ICD10CDX = "U07").

### *Event type*

- **Ambulatory:** Includes office-based visits (visits to medical providers seen in office settings) and hospital outpatient visits, including both in-person and telehealth visits. In the fall of 2020, a module was added to the MEPS instrument to explicitly collect telehealth information. Prior to this addition, interviewers had been trained to collect data on telehealth visits; however, it is unclear to what extent these visits may have been underreported, particularly in the round of data collection occurring during the spring of 2020. Expenses for outpatient visits include payments for services covered under the basic facility charge and those for separately billed physician services.
- **ER visit:** Includes treat-and-release ER visits. Treat-and-release ER visits include payments for services covered under the hospital facility charge as well as those for separately billed physician services. Expenses for ER visits resulting in hospital admission are included in the corresponding hospital inpatient stay.
- **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 emergency room expenses incurred immediately prior to inpatient stays.

### *Expenditures*

Total expenditures are defined as the sum of payments from all sources to hospitals, physicians, other healthcare providers, and pharmacies for services reported by respondents in the Medical Expenditure Panel Survey Household Component (MEPS-HC).

### *Income*

Three income groups are defined based on the percentage of the poverty line for total family income, adjusted for family size and composition. We use three categories:

- **Poor or near-poor:** People in families with income up to 125 percent of the poverty line.
- **Low income:** People in families with income over 125 percent through 200 percent of the poverty line.

- Middle or high income: People in families with income over 200 percent of the poverty line.

### *Insurance coverage*

- Any private health insurance: Individuals who, at any time during the year, had insurance that provides coverage for hospital and physician care (other than Medicare, Medicaid/Children's Health Insurance Program [CHIP], or other public hospital/physician coverage) were classified as having private insurance. Coverage by TRICARE (Armed Forces-related coverage) was also included as private health insurance. Insurance that provides coverage for a single service only, such as dental or vision coverage, was not included.
- Public coverage only: Individuals were considered to have public coverage only if they met both of the following criteria: 1) they were not covered by private insurance at any time during the year, and 2) they were covered by any of the following public programs at any point during the year: Medicare, Medicaid/CHIP, or other public hospital/physician coverage.
- Uninsured: The uninsured were defined as people not covered by private hospital/physician insurance, Medicare, TRICARE, Medicaid/CHIP, or other public hospital/physician programs at any time during the entire year or period of eligibility for the survey.

### *Insurance coverage by age*

- < 65, Any private: People who were under age 65 and reported any private insurance coverage during the year (see "Any private health insurance" above).
- < 65, Public only: People who were under age 65 and reported only public coverage during the year (see "Public coverage only" above).
- < 65, Uninsured: People who were under age 65 and uninsured the entire year (see "Uninsured" above).
- 65+, Medicare only: People ages 65 or older and covered only by Medicare during the year.
- 65+, Medicare and private: People ages 65 or older covered by Medicare as well as private insurance during the year.
- 65+, Medicare and other public only: People ages 65 and older covered by Medicare as well as another public insurance (e.g., Medicaid) who were not covered by private insurance.
- 65+, no Medicare: People ages 65 and older who were not covered by Medicare at any time during the year. This group includes people who were uninsured as well as those who were not covered by Medicare but were covered by private insurance, Medicaid, TRICARE/Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA), Veteran's Administration, or other public coverage during the year.

The sample size of this group was too small to support making a separate estimate in this Brief.

### *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)
- Other/multiple races, non-Hispanic

### *Region*

Each sample person was classified as living in one of the following four regions as defined by the U.S. Bureau of the Census:

- Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
- Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin
- South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia
- West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

### *Urbanicity*

Individuals were identified as residing either inside or outside an MSA as designated by the U.S. Office of Management and Budget. An MSA is a large population nucleus combined with adjacent communities that have a high degree of economic and social integration within the nucleus. Each MSA has one or more central counties containing the area's main population concentration. In New England, metropolitan areas consist of cities and towns rather than whole counties. Regions of residence are in accordance with the U.S. Bureau of the Census definition.

