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Authors and Contact Information





Abbreviations



- American Community Survey (ACS)
- Centers for Disease Control and Prevention (CDC)
- Healthcare Resource Tracking System (HRTS)
- Hospitalizations (hosp)
- Long term care facility (LTCF)
- Multi-system Inflammatory Syndrome (MIS-C)

- National Electronic Disease Surveillance System (NEDSS) Base System (NBS)
- National Vital Statistics System (NVSS)
- Social Vulnerability Index (SVI)
- Tennessee (TN)
- Tennessee Department of Health (TDH)

Abbreviation	Regions	Counties within Regions
CHR	Chattanooga Hamilton County Health Department	Hamilton
ETR	East Tennessee Regional Health Department	Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Union
JMR	Jackson Madison County Health Department	Madison
KKR	Knoxville Knox County Health Department	Knox
MCR	Mid Cumberland Regional Health Department	Cheatham, Dickson, Houston, Humphreys, Montgomery, Roberston, Rutherford, Stewart, Sumner, Trousdale, Williamson, Wilson
MSR	Memphis Shelby County Health Department	Memphis
NDR	Nashville Davidson County Health Department	Davidson
NER	Northeast Regional Health Department	Carter, Greene, Hancock, Hawkins, Johnson, Unicoi, Washington
SCR	South Central Regional Health Department	Bedford, Coffee, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry, Wayne
SER	Southeast Regional Health Department	Bledsoe, Bradley, Franklin, Grundy, McMinn, Marion, Meigs, Polk, Rhea, Sequatchie
SUL	Sullivan County Health Department	Sullivan
UCR	Upper Cumberland Regional Health Department	Cannon, Clay, Cumberland, Dekalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren
WTR	West Tennessee Regional Health Department	Benton, Carroll, Chester, Crockett, Decatur, Dyer, Fayette, Gibson, Hardeman, Hardin, Haywood, Henderson, Henry, Lake, Lauderdale, McNairy, Obion, Tipton, Weakley

COVID-19 Terminology



COVID-19: COVID-19 (Coronavirus disease 2019) is a disease caused by a virus named SARS-CoV-2.

<u>Cases:</u> A person infected with COVID-19 based on test results or information from a public health investigation. The case definition for COVID-19 changed throughout the pandemic as new information became available. The most up-to-date definition is available online:

https://ndc.services.cdc.gov/case-definitions/coronavirus-disease-2019-2021/

<u>Case Rate:</u> The number of COVID-19 cases per 100,000. In this report the total number of cases per year is used to calculate rates.

<u>Hospitalization:</u> A person who is hospitalized due to COVID-19 based on interview information or hospital discharge data from the Tennessee Hospital Association.

<u>Hospitalization Rate:</u> The number of COVID-19 hospitalizations per 100,000 population. In this report the total number of hospitalizations per year is used to calculate rates.

<u>**Death:**</u> A person who died due to COIVD-19 based on death certificate information from a public health investigation. The definition for COVID-19 deaths changed throughout the pandemic as new information became available. The most up-to-date definition is available online: https://preparedness.cste.org/covid-19-response/

<u>Mortality Rate:</u> The number of COVID-19 deaths per 100,000 population. In this report the total number of deaths per year is used to calculate rates.

<u>Public Health Region (Region)</u>: Tennessee has 95 counties grouped into 13 regions. Seven regions are served by a TDH Regional Office and the six larger, urban counties - Madison, Shelby, Knox, Davidson, Hamilton, and Sullivan - operate under local governance. For details on how the public health region are grouped visit the abbreviation page.

Unknown: A category that includes individual without sufficient information to be added to a defined group or category.

Data Sources



Cases, Hospitalizations, and Deaths:

• National Electronic Disease Surveillance System (NEDSS) Base System (NBS)

Clusters:

National Electronic Disease Surveillance System (NEDSS) Base System (NBS)

Hospital Utilization:

Healthcare Resource Tracking System (HRTS)

Population Estimates:

• U.S. Census Bureau, 2019 American Community Survey 1-Year Estimates

Vaccinations:

Tennessee Immunization Information System (TennIIS)

Variants:

• National Electronic Disease Surveillance System (NEDSS) Base System (NBS)

Special Populations

Children and MIS-C:

National Electronic Disease Surveillance System (NEDSS) Base System (NBS)

Pregnancy:

- National Electronic Disease Surveillance System (NEDSS) Base System (NBS)
- National Vital Statistics System (NVSS)

Health Disparities and SVI (Special Populations):

- National Electronic Disease Surveillance System (NEDSS) Base System (NBS)
- Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geo-spatial Research, Analysis, and Services Program. CDC/ATSDR Social Vulnerability Index 2020 Database Tennessee. https:// www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html Accessed on March 16, 2023.

