



BRIEF

COVID-19 Treatment and Hospitalization Costs

A Descriptive Analysis of the
FAIR Health COVID-19
Cost Tracker

A FAIR Health Brief, December 15, 2021



Summary

This brief provides a descriptive analysis of the COVID-19 patient population whose treatment and hospitalization costs are tracked by FAIR Health's [COVID-19 Cost Tracker](#), a free, online tool displaying typical, state-by-state COVID-19 costs. Drawing on the same repository of billions of private healthcare claim records that powers the COVID-19 Cost Tracker, this analysis focuses on the period from April 2020 to August 2021. It shows month by month how many patients were diagnosed with COVID-19 and what treatment pathways they took, with the data analyzed by age, gender, and rural versus urban location. It studies mortality, median length of stay, and number and type of comorbidities. Finally, it turns to the issue of costs, showing the states with the highest and lowest average allowed amounts for each treatment pathway, and average allowed amounts by US census region. Among the key findings (from April 2020 to August 2021 unless otherwise indicated):

- December 2020 was the month with the most reported COVID-19 diagnoses.
- From January to June 2021, the distribution of COVID-19 diagnoses in urban areas was higher than in rural areas. But in July 2021, and even more in August 2021, rural areas had a greater distribution of COVID-19 cases than urban areas.
- The largest category of COVID-19 cases included those who tested positive for COVID-19 but did not receive any further services for COVID-related symptoms.¹ That category was larger than outpatients with symptoms, complex inpatients (hospitalized patients who required ventilation and/or admission to the intensive care unit [ICU]) or noncomplex inpatients (hospitalized patients who did not require ventilation or admission to the ICU).
- The largest percentage of complex hospitalizations occurred in those 70 years and older (17.2 percent of patients diagnosed with COVID-19 in this age group); an additional 15.7 percent of patients in this age group had a noncomplex hospitalization. In total, 32.9 percent of all patients 70 years and older had an inpatient stay for their COVID-19 diagnosis.
- In noncomplex hospitalizations for COVID-19, 57 percent of patients were female, but in complex hospitalizations, 57 percent of patients were male.

¹ Patients who did not report symptoms on the index date of diagnosis may have experienced symptoms afterward and not incurred a claim because they were not sick enough to seek medical care or did not choose to do so.

Summary

- The percentage of COVID-19 patients who died in April 2020 was 1.9 percent, but from February to July 2021, it was about half a percent each month.
- The median length of stay for patients with a complex hospitalization for COVID-19 decreased from a high of 13 days in April 2020 to a low of 7 days in July 2021. The median length of stay for a noncomplex hospitalization, however, remained relatively flat throughout this period, with most months having a median of four days and the rest three days.
- Of COVID-19 patients with a complex inpatient stay, 48.4 percent had five or more comorbidities and 20.6 percent had zero comorbidities. By comparison, patients with zero comorbidities constituted nearly half (49.4 percent) of all patients diagnosed with COVID-19; patients with five or more comorbidities constituted only 13.7 percent of all patients diagnosed with COVID-19.
- In patients with a complex hospitalization for COVID-19, the most common comorbidity was hyperlipidemia and/or hypertension, which accounted for 14.7 percent of this population. In patients with a noncomplex hospitalization for COVID-19, the most common comorbidity was chronic breathing issues, at 6.5 percent of the distribution.
- In 2020 and 2021, Maryland was the state with the lowest average allowed amounts for complex and noncomplex hospitalizations and outpatient treatment for COVID-19.² The state with the highest average allowed amounts for complex hospitalizations for COVID-19 was New Jersey, the state with the highest average allowed amounts for noncomplex hospitalizations was Alaska, and the state with the highest average allowed amounts for outpatient treatment was Nevada.
- For complex and noncomplex hospitalizations for COVID-19 in 2020 and 2021, the West had the highest average allowed amounts and the South the lowest. For outpatient treatment for COVID-19, the West had the highest average allowed amounts and the Northeast the lowest.

² This may be partly explained by Maryland's all-payer rate-setting system. Maryland Hospital Association, "The Maryland Model," accessed November 22, 2021, <https://www.mhaonline.org/transforming-health-care/tracking-our-all-payer-experiment>.

Background

In October 2021, FAIR Health launched the [COVID-19 Cost Tracker](#), a free, online tool displaying typical costs for COVID-19 treatment and hospitalization state by state across the nation. Taking the form of an interactive set of maps and infographics, the COVID-19 Cost Tracker shows average and median costs, both in-network and out-of-network, for three different COVID-19 treatment pathways:

- **COVID-19 complex inpatient:** This pathway captures the typical total costs for the most serious cases of COVID-19, in which a patient is admitted to the hospital and requires ventilation and/or admission to the intensive care unit (ICU). Included are costs for a hospitalized patient who requires more complicated care, such as ICU costs, ventilator costs and costs for room and board of increased complexity.
- **COVID-19 noncomplex inpatient:** This pathway captures the typical total costs for a COVID-19 patient who is admitted to the hospital but does not require ventilation or admission to the ICU. Costs in this pathway include room and board, laboratory testing, imaging and intravenous therapies.
- **COVID-19 outpatient:** This pathway captures the typical total costs for a patient who has been diagnosed with COVID-19 but does not require hospitalization. Costs might include laboratory testing and physician or urgent care visits.



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Background

For each pathway, the average and median charge amount and allowed amount are given:

- **Average (mean):** The value computed by dividing the sum of all the values by the number of values.
- **Median:** The midpoint of the distribution of values below and above which there is an equal number of values.
- **Charge amount:** The amount charged to a patient who is uninsured or obtaining an out-of-network service.
- **Allowed amount:** The total fee negotiated between an insurance plan and a provider for an in-network service. It includes both the portion to be paid by the plan member and the portion to be paid by the plan.

Behind the numbers of the COVID-19 Cost Tracker are people: the individuals who have contracted COVID-19 and been treated for it along one of these pathways. As a public service, this brief provides a descriptive analysis of the COVID-19 patient population whose treatment and hospitalization costs are tracked by the COVID-19 Cost Tracker. Drawing on the same repository of billions of private healthcare claim records—the largest such repository in the nation—that powers the COVID-19 Cost Tracker, this analysis focuses on the period from April 2020 to August 2021. It shows month by month how many patients were diagnosed with COVID-19 and what treatment pathways they took, with the data analyzed by age, gender, and rural versus urban location. It studies mortality, median length of stay, and number and type of comorbidities. Finally, it turns to the issue of costs, showing the states with the highest and lowest average allowed amounts for each treatment pathway, and average allowed amounts by US census region. By such means, this study provides context for the COVID-19 Cost Tracker.

Methodology

To conduct this analysis, FAIR Health used data from April 2020 through August 2021 in its longitudinal dataset. Included in the analysis were only those patients who were diagnosed with COVID-19, using the COVID-19 ICD-10 diagnosis codes U07.1—COVID-19 or J12.82—pneumonia due to coronavirus disease 2019 (the latter was added January 1, 2021).

FAIR Health identified all comorbid conditions in this patient cohort using a combination of conditions from the Medicare Chronic Conditions Data Warehouse (CCW) and Department of Health & Human Services-Hierarchical Condition Categories (HHS-HCC). A COVID-19 index date was created to identify when each patient was diagnosed with COVID-19.

To calculate costs, FAIR Health used 2020-2021 data from its FH[®] Total Treatment Cost COVID-19 benchmarks. Regional costs were based on the four US census regions:

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

Limitations

The data used in this report comprise claims data for privately insured patients who are covered by insurers and third-party administrators who voluntarily participate in FAIR Health's data contribution program. Medicare Advantage (Medicare Part C) enrollees from contributing insurers are included, but not participants in Medicare Parts A, B and D.³ In addition, data from Medicaid, CHIP and other state and local government insurance programs are not included, nor are data collected regarding uninsured patients.

This is an observational report based on the data FAIR Health receives from private payors regarding care rendered to covered patients.

The report was not subject to peer review.



³ FAIR Health also receives the entire collection of claims for traditional Medicare Parts A, B and D under the Centers for Medicare & Medicaid Services (CMS) Qualified Entity Program, but those data are not a source for this report.

Results

Number of Cases

In its longitudinal dataset, FAIR Health identified a total of 3,518,459 patients who were diagnosed with COVID-19 from April 2020 to August 2021 (figure 1). The month with the most cases was December 2020, in which a reported 549,083 patients were diagnosed. The numbers then generally decreased until a surge in July and August 2021, in which there were 232,762 and 272,495 cases, respectively. The curve of this graph is similar to that of daily cases reported to the Centers for Disease Control and Prevention (CDC) for the same time period.⁴