## **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 <http://www.meps.ahrq.gov>.

## References

1. Centers for Disease Control and Prevention. COVID data tracker. Accessed March 14, 2023. <https://covid.cdc.gov/covid-data-tracker>
2. Johns Hopkins University Center for Systems Science and Engineering. GitHub repository. Accessed March 24, 2023. [https://github.com/CSSEGISandData/COVID-19/tree/master/csse\\_covid\\_19\\_data](https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data)
3. Karmakar M, Lantz PM, Tipirneni R. Association of social and demographic factors with COVID-19 incidence and death rates in the US. *JAMA Network Open*. 2021;4(1):e2036462. doi:10.1001/jamanetworkopen.2020.36462
4. Lopez L, Hart LH, Katz MH. Racial and ethnic health disparities related to COVID-19. *JAMA*. 2021;325(8):719-720. doi:10.1001/jama.2020.26443
5. Zuvekas SH, Kashihara D. The impacts of the COVID-19 pandemic on the Medical Expenditure Panel Survey. *Am J Public Health*. 2021;111(12):2157-2166.

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 #1. AHCPH Pub. No. 97-0026. July 1997. Agency for Health Care Policy and Research (AHCPH), Rockville, MD.

[http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr1/mr1.pdf](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 #22. March 2008. Agency for Healthcare Research and Quality, Rockville, MD.

[http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr22/mr22.pdf](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](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 #23. November 2008. Agency for Healthcare Research and Quality, Rockville, MD. [http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr23/mr23.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr23/mr23.pdf)

### **Suggested Citation**

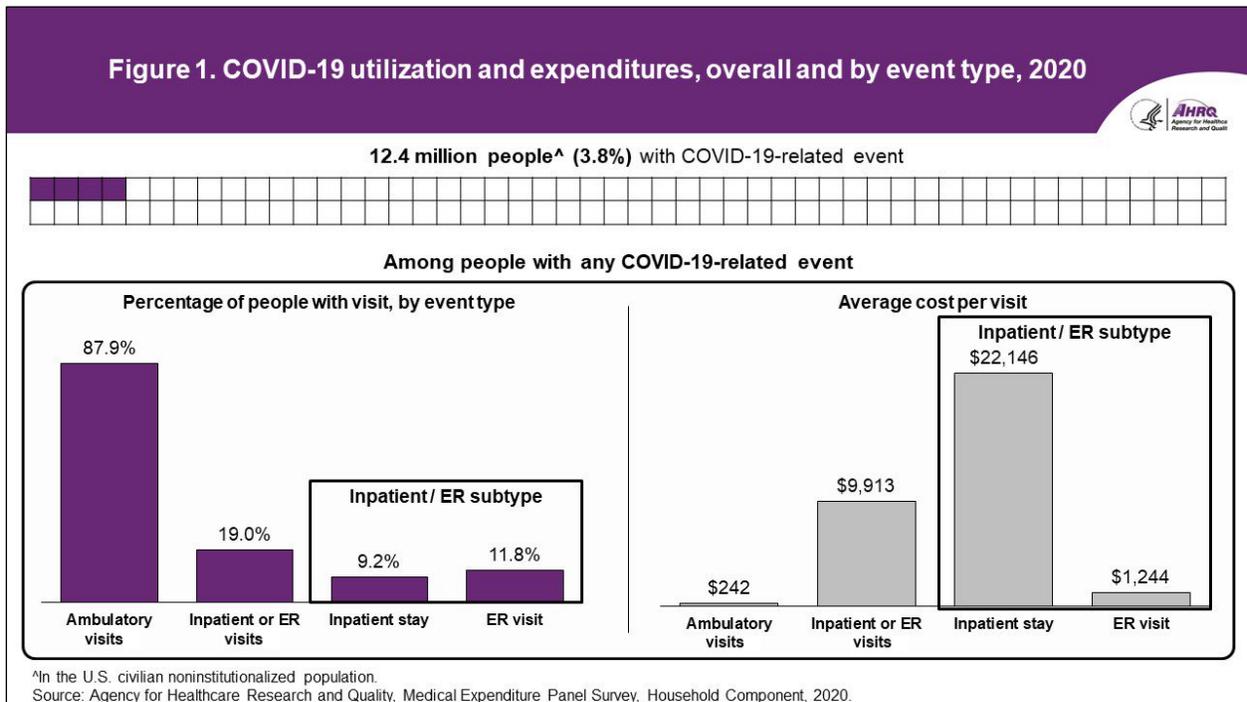
Mitchell, E. M., Ahrnsbrak, R. D., & Fang, Z. *Healthcare Use and Expenditures for COVID-19, U.S. Civilian Noninstitutionalized Population, 2020*. Statistical Brief #549. July 2023. Agency for Healthcare Research and Quality, Rockville, MD. [https://meps.ahrq.gov/data\\_files/publications/st549/stat549.pdf](https://meps.ahrq.gov/data_files/publications/st549/stat549.pdf)