Appendix

Public Health Regional Profiles:

• National Electronic Disease Surveillance System (NEDSS) Base System (NBS)

Purpose



This annual report summarizes the key metrics tracked by the Tennessee Department of Health (TDH) for the COVID-19 pandemic response, including infections, disease severity, vaccination, cluster response and data for specific populations.

For additional information, data visualizations and downloadable datasets visit: https://www.tn.gov/health/cedep/ncov.html

All data are preliminary and subject to change.

COVID-19 Cases

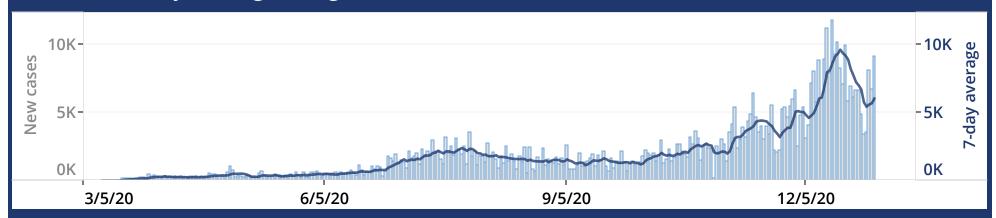


21,682Total Hospitalizations

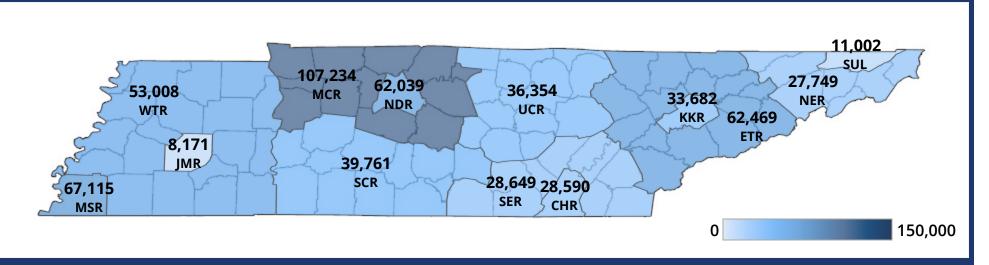
585,505Total Cases

6,907Total Deaths

Cases with 7-day Moving Average



Cases by Public Health Region



This visualization highlights the number of COVID-19 cases from March 05, 2020 to December 31, 2020. Tennessee reported its first case on March 05, 2020. COVID-19 cases increased through the year with a surge from the alpha variant in the later months of 2020.

COVID-19 Hospitalizations

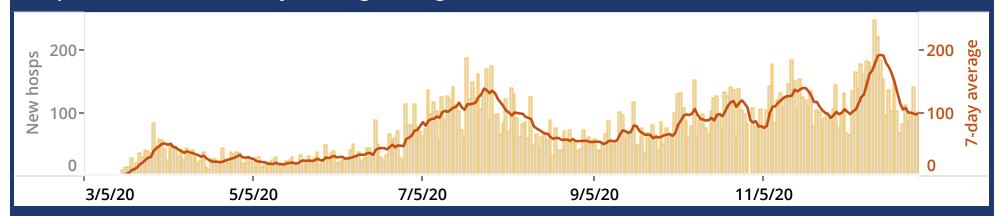


585,505 Total Cases

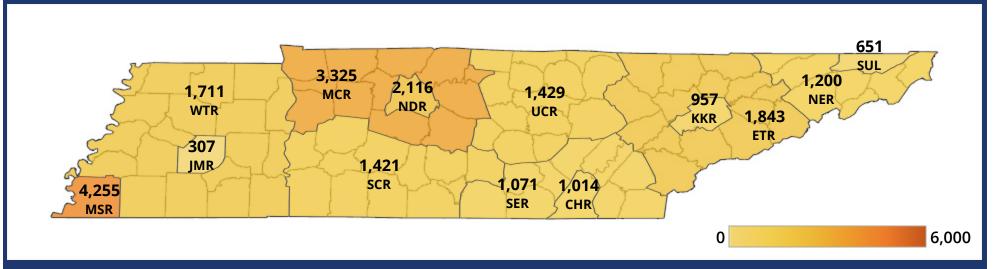
21,682Total Hospitalizations

6,907 Total Deaths

Hospitalizations with 7-day Moving Average



Hospitalizations by Public Health Region



This visualization highlights the number of COVID-19 hospitalizations from March 05, 2020 to December 31, 2020. Tennessee reported its first case on March 05, 2020. COVID-19 hospitalizations increased through the year with a surge from the alpha variant in the later months of 2020.