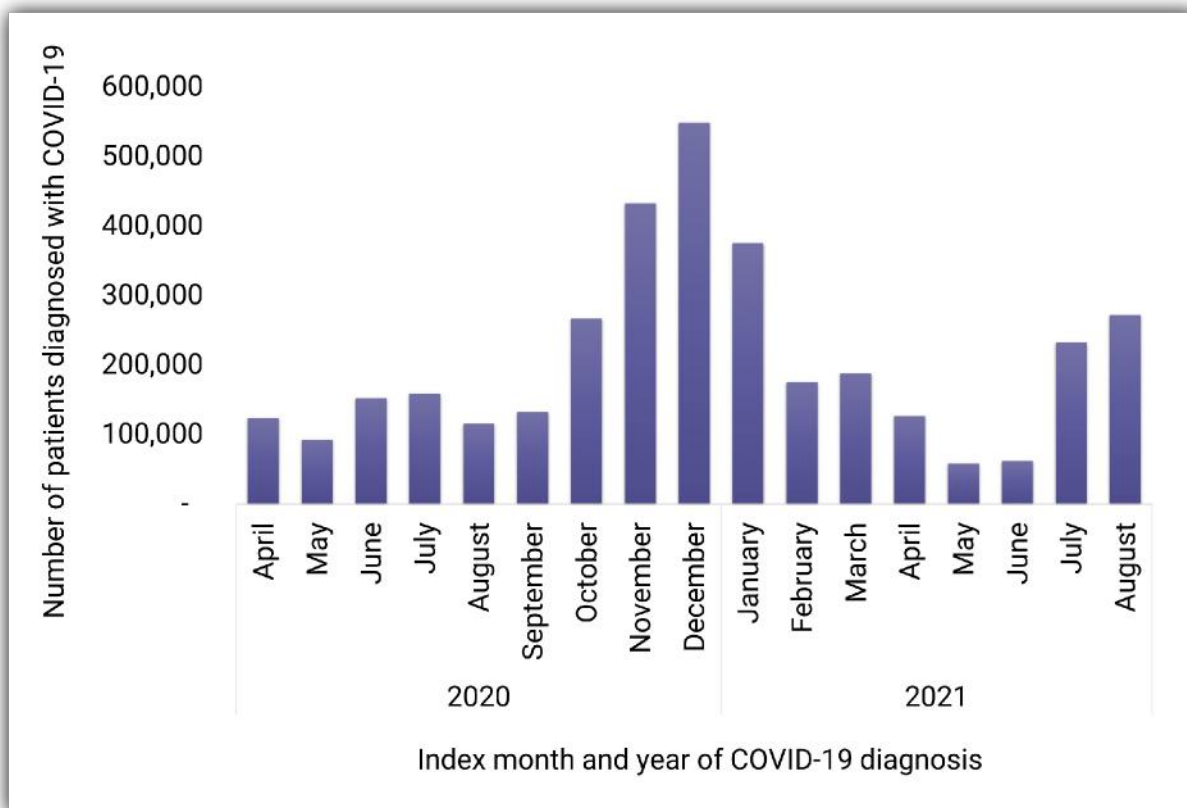


Figure 1. COVID-19 patients diagnosed by month and year, April 2020 to August 2021

“The month with the most reported cases of COVID-19 was December 2020.”

⁴ Centers for Disease Control and Prevention (CDC), “Daily Trends in Number of COVID-19 Cases in the United States Reported to CDC,” accessed November 17, 2021, https://covid.cdc.gov/covid-data-tracker/#trends_dailycases.

Results

Figure 2 shows how the COVID-19 pandemic differently affected rural and urban locations on a month-by-month basis. The graph displays the number of patients with an index date diagnosis of COVID-19 in rural or urban areas divided by the total number of patients who were diagnosed with COVID-19 in that type of area overall.

The percentage of index date diagnoses differs depending on the location. In April 2020, for example, 3.7 percent of all urban cases were diagnosed, while only 1.9 percent of all rural diagnoses occurred that month. But in October 2020, 9.6 percent of all rural diagnoses occurred, compared to 7.1 percent of all urban diagnoses. From January to June 2021, the distribution of urban diagnoses of patients was higher than that of rural patients. But in July 2021, and even more in August 2021, rural areas had a greater distribution of COVID-19 cases than urban areas. This is consistent with other researchers' findings that rural areas were particularly affected by the Delta variant of the COVID-19 virus,⁵ then spreading rapidly in the United States.

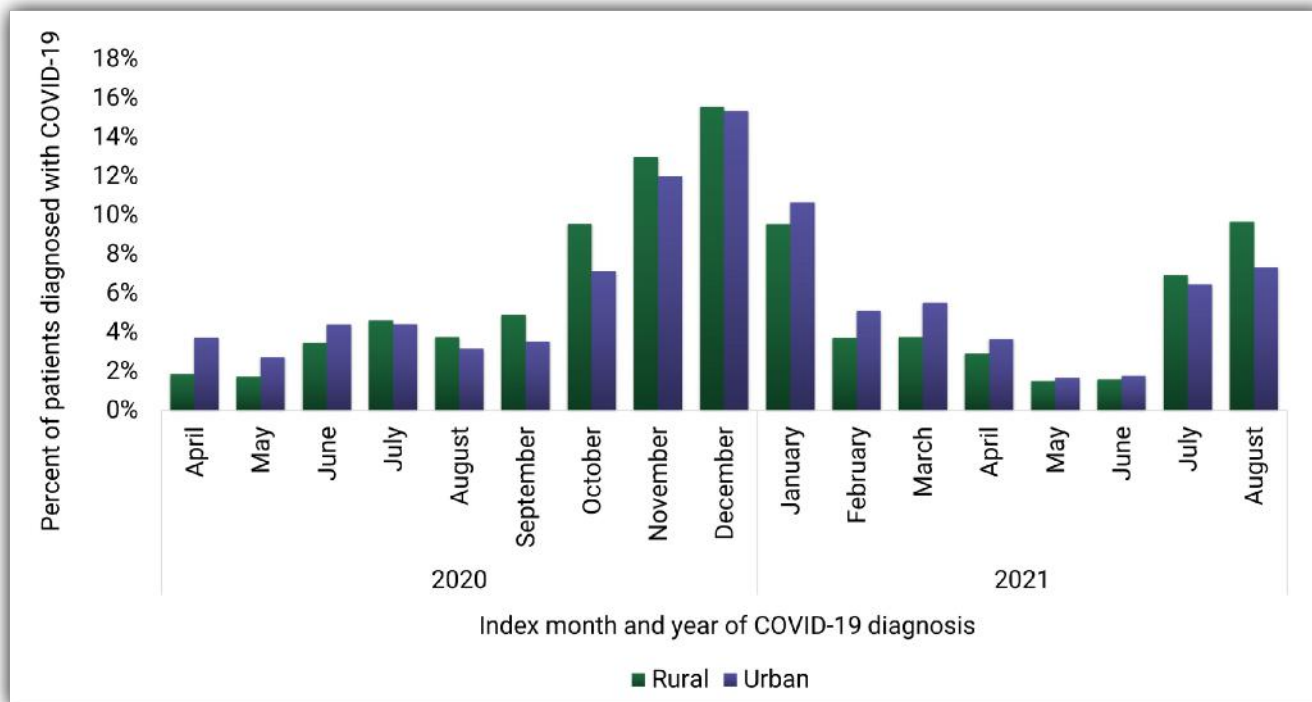


Figure 2. Percent of COVID-19 patients diagnosed by month and year in rural versus urban locations, April 2020 to August 2021

⁵ Olivia Goldhill, "Delta Has Been Brutal": Covid-19 Variant Is Decimating Rural Areas Already Reeling from the Pandemic," STAT, September 21, 2021, <https://www.statnews.com/2021/09/21/delta-variant-covid19-decimating-rural-areas/>.

Results

Types of Cases

The percentage of COVID-19 cases that resulted in a complex or noncomplex hospitalization was greatest near the start of the pandemic, in April 2020, when 7.8 percent of patients had a complex hospitalization and 9.6 percent a noncomplex hospitalization (figure 3). Even in that month, 40.9 percent of patients were outpatients with symptoms and 41.7 percent outpatients with no reported symptoms. Since then, outpatients with no reported symptoms (i.e., those who tested positive for COVID-19 but did not receive any further services for COVID-related symptoms) remained the largest category of cases, topping 50 percent each month through May 2021.

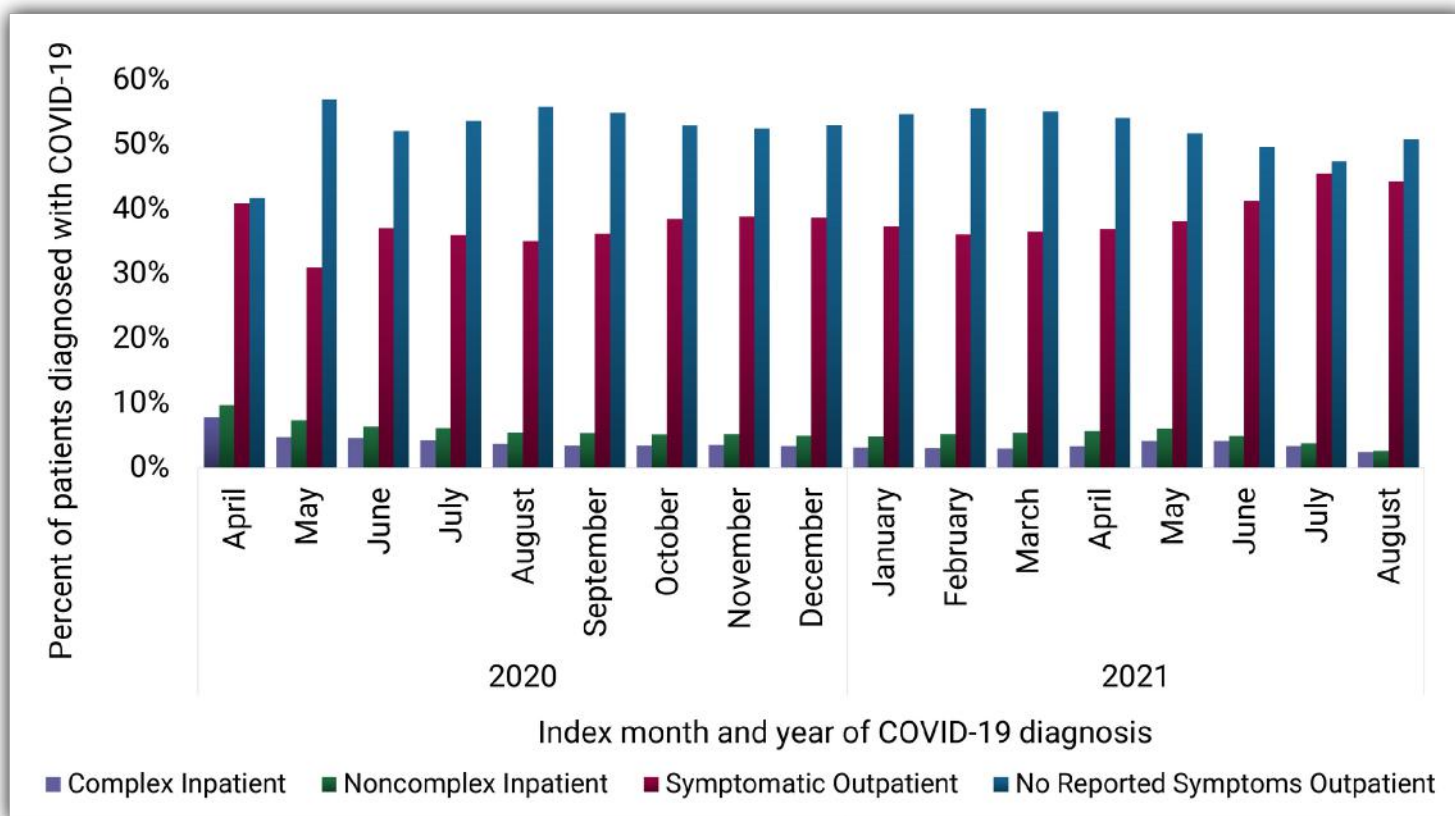
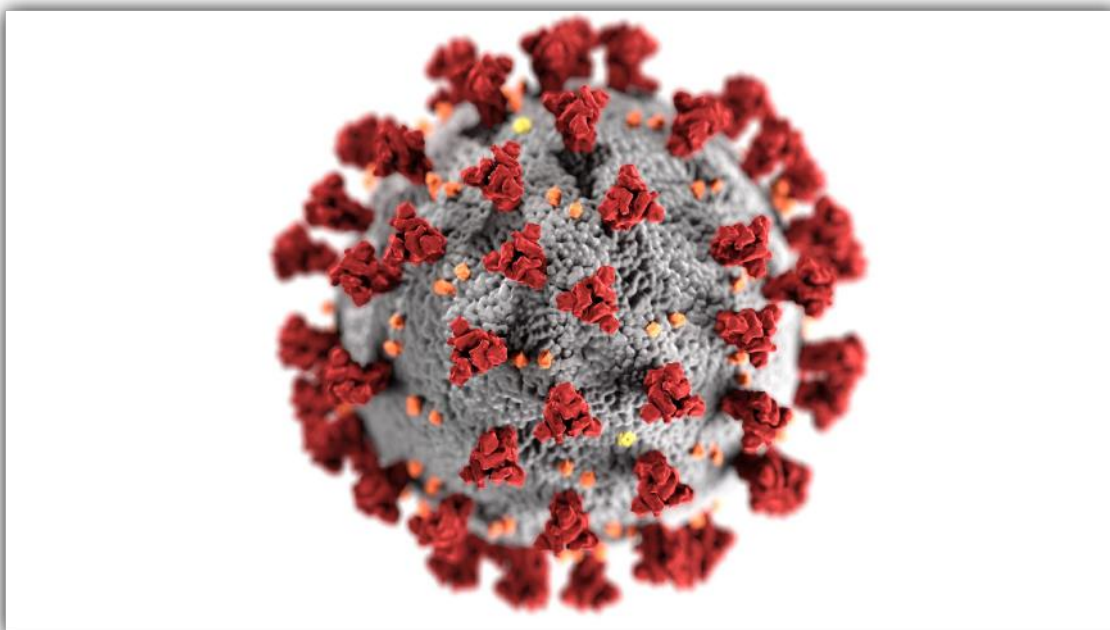