\* \* \*

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:

Joel W. Cohen, PhD, Director  
Center for Financing, Access, and Cost Trends  
Agency for Healthcare Research and Quality  
5600 Fishers Lane, Mailstop 07W41A  
Rockville, MD 20857

**Figure 1. COVID-19 utilization and expenditures, overall and by event type, 2020**



**Figure 1. Healthcare use and expenditures among people with any COVID-19 treatment<sup>^</sup>, by event type, 2020**

Event Type	Percentage of people with specific visit type	Average cost per event
Ambulatory visit <sup>*</sup>	87.9%	\$242
Inpatient or ER <sup>**</sup>	19.0%	\$9,913
Inpatient stay	9.2%	\$22,146
ER visit	11.8%	\$1,244

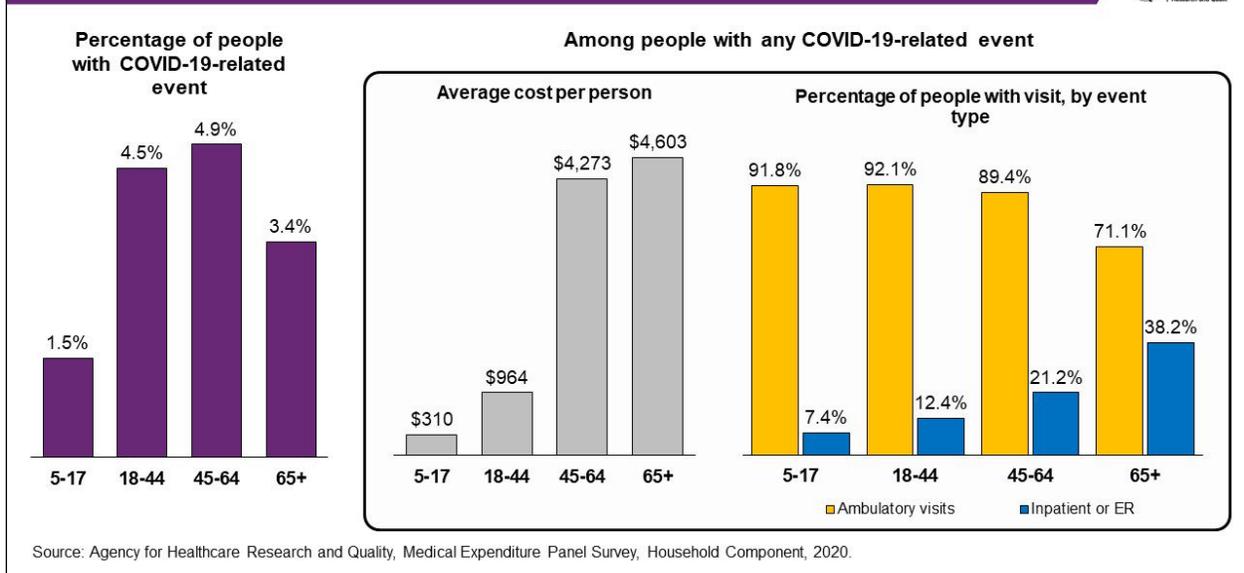
<sup>^</sup> Over 12.4 million people (3.8 percent) in the U.S. civilian noninstitutionalized population received treatment for COVID-19 during 2020.

<sup>\*</sup> An ambulatory visit is an office-based medical visit or hospital outpatient department visit.