COVID-19 Deaths

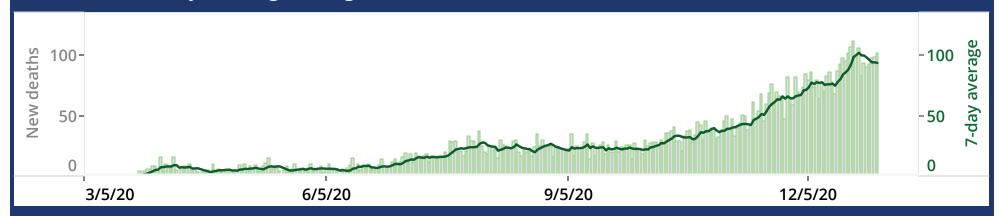


585,505 Total Cases

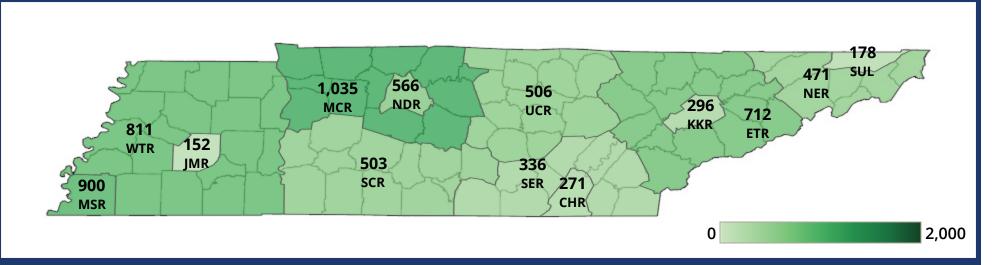
6,907Total Deaths

21,682Total Hospitalizations

Deaths with 7-day Moving Average



Deaths by Public Health Region



This visualization highlights the number of COVID-19 deaths from March 05, 2020 to December 31, 2020. Tennessee reported its first case on March 05, 2020. COVID-19 deaths increased through the year with a surge from the alpha variant in the later months of 2020.

Case, Hospitalization (Hosp), and Mortality Percents by Region



			,			
Region	Case	% of Case	Hosp	% of Hosp	Death	% of Death
CHR	28,590	4.9%	1,014	4.7%	271	3.9%
ETR	62,469	10.7%	1,843	8.5%	712	10.3%
JMR	8,171	1.4%	307	1.4%	152	2.2%
KKR	33,682	5.8%	957	4.4%	296	4.3%
MCR	107,234	18.3%	3,325	15.3%	1,035	15.0%
MSR	67,115	11.5%	4,255	19.6%	900	13.1%
NDR	62,039	10.6%	2,116	9.8%	566	8.2%
NER	27,749	4.7%	1,200	5.5%	471	6.8%
SCR	39,761	6.8%	1,421	6.6%	503	7.3%
SER	28,649	4.9%	1,071	4.9%	336	4.9%
SUL	11,002	1.9%	651	3.0%	178	2.6%
UCR	36,354	6.2%	1,429	6.6%	506	7.4%
WTR	53,008	9.1%	1,711	7.9%	811	11.8%
UNKNOWN	19,682	3.4%	382	1.8%	170	2.1%
TOTAL	585,505	100.0%	21,682	100.0%	6,907	100.0%

This visualization highlights the number and percent of COVID-19 cases, hospitalizations, and deaths from March 05, 2020 to December 31, 2020 by region.

Case, Hospitalization (Hosp), and Mortality Rate by Region



Region	Case	Case Rate	Hosp	Hosp Rate	Death	Mortality Rate
CHR	28,590	7,773	1,014	276	271	74
ETR	62,469	8,047	1,843	237	712	92
JMR	8,171	8,339	307	313	152	155
KKR	33,682	7,162	957	203	296	63
MCR	107,234	8,039	3,325	249	1,035	78
MSR	67,115	7,161	4,255	454	900	96
NDR	62,039	8,937	2,116	305	566	82
NER	27,749	7,842	1,200	339	471	133
SCR	39,761	9,612	1,421	344	503	122
SER	28,649	8,452	1,071	316	336	99
SUL	11,002	6,948	651	411	178	112
UCR	36,354	10,088	1,429	397	506	140
WTR	53,008	10,070	1,711	325	811	154
UNKNOWN	19,682	_	382	-	170	-
TOTAL	585,505	8,572	21,682	317	6,907	101

This visualization highlights the number of COVID-19 cases, hospitalizations, and deaths from March 05, 2020 to December 31, 2020 by region. The rates were calculated per 100,000 population.