Figure 3. Percent of COVID-19 patients diagnosed by month and year and type of case, April 2020 to August 2021

“Since April 2020, those who tested positive for COVID-19 but did not receive any further services for COVID-related symptoms remained the largest category of COVID-19 cases.”

Results

In June 2021, by which time the highly transmissible Delta variant of the COVID-19 virus was spreading in the United States,⁶ the percentage of outpatients with no reported symptoms fell to 49.6 percent. In July, when the Delta variant became the dominant form of the virus in the United States,⁷ the percentage of symptomatic outpatients (45.5 percent) was only slightly smaller than that of outpatients with no reported symptoms (47.4 percent). In August, outpatients with no reported symptoms again passed 50 percent, reaching 50.8 percent, but the share of symptomatic outpatients remained at 44.2 percent.



⁶ Emily Anthes, "The Delta Variant: What Scientists Know," *New York Times*, June 22, 2021, updated October 14, 2021, <https://www.nytimes.com/2021/06/22/health/delta-variant-covid.html>.

⁷ Mrinalika Roy, "Delta Variant Already Dominant in U.S., CDC Estimates Show," *Reuters*, July 7, 2021, <https://www.reuters.com/world/us/delta-variant-already-dominant-us-cdc-estimates-show-2021-07-07/>.

Results

In 2020 and 2021, the distribution of types of COVID-19 cases differed by age (figure 4). Complex and noncomplex hospitalizations generally increased as a share of the total population of COVID-19 patients in each older age group. The largest percentage of complex hospitalizations occurred in those 70 years and older (17.2 percent of all patients diagnosed with COVID-19 in this age group); an additional 15.7 percent of patients in this age group had a noncomplex hospitalization. In total, 32.9 percent of all patients 70 years and older had an inpatient stay for their COVID-19 diagnosis.

Of patients 60 to 69 years old, 16.5 percent were hospitalized, with an approximately 50/50 split between complex and noncomplex (8.1 percent and 8.4 percent, respectively). The proportion of symptomatic outpatient cases was roughly similar across all age groups, ranging from 35.7 percent in those aged 11 to 19 to 41.5 percent in those aged 40 to 49.

Though not shown in figure 4, FAIR Health data indicate that, in 2020 and 2021, the average age of patients for hospitalizations (both complex and noncomplex) in rural areas was older by about a year or more compared to urban areas.

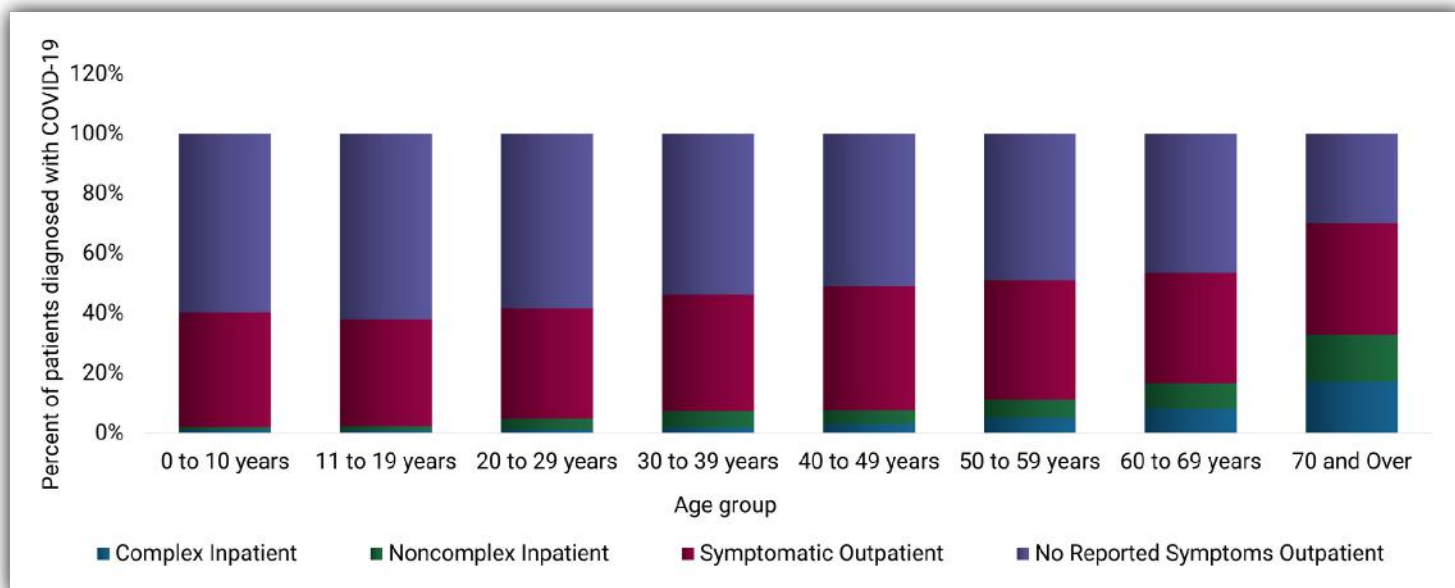


Figure 4. Percent of COVID-19 patients by age group and type of case, April 2020 to August 2021

Results

In most types of COVID-19 cases, the percentage of females was greater than that of males (figure 5). For example, in noncomplex hospitalizations, 57 percent of patients were female. But in complex hospitalizations, 57 percent of patients were male. This is in keeping with other researchers' findings that males worldwide have higher odds of requiring intensive inpatient hospital treatment for COVID-19 than females.⁸