<sup>\*\*</sup> ER visits resulting in hospital admission are included in estimates for the corresponding inpatient stay. Aggregate person-level estimates will not add up to the total of hospital inpatient and ER, since one person can have multiple visit types.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 2. COVID-19 utilization and expenditures by age groups, 2020**



**Figure 2a. Treated prevalence for COVID-19, by age group, 2020**

Age Group	Percentage of people with COVID-19 treatment
Age 5–17	1.5%
Age 18–44	4.5%
Age 45–64	4.9%
Age 65+	3.4%

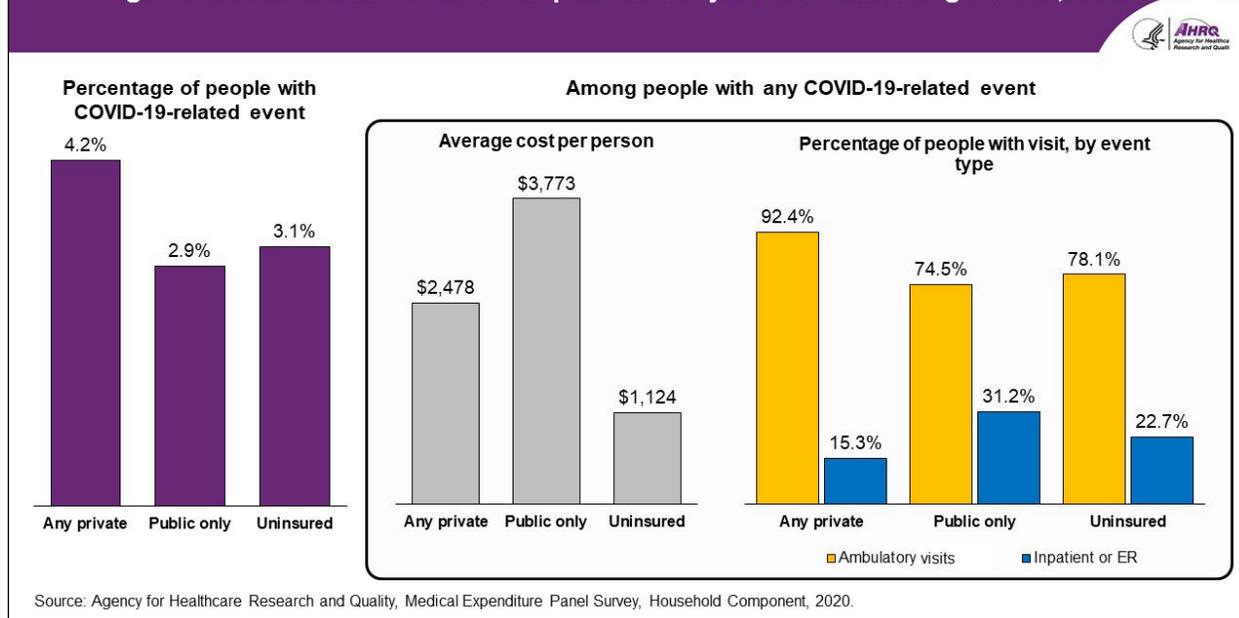
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 2b. Healthcare use and expenditures among people with any COVID-19 treatment, by age group, 2020**

Age Group	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Age 5–17	\$310	91.8%	7.4%*
Age 18–44	\$964	92.1%	12.4%
Age 45–64	\$4,273	89.4%	21.2%
Age 65+	\$4,603	71.1%	38.2%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.  
 Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 3. COVID-19 utilization and expenditures by insurance coverage status, 2020**



**Figure 3a. Treated prevalence for COVID-19, by insurance coverage status, 2020**

Insurance Coverage	Percentage of people with COVID-19 treatment
Any private	4.2%
Public only	2.9%
Uninsured	3.1%