Case, Hospitalization (Hosp), and Mortality Percent by Race, Ethnicity, and Sex



Category	Category breakdown	Case	% Case	Hosp	% Hosp	Death	% Death
RACE	White	367,908	62.8%	13,905	59.9%	5,091	73.7%
	Black or African American	80,089	13.7%	5,272	27.1%	1,262	18.3%
	Asian	4,904	0.8%	149	1.0%	37	0.5%
	American Indian or Alaska Native	778	0.1%	33	0.2%	*	*
	Native Hawaiian or Other Pacific Islander	412	0.1%	18	0.1%	*	*
	Other/Multiracial	49,757	8.5%	1,420	7.9%	234	3.4%
	Unknown	81,657	13.9%	885	3.7%	271	3.9%
	Total	585,505	100.0%	21,682	100.0%	6,907	100.0%
ETHNICITY	Hispanic	41,503	7.1%	1,404	9.4%	220	3.2%
	Not Hispanic or Latino	402,935	68.8%	18,711	84.7%	6,070	87.9%
	Unknown	141,067	24.1%	1,567	5.9%	617	8.9%
	Total	585,505	100.0%	21,682	100.0%	6,907	100.0%
SEX	Male	270,781	46.2%	11,054	50.9%	3,724	53.9%
	Female	311,034	53.1%	10,599	48.9%	3,178	46.0%
	Unknown	3,690	0.6%	29	0.2%	5	0.1%
	Total	585,505	100.0%	21,682	100.0%	6,907	100.0%

This visualization highlights the number and percent of COVID-19 cases, hospitalizations, and deaths from March 05, 2020 to December 31, 2020 by race, ethnicity and sex. | *Death counts less than 20 have been suppressed due to data privacy.

Case, Hospitalization (Hosp), and Mortality Rate, by Race, Ethnicity, and Sex



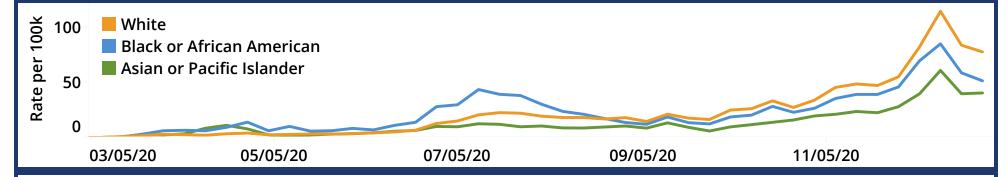
Category	Category Breakdown	Case	Case rate	Hosp	Hosp rate	Death	Mortality rate
RACE	White	367,908	6,871	13,905	260	5,091	95
	Black or African American	80,089	6,878	5,272	453	1,262	108
	Asian	4,904	3,658	149	111	37	28
	American Indian or Alaska Native	778	2,382	33	101	*	*
	Native Hawaiian or Other Pacific Islander	412	6,263	18	274	*	*
	Other/Multiracial	49,757	36,321	1,420	1,037	234	171
	Unknown	81,657	_	885	_	*	*
	Total	585,505	8,574	21,682	317	6,907	101
ETHNICITY	Hispanic	41,503	10,604	1,404	359	220	56
	Not Hispanic or Latino	402,935	6,259	18,711	291	6,070	94
	Unknown	141,067	_	1,567	_	617	_
	Total	585,505	8,574	21,682	317	6,907	101
SEX	Male	270,781	8,126	11,054	332	3,724	112
	Female	311,034	8,895	10,599	303	3,178	91
	Unknown	3,690	_	29	_	5	_
	Total	585,505	8,574	21,682	317	6,907	101

This visualization highlights the number of COVID-19 cases, hospitalizations, and deaths from March 05, 2020 to December 31, 2020 by race, ethnicity and sex. Rates were calculated per 100,000 population. | *Death counts less than 20 have been suppressed due to data privacy.

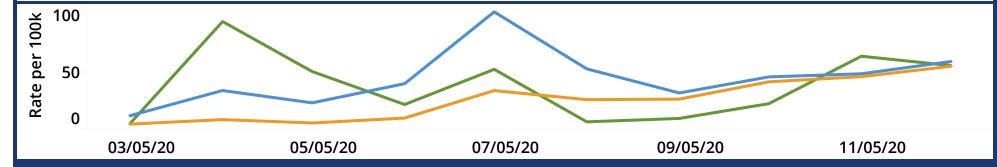
Case, Hospitalization, and Mortality Rates by Race