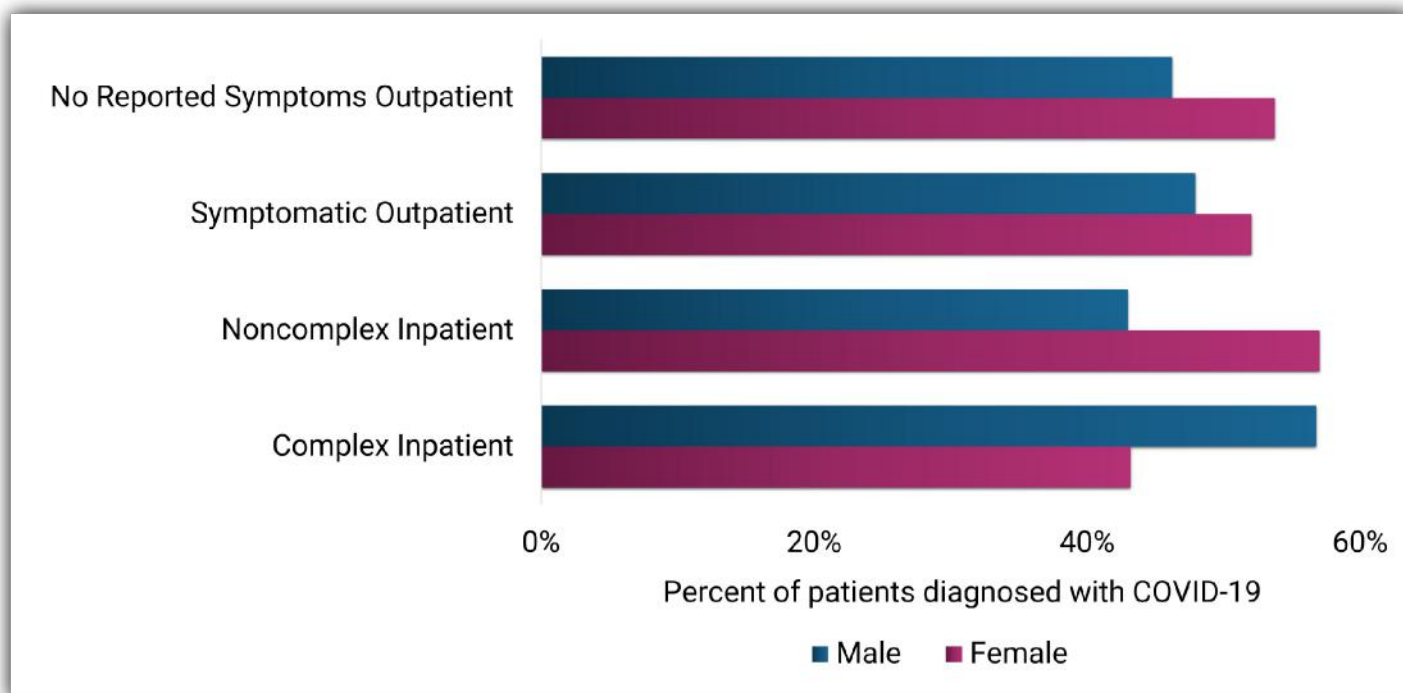
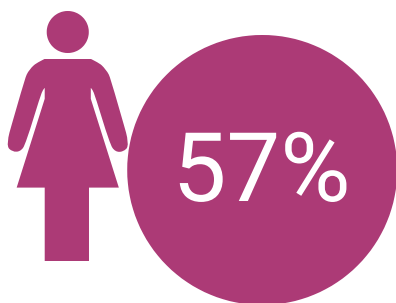
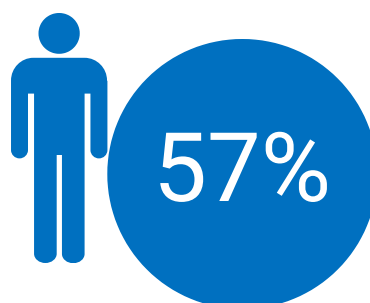


Figure 5. Percent of COVID-19 patients by gender and type of case, April 2020 to August 2021



OF PATIENTS IN
NONCOMPLEX HOSPITALIZATIONS
WERE FEMALE



OF PATIENTS IN
COMPLEX HOSPITALIZATIONS
WERE MALE

⁸ Hannah Peckham et al., "Male Sex Identified by Global COVID-19 Meta-analysis as a Risk Factor for Death and ITU Admission," *Nature Communications* 11, article no. 6317 (December 9, 2020), <https://doi.org/10.1038/s41467-020-19741-6>.

Results

Deaths

Figure 6 shows the percentage of patients who died according to the index month and year of their COVID-19 diagnosis. The percentage was higher in 2020, particularly in April, when it reached 1.9 percent. From February to July 2021, the percentage remained fairly stable, at about half a percent each month.⁹

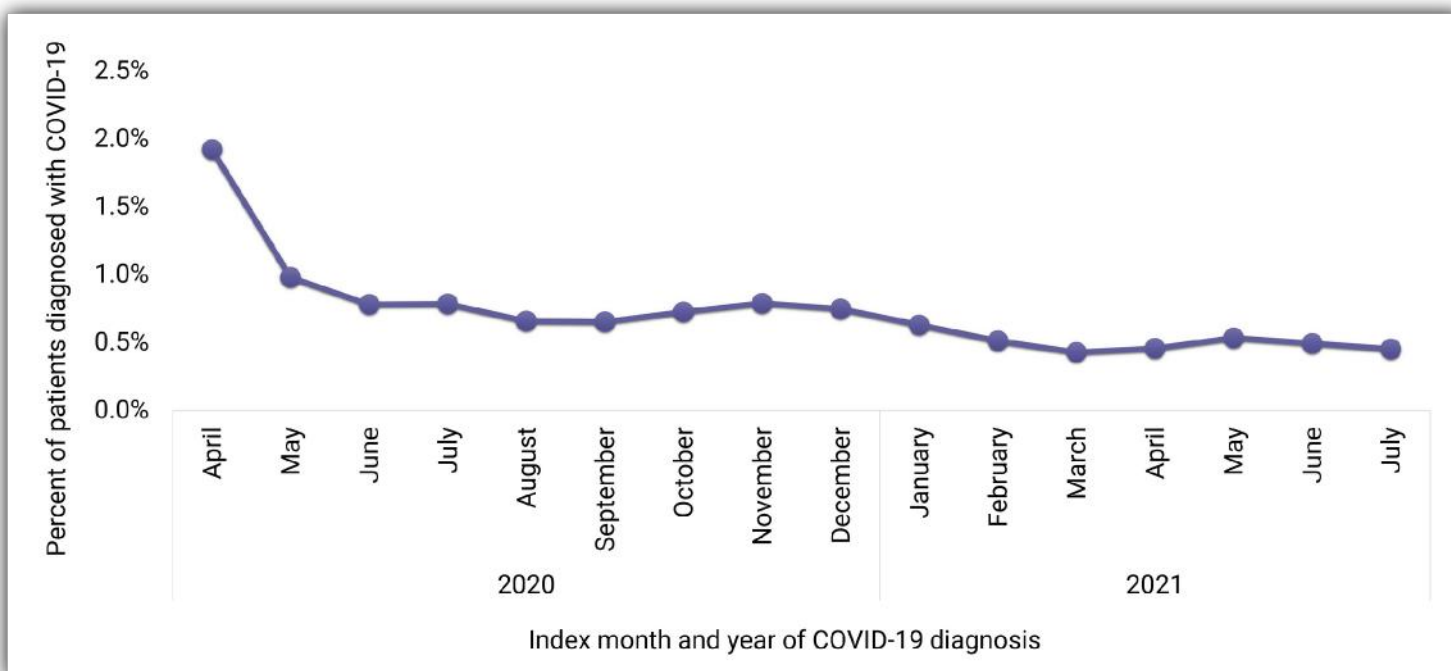


Figure 6. Percent of COVID-19 patients who died, by month and year of diagnosis, April 2020 to July 2021

“ The percentage of COVID-19 patients who died in April 2020 reached 1.9 percent. From February to July 2021, the percentage remained fairly stable, at about half a percent each month. ”

⁹ August 2021 data are not included in this chart because there may be claims incurred but not reported (IBNR) that would be relevant, and because there may be patients who were diagnosed with COVID-19 in August who died from the disease in subsequent months but for whom FAIR Health has not yet received claims.

Results

The average age of a COVID-19 patient who expired in 2020 was 66.76 compared to 61.82 in 2021. This trend is consistent with data from the CDC that show that 81 percent of COVID-19 deaths in 2020 were in the 65 and older age group, but that only 70 percent of COVID-19 deaths in 2021 were in that age group.¹⁰

The decline in age at expiration in the FAIR Health data is consistent with the decline in age of patients. In April 2020, the median age of reported COVID-19 cases was 48. This dropped to approximately 40 from June 2020 to February 2021. In March 2021, when vaccine distribution was rapidly increasing,¹¹ the median age of a COVID-19 case dropped to 37.

As with hospitalizations, COVID-19 patients in rural locations had a higher average age at expiration than in urban locations (table 1).

Table 1. Average and median age of COVID-19 patients at death by rural versus urban location, April 2020-August 2021

	Average Age		Median Age	
	2020	2021	2020	2021
Rural	68.37	63.10	69	61
Urban	66.46	61.61	64	60

¹⁰ CDC, "COVID-19 Mortality Overview," data as of November 10, 2021, <https://www.cdc.gov/nchs/covid19/mortality-overview.htm>.

¹¹ AJMC staff, "A Timeline of COVID-19 Vaccine Developments in 2021," AJMC, June 3, 2021, <https://www.ajmc.com/view/a-timeline-of-covid-19-vaccine-developments-in-2021>.

Results

Length of Stay

The median length of stay for patients with a complex hospitalization for COVID-19 has decreased since the beginning of the pandemic, from a high of 13 days in April 2020 to a low of 7 days in July 2021 (figure 7).¹² The median length of stay for a noncomplex hospitalization, however, remained relatively flat throughout this period, with most months having a median of four days and the rest three days.