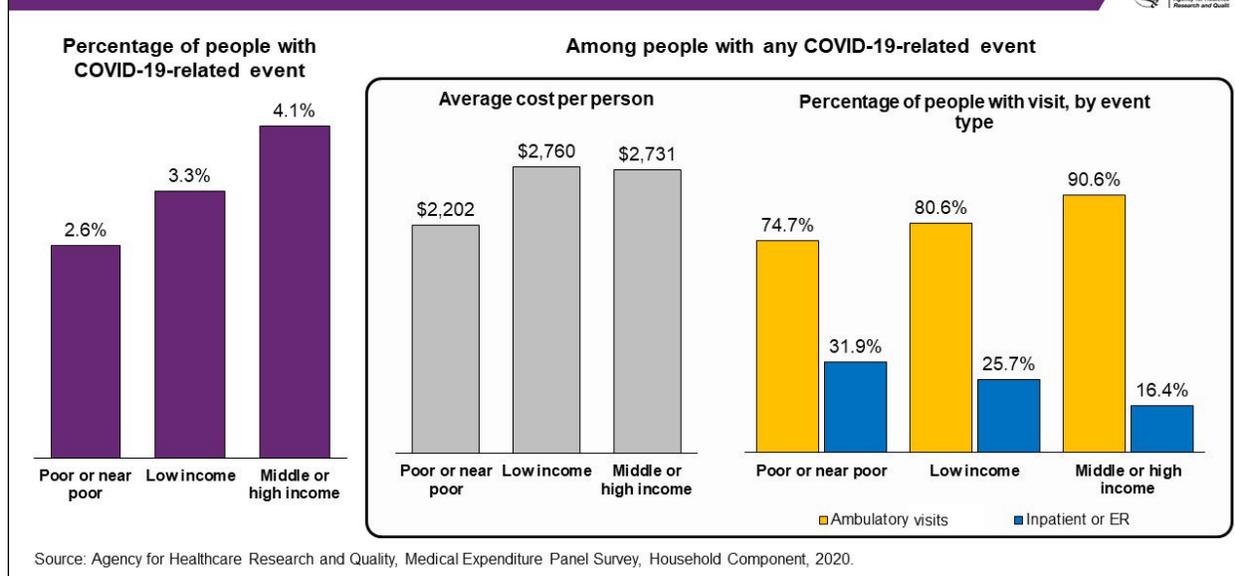
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 3b. Healthcare use and expenditures among people with any COVID-19 treatment, by insurance coverage status, 2020**

Insurance Coverage	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Any private	\$2,478	92.4%	15.3%
Public only	\$3,773	74.5%	31.2%
Uninsured	\$1,124*	78.1%	22.7%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.  
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 4. COVID-19 utilization and expenditures by income level, 2020**



**Figure 4a. Treated prevalence for COVID-19, by income level, 2020**

Income	Percentage of people with COVID-19 treatment
Poor or near poor	2.6%
Low income	3.3%
Middle or high income	4.1%

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

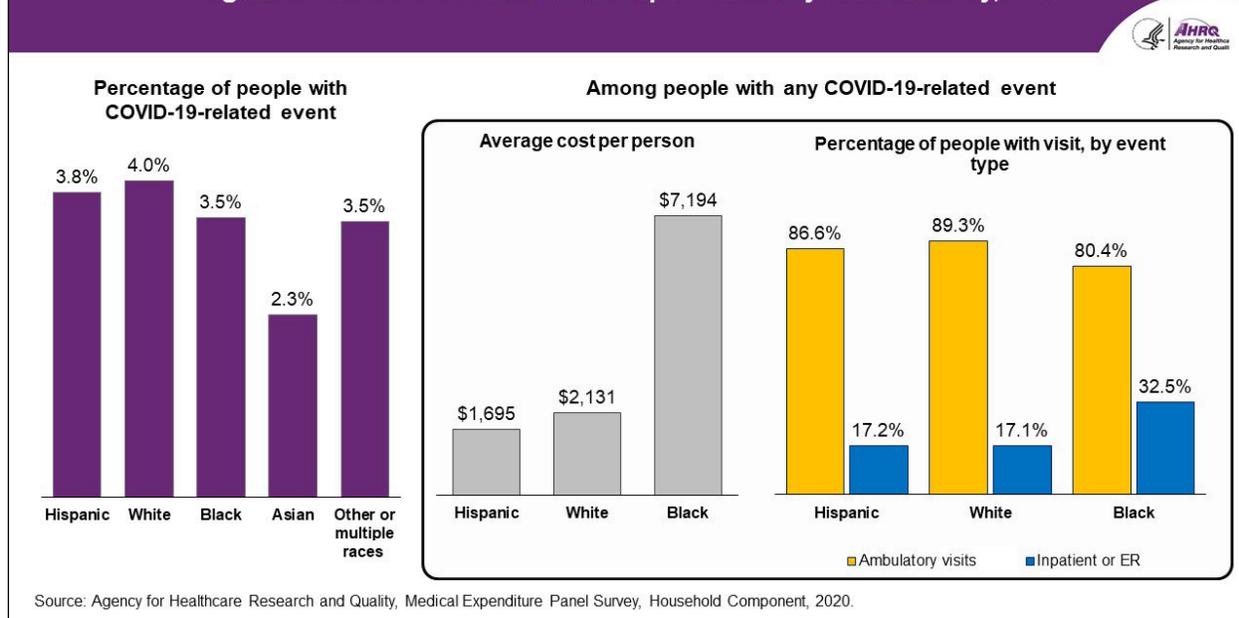
**Figure 4b. Healthcare use and expenditures among people with any COVID-19 treatment, by income level, 2020**