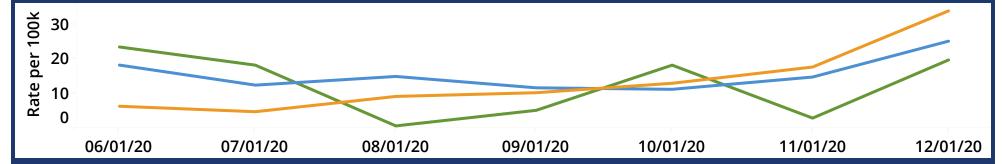
Case Rates per 100,000



Hospitalization Rates per 100,000



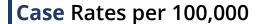
Mortality Rates per 100,000

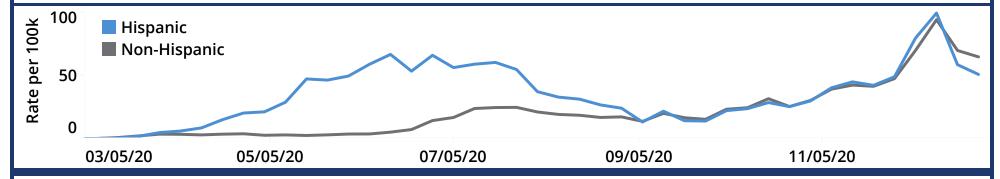


Black or African American (AA) individuals had higher case and mortality rates compared to Whites up until September 2020 when Whites had slightly higher case and mortality rates compared to Black/AA individuals. For hospitalizations overall, Black/AA individuals had higher rates compared to White and Asian American or Pacific Islander (AAPI) individuals in 2020.

Case, Hospitalization, and Mortality Rates by Ethnicity



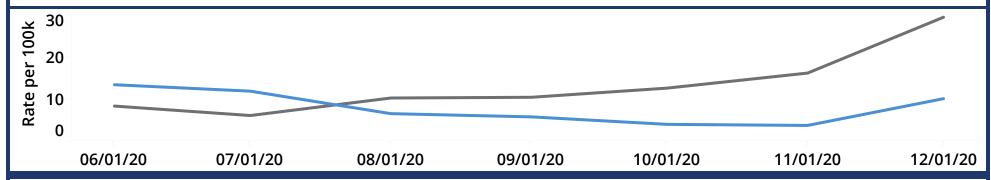




Hospitalization Rates per 100,000



Mortality Rates per 100,000

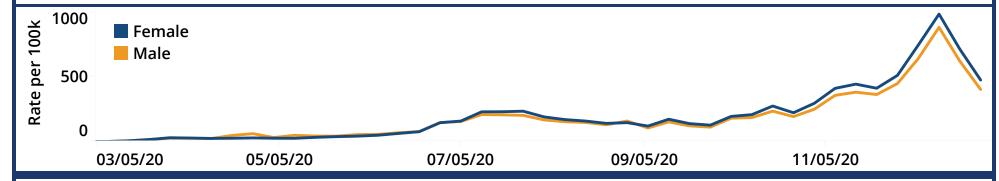


Hispanic individuals had higher case, hospitalization, and mortality rates initially compared to non-Hispanics until around August 2020. After August 2020, non-Hispanics had similar case rates and higher hospitalization and mortality rates relative to Hispanic individuals.

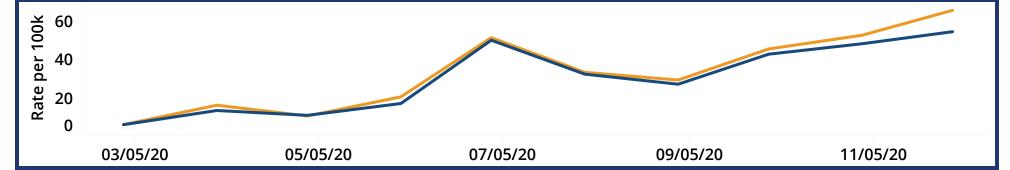
Case, Hospitalization, and Mortality Rates by Sex



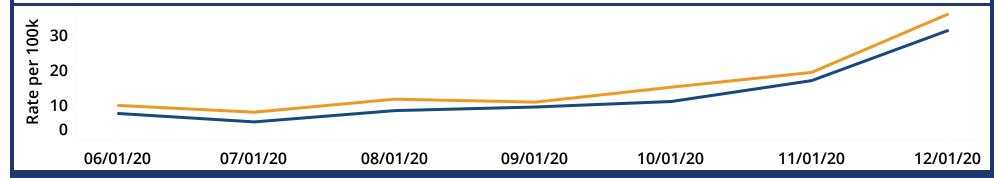




Hospitalization Rates per 100,000



Mortality Rates per 100,000



In 2020, COVID-19 case rates were higher in females than males, while hospitalization and mortality rates were higher in males than females.

Case, Hospitalization (Hosp), and Mortality Rates by Age Group



Age Range	Case	Case Rate	Hosp	Hosp Rate	Death	Mortality Rate
0-10 years	29,867	3,292	139	15	*	*
11-20 years	74,900	8,738	301	35	*	*
21-30 years	107,384	11,315	808	85	41	4
31-40 years	91,553	10,430	1,337	152	67	8
41-50 years	87,857	10,298	2,334	274	225	26
51-60 years	81,733	9,117	3,603	402	600	67
61-70 years	58,308	7,418	4,713	600	1,241	158
71-80 years	34,803	7,226	4,905	1,018	2,101	436
81+ years	18,369	8,324	3,539	1,604	2,620	1,187
Unknown	731	_	3	-	*	-
Total	585,505	8,574	21,682	317	6,907	101

This visualization highlights the number of COVID-19 cases, hospitalizations, and deaths from March 05, 2020 to December 31, 2020 by age. The rates were calculated per 100,000 population. | *Death counts less than 20 have been suppressed due to data privacy.