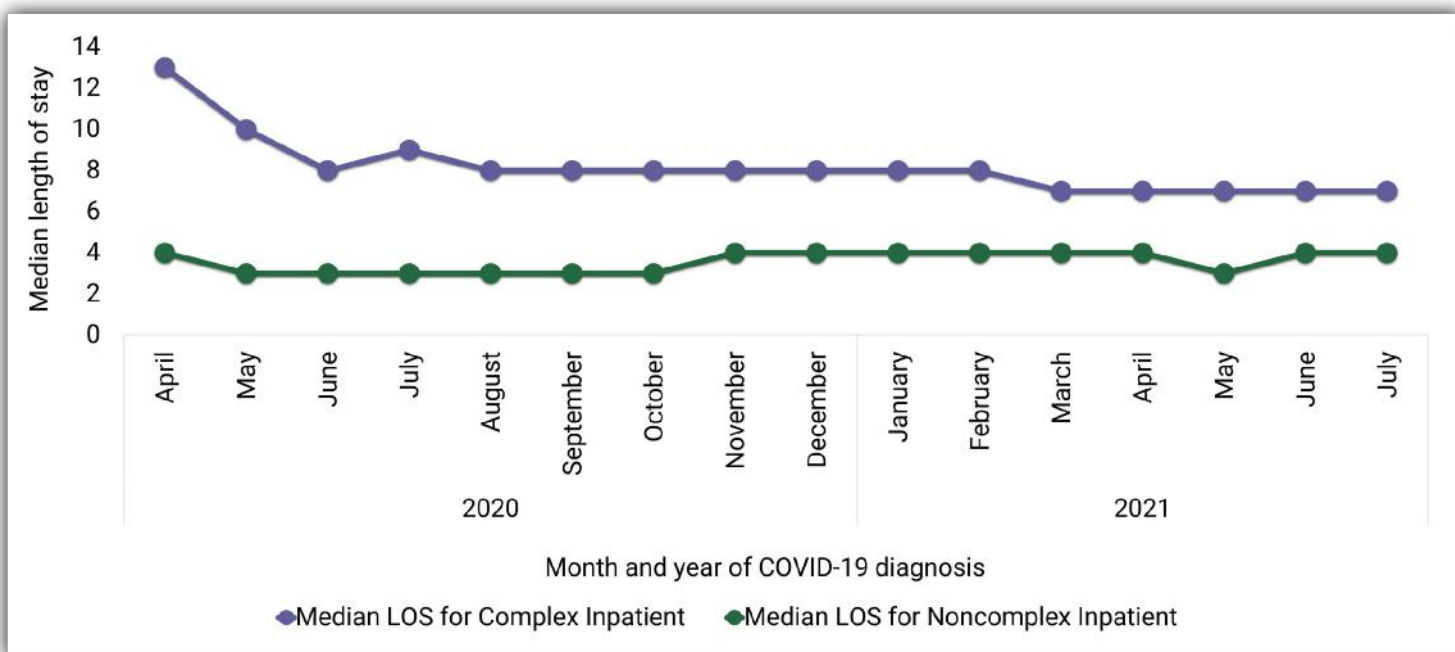


Figure 7. Median length of stay (LOS) for type of COVID-19 hospitalization by month and year of diagnosis, April 2020-July 2021

“ The median length of stay for patients with a complex hospitalization for COVID-19 decreased from a high of 13 days in April 2020 to a low of 7 days in July 2021. ”

¹² August 2021 data are not included in this chart because there may be IBNR claims that would be relevant, and because there may have been inpatient stays that began in August but extended later and for which FAIR Health has not yet received claims.

Results

In urban locations, the median length of stay for complex hospitalizations for COVID-19 declined from April (13 days) to June (8 days) 2020, and thereafter stayed relatively steady (figure 8). In rural locations, the median length of stay for complex hospitalizations varied slightly more, being either the same as or shorter than that in urban areas.

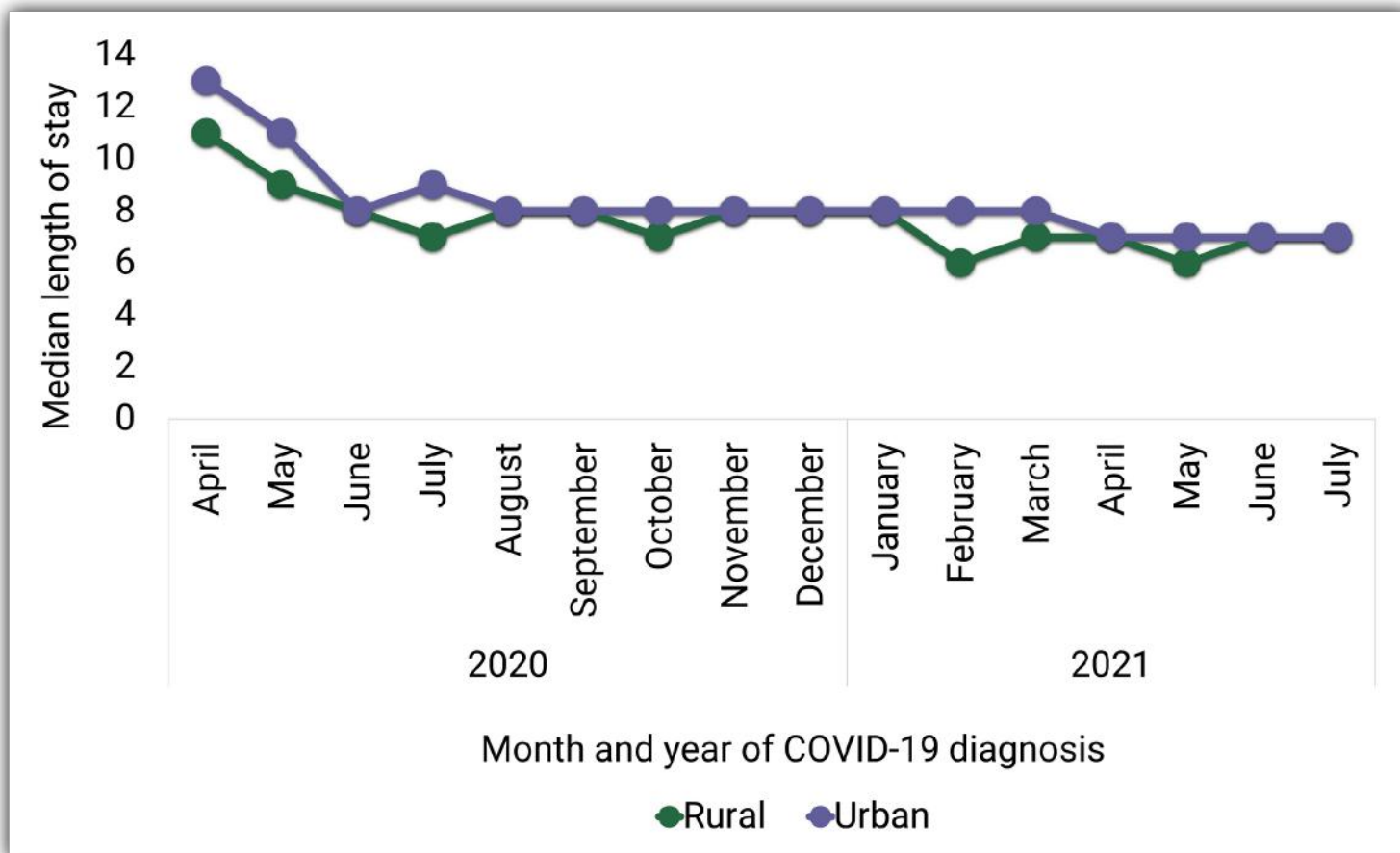


Figure 8. Median length of stay for COVID-19 complex hospitalizations by month and year of diagnosis and rural versus urban location, April 2020-July 2021

Results

For noncomplex hospitalizations for COVID-19, the median length of stay hovered between three and four days throughout the period April 2020 to August 2021 for both rural and urban locations (figure 9).

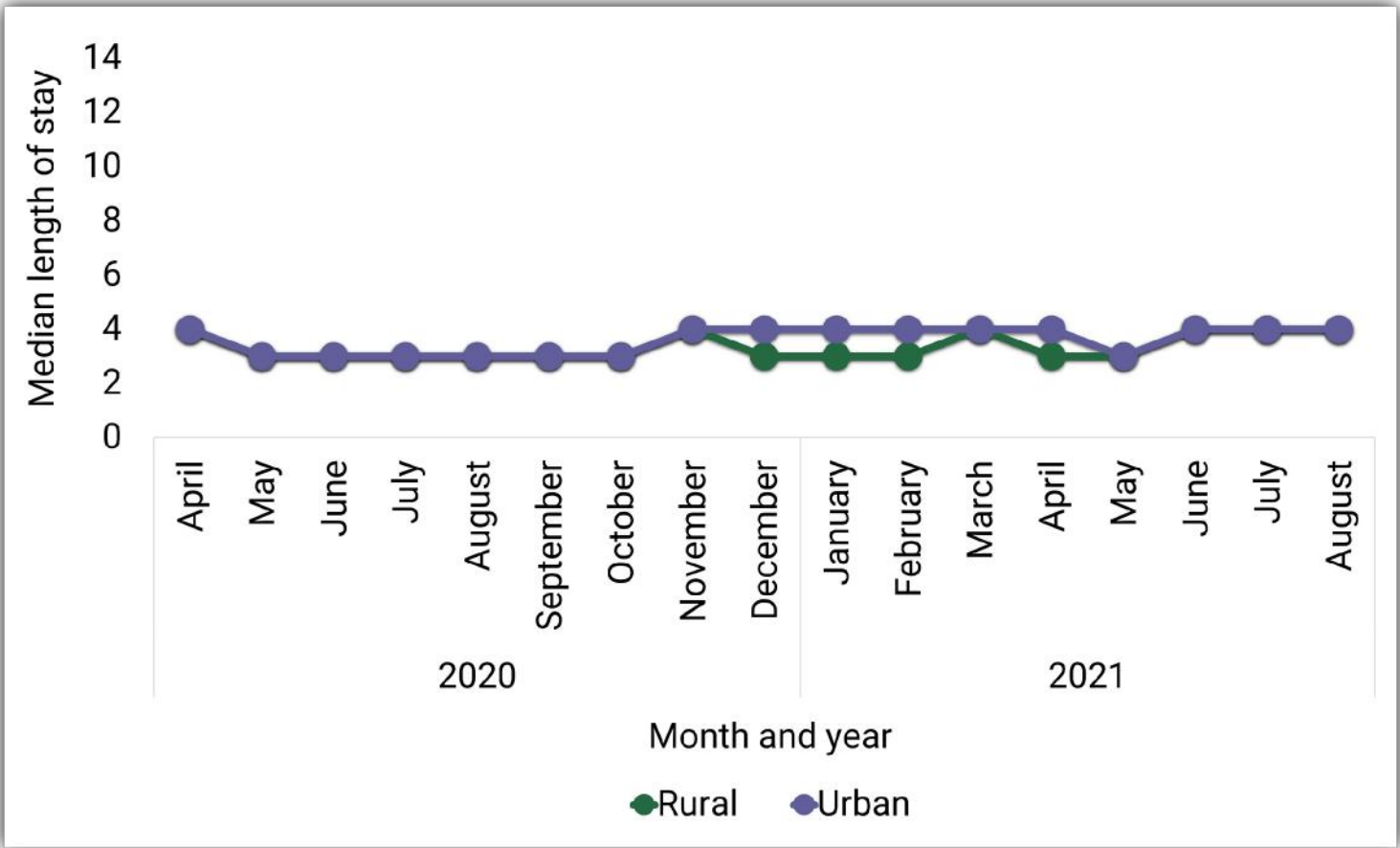


Figure 9. Median length of stay for COVID-19 noncomplex hospitalizations by month and year of diagnosis and rural versus urban location, April 2020-August 2021

Results

Comorbidities

Nearly half (49.4 percent) of all patients diagnosed with COVID-19 in the period from April 2020 to August 2021 had no identified comorbidities (figure 10). Another 14.5 percent had one comorbidity, 9.7 percent had two, 12.8 percent had three or four and 13.7 percent had five or more.