Income	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Poor or near poor	\$2,202*	74.7%	31.9%
Low income	\$2,760	80.6%	25.7%
Middle or high income	\$2,731	90.6%	16.4%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 5. COVID-19 utilization and expenditures by race/ethnicity, 2020**



**Figure 5a. Treated prevalence for COVID-19, by race/ethnicity, 2020**

Race/ethnicity	Percentage of people with COVID-19 treatment
Hispanic	3.8%
White, non-Hispanic	4.0%
Black, non-Hispanic	3.5%
Asian, non-Hispanic	2.3%
Other non-Hispanic or multiple races	3.5%

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 5b. Healthcare use and expenditures among people with any COVID-19 treatment, by race/ethnicity, 2020**

Race/ethnicity**	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Hispanic	\$1,695*	86.6%	17.2%
White, non-Hispanic	\$2,131	89.3%	17.1%
Black, non-Hispanic	\$7,194*	80.4%	32.5%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.

\*\* The numbers of Asian, non-Hispanic and other non-Hispanic or multiple races with treatment for COVID-19 were too small to present reliable estimates for these groups.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

Figure 6. COVID-19 utilization and expenditures by region, 2020

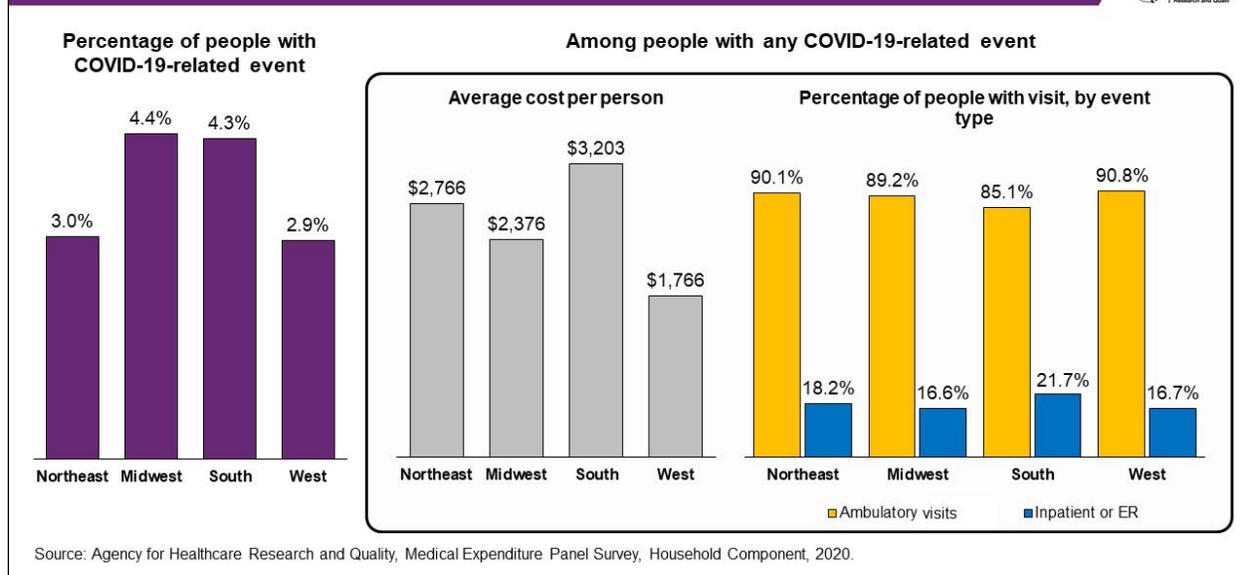


Figure 6a. Treated prevalence for COVID-19, by region, 2020