Case, Hospitalization (Hosp), and Mortality Percents by Age Group

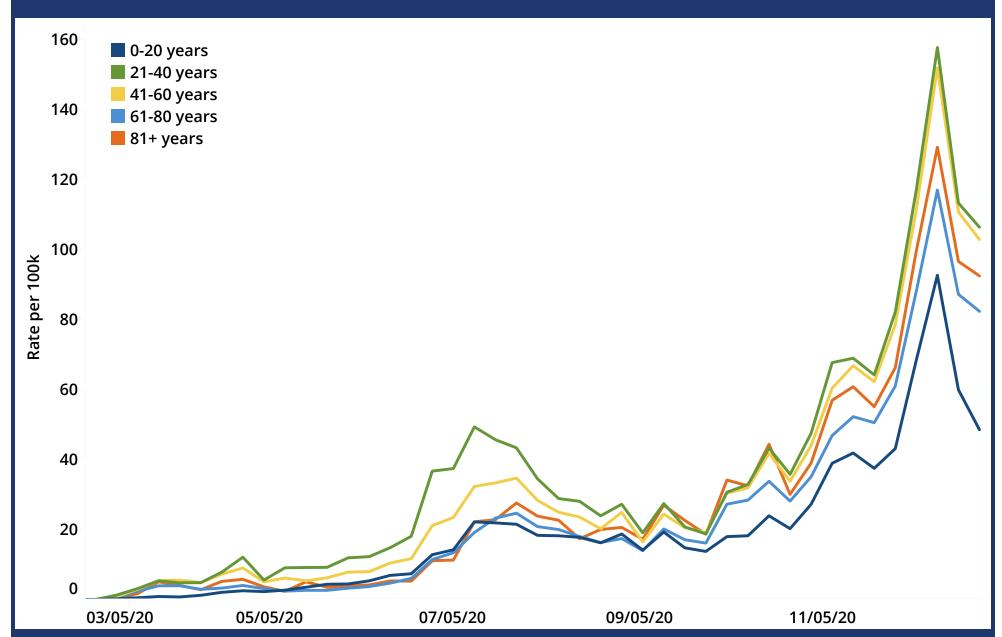


Age Range	Case	% Case	Hosp	% Hosp	Death	% Death
0-10 years	29,867	5.1%	139	0.7%	*	*
11-20 years	74,900	12.8%	301	1.5%	*	*
21-30 years	107,384	18.3%	808	4.3%	41	0.6%
31-40 years	91,553	15.6%	1,337	7.4%	67	1.0%
41-50 years	87,857	15.0%	2,334	12.1%	225	3.3%
51-60 years	81,733	14.0%	3,603	17.4%	600	8.7%
61-70 years	58,308	10.0%	4,713	20.7%	1,241	18.0%
71-80 years	34,803	5.9%	4,905	21.1%	2,101	30.4%
81+ years	18,369	3.1%	3,539	14.8%	2,620	38.0%
Unknown	731	0.1%	3	0.0%	*	*
Total	585,505	100.0%	21,682	100.0%	6,907	100.0%

This visualization highlights the number and percent of COVID-19 cases, hospitalizations, and deaths from March 05, 2020 to December 31, 2020 by age. | *Death counts less than 20 have been suppressed due to data privacy.