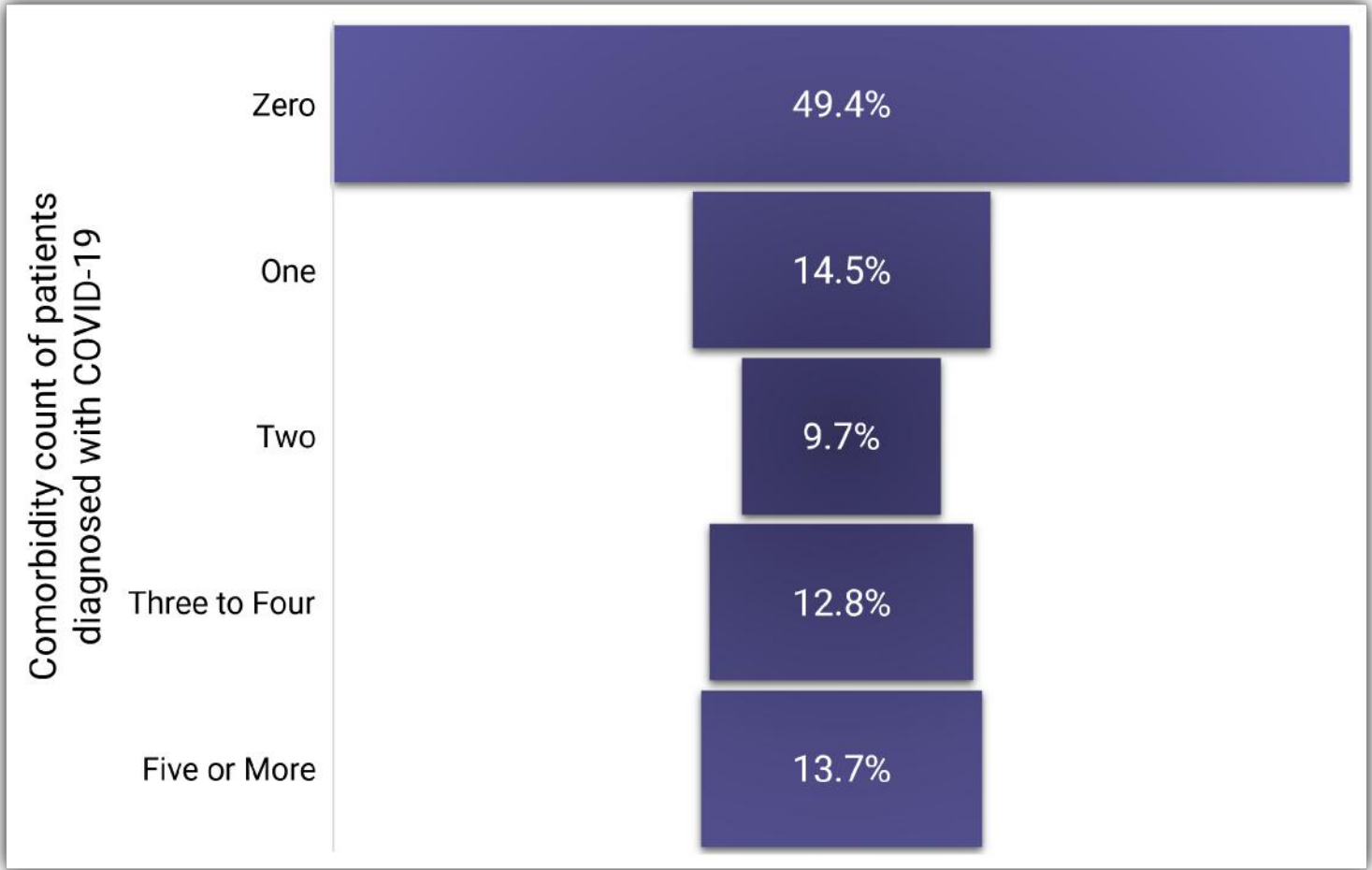


Figure 10. Distribution of COVID-19 patients by number of comorbidities, April 2020 to August 2021

Results

The distribution by number of comorbidities in patients who had a complex hospitalization for COVID-19 (figure 11) during the period from April 2020 to August 2021 was almost the opposite of that in the general population diagnosed with COVID-19 (figure 10). Of the population with a complex inpatient stay, 48.4 percent had five or more comorbidities and only 20.6 percent had zero comorbidities.

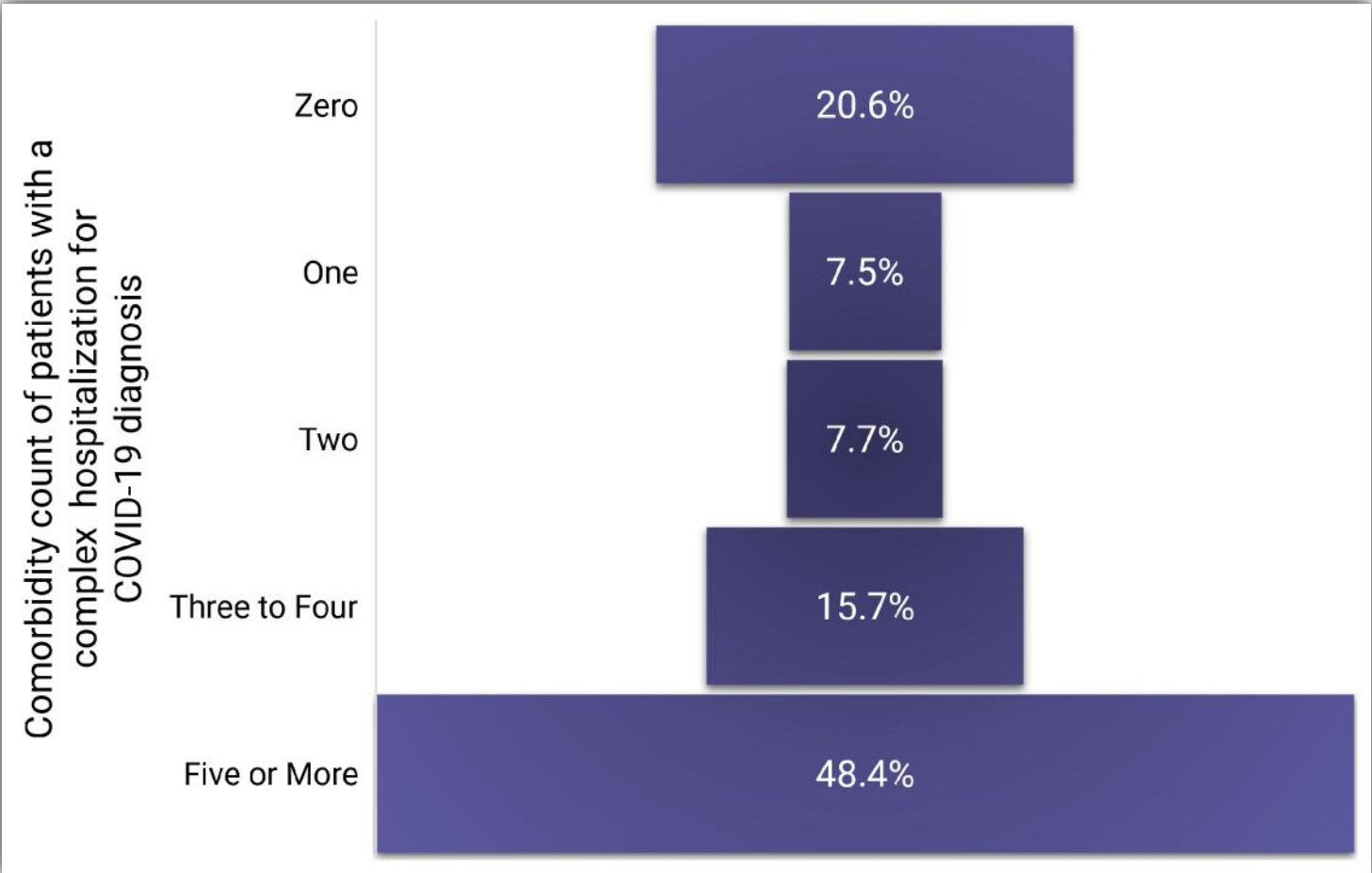


Figure 11. Distribution of patients with a complex hospitalization for COVID-19 by number of comorbidities, April 2020 to August 2021

“Of the COVID-19 population with a complex inpatient stay, 48.4 percent had five or more comorbidities and 20.6 percent had zero comorbidities.”

Results

The distribution by number of comorbidities in patients who had a noncomplex hospitalization for COVID-19 (figure 12) was in between that found in patients diagnosed with COVID-19 (figure 10) and in patients with complex hospitalizations for COVID-19 (figure 11). In the population with a noncomplex inpatient stay, the most common number of comorbidities was zero, at 35 percent, but the second most common was five or more, at 27.1 percent.