Region	Percentage of people with COVID-19 treatment
Northeast	3.0%
Midwest	4.4%
South	4.3%
West	2.9%

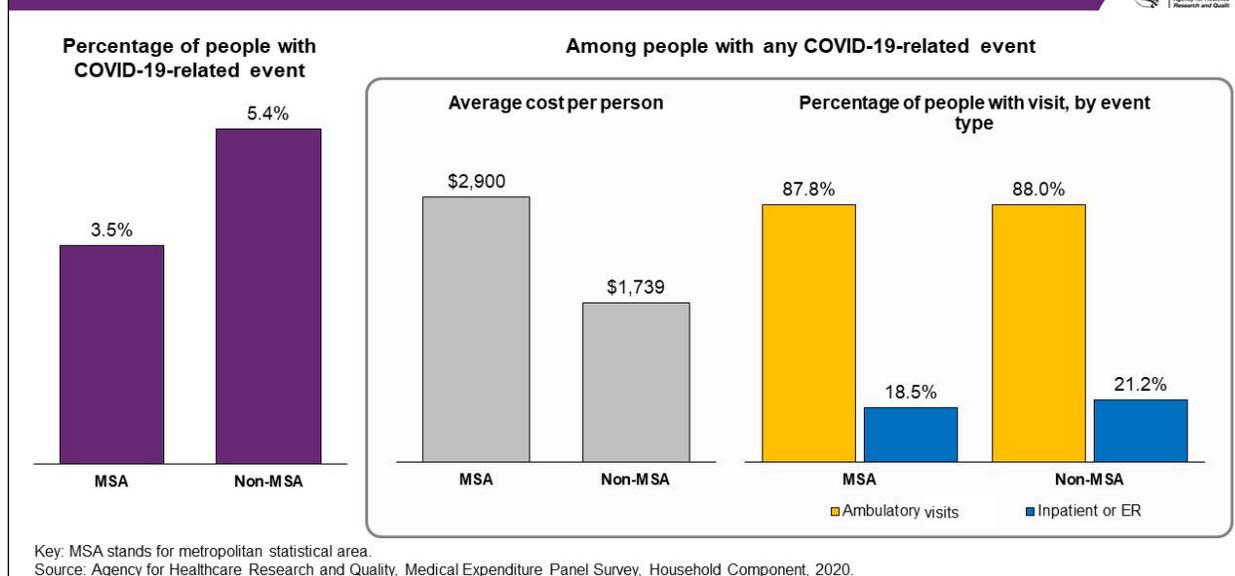
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

Figure 6b. Healthcare use and expenditures among people with any COVID-19 treatment, by region, 2020

Region	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
Northeast	\$2,766*	90.1%	18.2%
Midwest	\$2,376	89.2%	16.6%
South	\$3,203	85.1%	21.7%
West	\$1,766	90.8%	16.7%

\* Relative standard error is greater than 30%, indicating higher uncertainty around the accuracy of this estimate.  
 Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 7. COVID-19 utilization and expenditures by MSA status, 2020**



**Figure 7a. Treated prevalence for COVID-19, by urbanicity, 2020**

Urbanicity	Percentage of people with COVID-19 treatment
MSA	3.5%
Non-MSA	5.4%

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.

**Figure 7b. Healthcare use and expenditures among people with any COVID-19 treatment, by urbanicity, 2020**

Urbanicity	Average per-person expenditures	Percentage of people with ambulatory visits	Percentage of people with inpatient or ER visits
MSA	\$2,900	87.8%	18.5%
Non-MSA	\$1,739	88.0%	21.2%

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Household Component, 2020.