Case Rates by Age Group

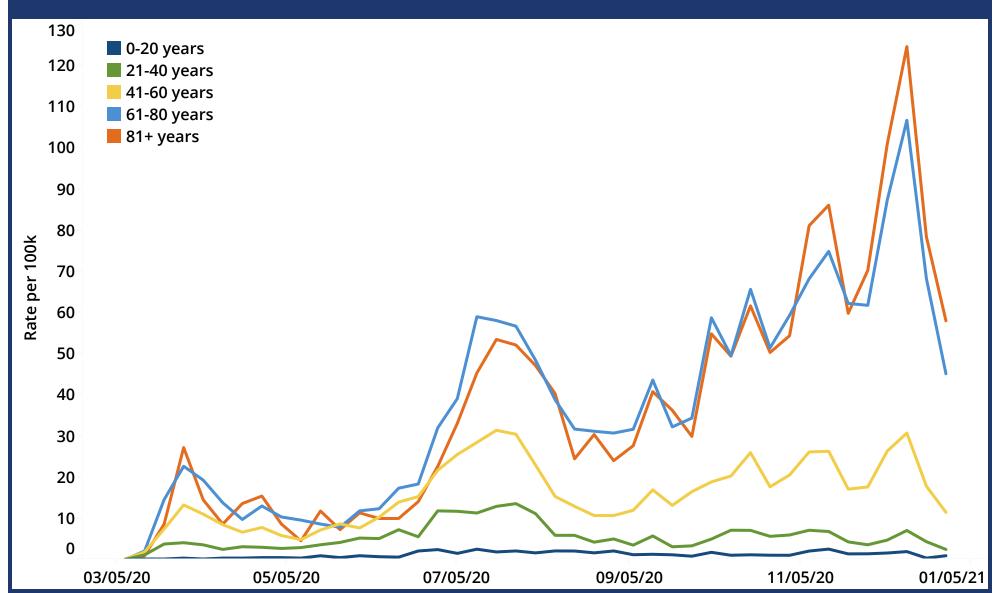




Individuals aged 21-40 years had the highest case rates followed by individuals 41-60, 81+, 61-80, and those under 20 years, who had the lowest case rate overall.

Hospitalization Rates by Age Group

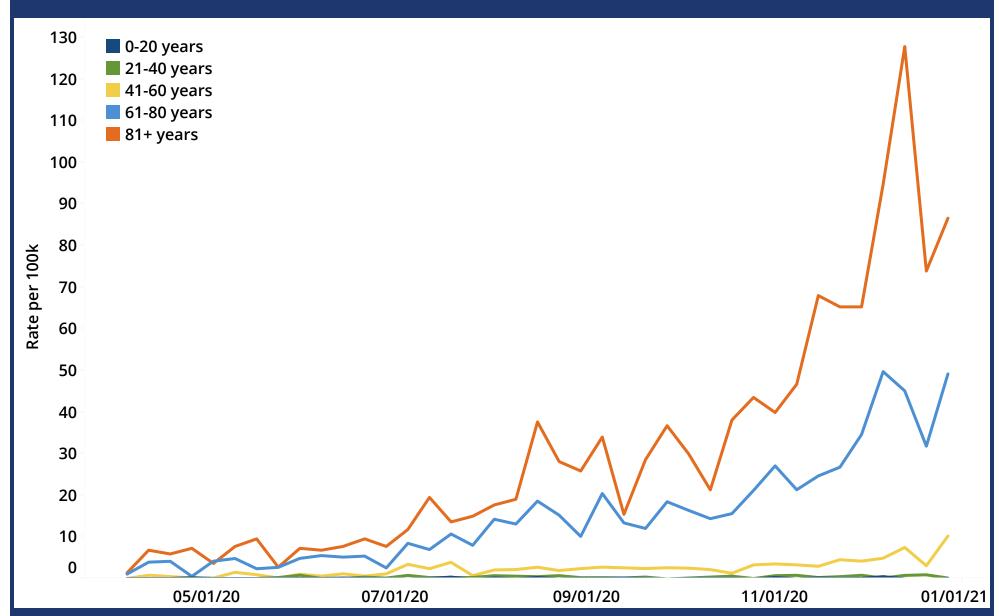




Individuals aged 61-80 years and 81+ had substantially higher hospitalization rates compared to those 60 years and younger. From March 2020 to December 2020, this difference widened. In particular, individuals aged 81+ had a 4-fold increased hospitalization rate compared to individuals 41-60 years and a more than 15-fold increased rate compared to individuals 21-40 years during the peak in December 2020.

Mortality Rates by Age Group





Individuals aged 81+ had the highest mortality rates followed by individuals aged 41-60 years. In particular, individuals aged 81+ had a 2-fold increased mortality rate compared to individuals 61-80 years and a 10-fold increased rate compared to individuals 41-60 years during the peak in December 2020.

Key Trends of COVID-19 in Tennessee Summary



The data for cases, hospitalization and deaths were derived from National Electronic Disease Surveillance System (NEDSS) Base System (NBS) and the population estimates were derived from 2019 American Community Survey (ACS) 1-Year population estimates. From March 05, 2020, to December 31,2020, Tennessee (TN) reported 585,505 cases of COVID-19 (case rate of 8,574), 21,682 hospitalizations (hospitalization rate of 317) and 6,907 deaths (mortality rate of 101). All rates were calculated per 100,000 population (100k). The case rates, hospitalization rates and mortality rates among the thirteen public health regions varied significantly. The case rates were lowest at 6,948 per 100k for SUL and highest at 10,088 per 100k for UCR. Similarly, the hospitalization and mortality rates varied with highest hospitalization rate in MSR and highest mortality rate in JMR at 454 and 155 per 100k respectively.