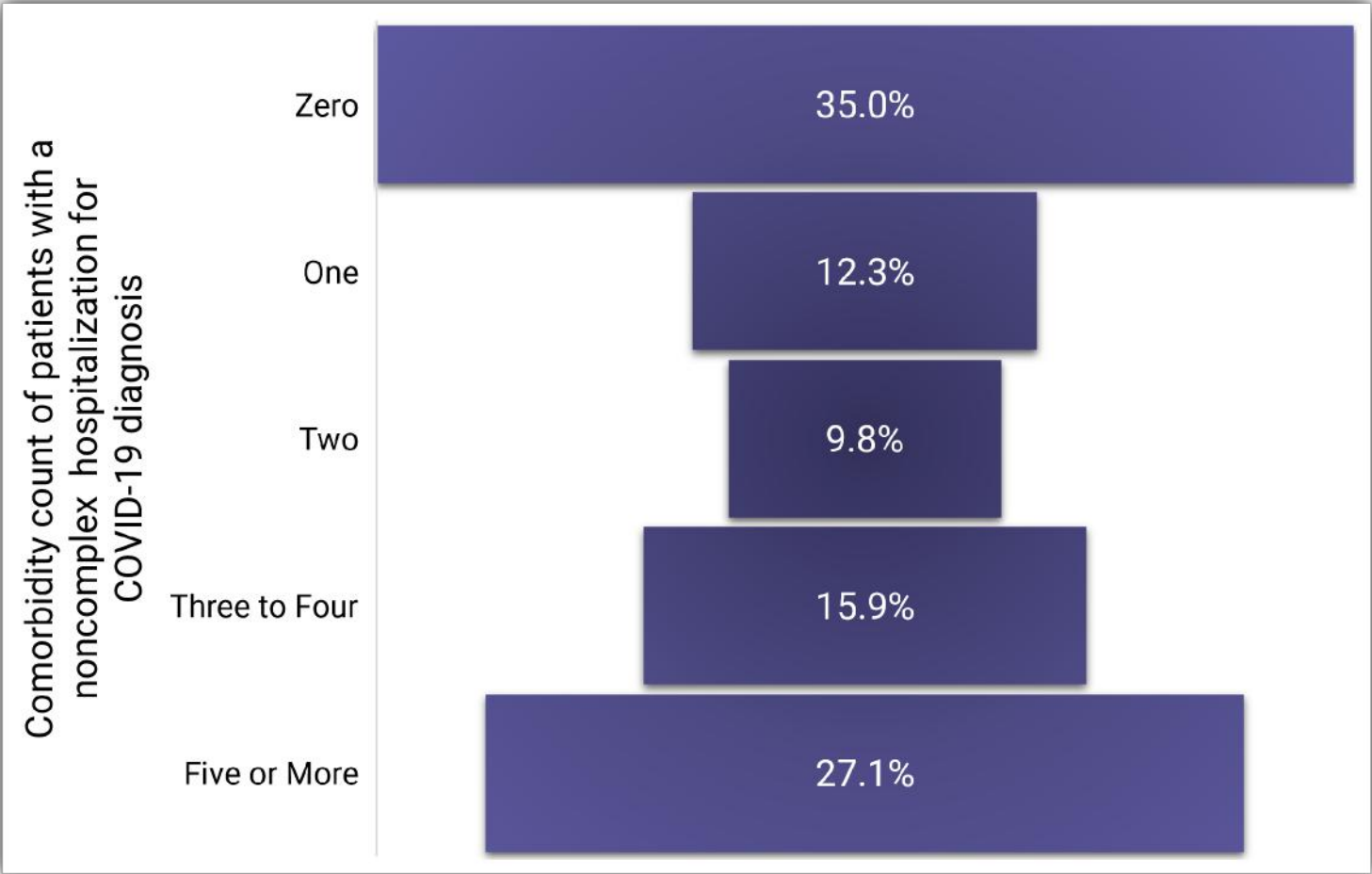


Figure 12. Distribution of patients with a noncomplex hospitalization for COVID-19 by number of comorbidities, April 2020 to August 2021

Results

In patients with a complex hospitalization for COVID-19 in the period April 2020 to August 2021, the most common comorbidity was hyperlipidemia and/or hypertension, which accounted for 14.7 percent of this population (figure 13). Other researchers, too, have found that dyslipidemia (of which hyperlipidemia is a type) is associated with increased severity of COVID-19, especially when paired with hypertension.¹³ In the FAIR Health data, chronic kidney disease was the second most common comorbid condition, making up 9.6 percent. Anemia (9.2 percent), diabetes (8.3 percent) and obesity (8.1 percent) rounded out the top five comorbidities.

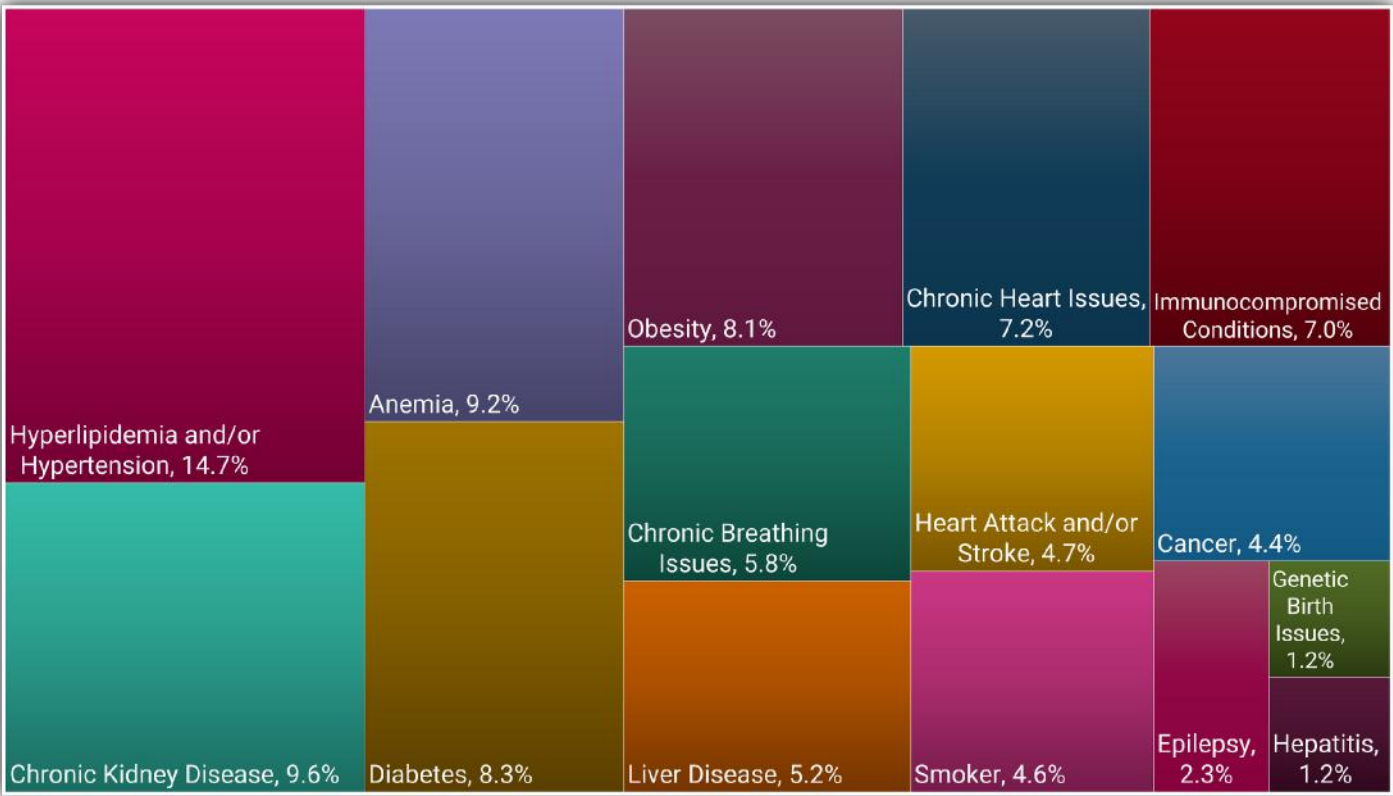


Figure 13. Most common comorbidities in patients with a complex hospitalization for COVID-19, April 2020 to August 2021

14.7%

of patients with a complex hospitalization for COVID-19 had a comorbidity of hyperlipidemia and/or hypertension—the most common comorbidity.

¹³ Indriwanto Sakidjan Atmosudigdo et al., “Dyslipidemia Increases the Risk of Severe COVID-19: A Systematic Review, Meta-analysis, and Meta-regression,” *Clinical Medicine Insights: Endocrinology and Diabetes*, March 24, 2021, <https://doi.org/10.1177/1179551421990675>.

Results

In patients with a noncomplex hospitalization for COVID-19, the distribution of comorbidities (figure 14) differed from that found in patients with a complex hospitalization (figure 13). The most common comorbidity associated with noncomplex hospitalization was chronic breathing issues, such as asthma and chronic obstructive pulmonary disease, at 6.5 percent of the distribution. (The CDC includes chronic lung diseases among the medical conditions that increase risk of severe COVID-19.)¹⁴ Obesity (3.7 percent), multiple sclerosis (3.6 percent), smoking (3.6 percent) and epilepsy (3.6 percent) made up the rest of the top five comorbidities in the FAIR Health data.

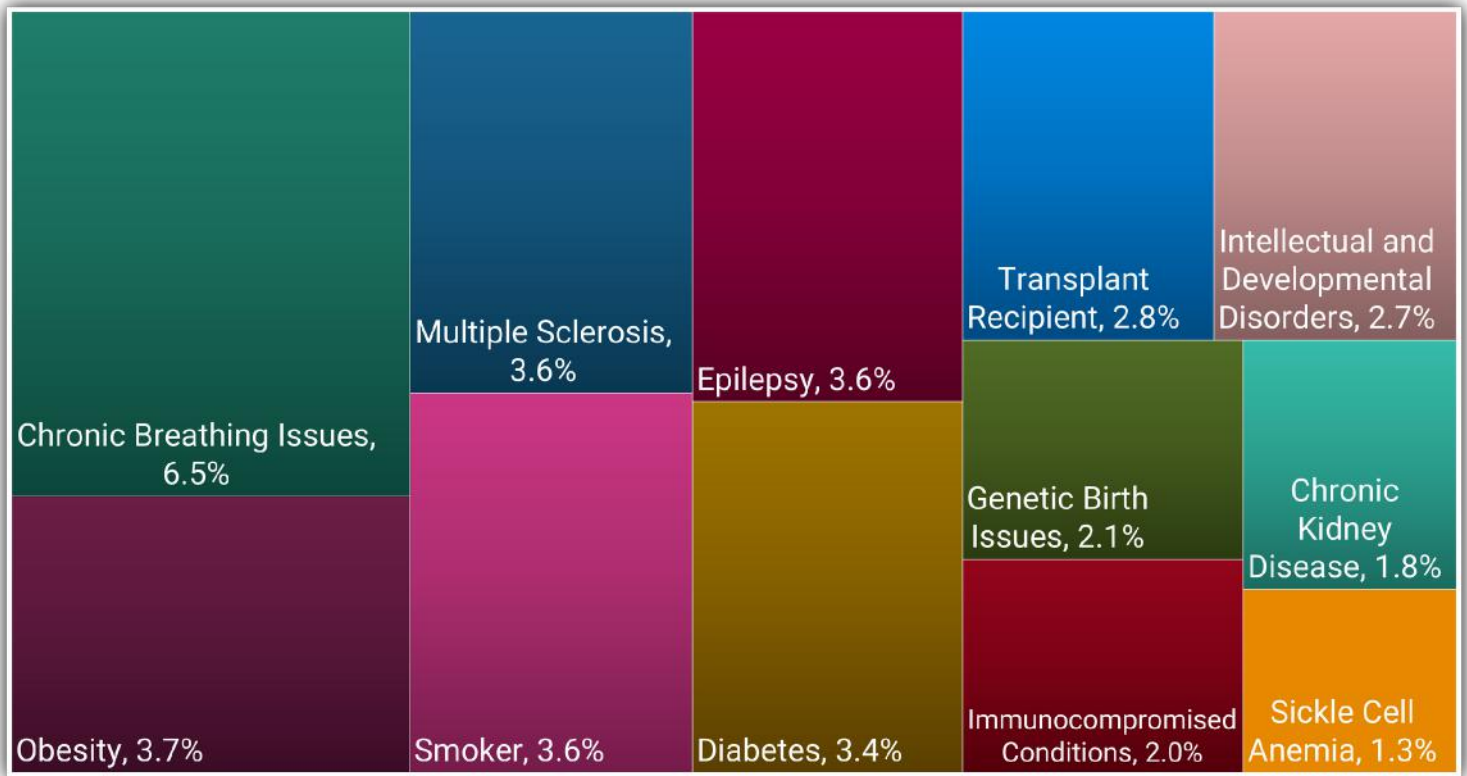


Figure 14. Most common comorbidities in patients with a noncomplex hospitalization for COVID-19, April 2020 to August 2021

¹⁴ CDC, “COVID-19—People with Certain Medical Conditions,” updated October 14, 2021, <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>.

Costs

In 2020 and 2021, costs for COVID-19 varied by state and by type of case. For complex hospitalizations for COVID-19, the five states with the highest average allowed amounts were New Jersey, California, Alaska, Nevada and Arizona (table 2). New Jersey was highest, at \$128,650.

Table 2. Five states with the highest average allowed amounts for COVID-19 complex hospitalizations, 2020-2021

State	Average Allowed Amount
NJ	\$128,650
CA	\$127,281
AK	\$125,237
NV	\$124,202
AZ	\$117,638

The five states with the lowest average allowed amounts for complex hospitalizations for COVID-19 were Maryland, Arkansas, West Virginia, North Carolina and Kentucky (table 3). Maryland was lowest, at \$49,127.

Table 3. Five states with the lowest average allowed amounts for COVID-19 complex hospitalizations, 2020-2021

State	Average Allowed Amount
MD	\$49,127
AR	\$69,269
WV	\$73,094
NC	\$76,722
KY	\$77,063

Costs

For noncomplex hospitalizations for COVID-19, the five states with the highest average allowed amounts were Alaska, Nevada, California, Wyoming and New Jersey (table 4). Alaska was highest, at \$44,239.

Table 4. Five states with the highest average allowed amounts for COVID-19 noncomplex hospitalizations, 2020-2021

State	Average Allowed Amount
AK	\$44,239
NV	\$42,999
CA	\$42,674
WY	\$40,640
NJ	\$40,590

The five states with the lowest average allowed amounts for noncomplex hospitalizations for COVID-19 were Maryland, Arkansas, Michigan, West Virginia and Kentucky (table 5). As with complex hospitalizations, Maryland was lowest, in this case at \$12,531.

Table 5. Five states with the lowest average allowed amounts for COVID-19 noncomplex hospitalizations, 2020-2021

State	Average Allowed Amount
MD	\$12,531
AR	\$16,593
MI	\$16,773
WV	\$16,918
KY	\$16,959

Costs

For outpatient treatment for COVID-19, the five states with the highest average allowed amounts were Nevada, Alaska, California, Arizona and Wisconsin (table 6). Nevada was highest, at \$1,538.

Table 6. Five states with the highest average allowed amounts for COVID-19 outpatient treatment, 2020-2021

State	Average Allowed Amount
NV	\$1,538
AK	\$1,357
CA	\$1,334
AZ	\$1,245
WI	\$1,231

The five states with the lowest average allowed amounts for outpatient treatment for COVID-19 were Maryland, West Virginia, Delaware, Utah and Vermont (table 7). As with complex and noncomplex hospitalizations, Maryland was lowest, in this case at \$580.

Table 7. Five states with the lowest average allowed amounts for COVID-19 outpatient treatment, 2020-2021

State	Average Allowed Amount
MD	\$580
WV	\$726
DE	\$729
UT	\$732
VT	\$735

Costs

In 2020 and 2021, COVID-19 costs varied by region as well as state. Table 8 shows the average allowed amounts for the different types of COVID-19 cases by region. For complex and noncomplex hospitalizations, the West had the highest average allowed amounts and the South the lowest. For outpatient treatment, the West had the highest average allowed amounts and the Northeast the lowest.

Table 8. Average allowed amounts by type of COVID-19 case and region, 2020-2021

Region	Type of COVID-19 Case	Average Allowed Amount
Midwest	Complex Inpatient	\$95,634
	Noncomplex Inpatient	\$20,608
	Outpatient	\$1,032
Northeast	Complex Inpatient	\$106,282
	Noncomplex Inpatient	\$35,735
	Outpatient	\$937
South	Complex Inpatient	\$84,324
	Noncomplex Inpatient	\$20,013
	Outpatient	\$954
West	Complex Inpatient	\$117,316
	Noncomplex Inpatient	\$38,135
	Outpatient	\$1,187

“ For complex and noncomplex hospitalizations for COVID-19, the West had the highest average allowed amounts and the South the lowest. ”

Conclusion

This study offers several key findings. From April 2020 to August 2021, the month with the most reported COVID-19 diagnoses was December 2020. During the pandemic, the rural/urban distribution of COVID-19 diagnoses varied, with rural areas, for example, having a greater distribution of COVID-19 cases than urban areas in July and August 2021. The largest category of COVID-19 cases was those who tested positive for COVID-19 but did not receive any further services for COVID-related symptoms—larger than outpatients with symptoms, complex inpatients or noncomplex inpatients.

The largest percentage of complex hospitalizations occurred in those 70 years and older. In most types of COVID-19 cases, the percentage of females was greater than that of males, but in complex hospitalizations, 57 percent of patients were male. The percentage of COVID-19 patients who died in April 2020 was 1.9 percent, but from February to July 2021, it was about half a percent each month.

The median length of stay for patients with a complex hospitalization for COVID-19 decreased from a high of 13 days in April 2020 to a low of 7 days in July 2021. The median length of stay for a noncomplex hospitalization, however, remained relatively flat, at three to four days. Of COVID-19 patients with a complex inpatient stay, 48.4 percent had five or more comorbidities and 20.6 percent had zero comorbidities. By comparison, nearly half (49.4 percent) of all patients diagnosed with COVID-19 had zero comorbidities. In patients with a complex hospitalization for COVID-19, the most common comorbidity was hyperlipidemia and/or hypertension. In patients with a noncomplex hospitalization for COVID-19, the most common comorbidity was chronic breathing issues.

Conclusion

In 2020 and 2021, Maryland was the state with the lowest average allowed amounts for outpatient treatment and complex and noncomplex hospitalizations for COVID-19. The state with the highest average allowed amounts for complex hospitalizations for COVID-19 was New Jersey, the state with the highest average allowed amounts for noncomplex hospitalizations was Alaska, and the state with the highest average allowed amounts for outpatient treatment was Nevada. For complex and noncomplex hospitalizations for COVID-19 in 2020 and 2021, the West had the highest average allowed amounts and the South the lowest. For outpatient treatment for COVID-19, the West had the highest average allowed amounts and the Northeast the lowest.

FAIR Health hopes that this study will provide useful context for the [COVID-19 Cost Tracker](#), and that it will be of interest to researchers, payors, providers, policy makers and consumers.



About FAIR Health

FAIR Health is a national, independent nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information through data products, consumer resources and health systems research support. FAIR Health qualifies as a public charity under section 501(c)(3) of the federal tax code. FAIR Health possesses the nation's largest collection of private healthcare claims data, which includes over 35 billion claim records and is growing at a rate of over 2 billion claim records a year. FAIR Health licenses its privately billed data and data products—including benchmark modules, data visualizations, custom analytics and market indices—to commercial insurers and self-insurers, employers, providers, hospitals and healthcare systems, government agencies, researchers and others. Certified by the Centers for Medicare & Medicaid Services (CMS) as a national Qualified Entity, FAIR Health also receives data representing the experience of all individuals enrolled in traditional Medicare Parts A, B and D; FAIR Health includes among the private claims data in its database, data on Medicare Advantage enrollees. FAIR Health can produce insightful analytic reports and data products based on combined Medicare and commercial claims data for government, providers, payors and other authorized users. FAIR Health's free, award-winning, national consumer websites are fairhealthconsumer.org and fairhealthconsumidor.org. For more information on FAIR Health, visit fairhealth.org.

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