The population makeup by race for the state of TN is diverse; 78.4% Whites, 17.1% African Americans, 2.0% Asians, 2.0% Other/Multiracial, 0.5% American Indian/Alaskan Native, 0.1% Native Hawaiian and Pacific Islander. Race was missing for 14% of all reported 2020 cases. African Americans accounted for 13.7% of cases, 27.1% of hospitalizations, and 18.3% of deaths. The 2020 case rates for African Americans (6,878) and Native Hawaiian or Pacific Islander (6,263) were similar to Whites (6,871) though Whites accounted for 78.4% of the TN population when compared to African Americans at 17.1% and Native Hawaiian or Pacific Islander at 0.1%. The hospitalization rate and mortality rates among African Americans were 1.7 times and 1.1 times higher when compared to Whites.

Key Trends of COVID-19 in Tennessee Summary



Ethnicity data for COVID-19 was missing for 24% of all reported COVID-19 cases. Hispanic cases accounted for 7.1% of the 2020 cases, 9.4% of hospitalizations and 3.2% of deaths while only accounting for 5.7% of the TN population. Hispanic case rates per 100K were higher than non-Hispanics at 10,604 and 6,259, respectively. The hospitalization rate among Hispanics was 1.2 times higher when compared to non-Hispanics.

In Tennessee, males account for 48.8% of the population while females account for 51.2%. Among reported COVID-19 cases, 46.2% of cases were male, and 53.1% were female. Increased hospitalizations were seen among males when compared to females (4.0% males to 3.4% females). A similar pattern was seen among deaths where more males died from COVID-19 when compared to females (1.4% males to 1.0% females).

The population makeup by age for the state of TN is varied with the highest population among ages 21-30 years at 13.9% and the lowest among ages 81 years and older at 3.2%. The impact of COVID-19 was disproportionate among age groups in TN with older age groups taking the burden or severity of the disease in terms of hospitalization and deaths when compared to younger age groups. In 2020, 21-30-year-olds made up the highest percent of cases at 18.3% with the lowest percent of cases among 81 years and older at 3.1%. However, increased hospitalizations and deaths were seen among ages 81-years and older at 19.3% and 14.3%, respectively.

COVID-19 Variants



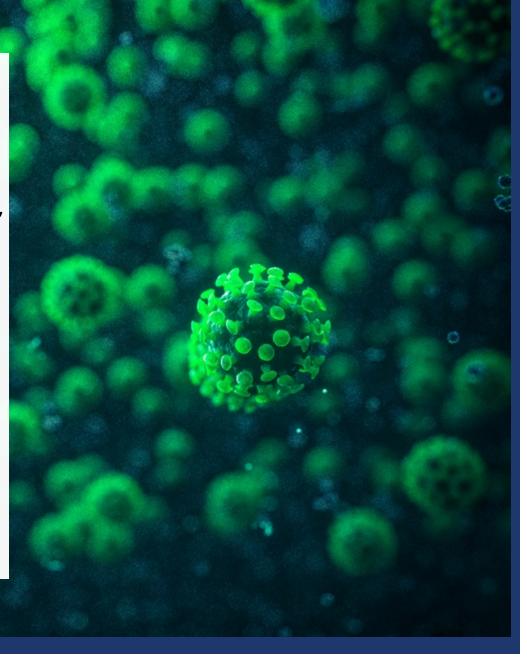
Genomic sequencing has been crucial to the COVID-19 public health response.

Reports of identified variants of concern, variants of interest or variants being monitored, as defined by CDC, are sent to TDH from facilities conducting genetic sequencing on Tennessee resident samples.

For more information about COVID-19 Variants and their classification as well as circulating variants please visit:

https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-classifications.html

https://covid.cdc.gov/covid-data-tracker/#variants- genomic-surveillance



COVID-19 Variants



Total Cases: 514,789

Total Cases Sequenced: 3,668

Percent Sequenced: 0.71%

COVID-19 Cases with Sequencing Results by County



Sequencing results of Top 5 Variants in 2020

Region	B.1.595	B.1.617.2 (Delta)	B.1.1.529 (Omicron)	B.1.1.7 (Alpha)	BA.1.1
CHR	*	*	*	*	0
ETR	*	24	*	*	*
JMR	0	0	*	0	0
KKR	0	*	*	0	0
MCR	1064	27	20	14	17
MSR	482	41	26	46	*
NDR	41	30	27	*	*
NER	0	18	*	*	*
SCR	42	*	*	*	*
SER	0	*	*	*	*
SUL	0	0	*	0	*
UCR	*	39	*	*	*
WTR	16	30	19	*	*
TOTAL	1649	236	117	88	50

*Counts less than 11 have been suppressed due to data privacy.

COVID-19 Hospital Utilization





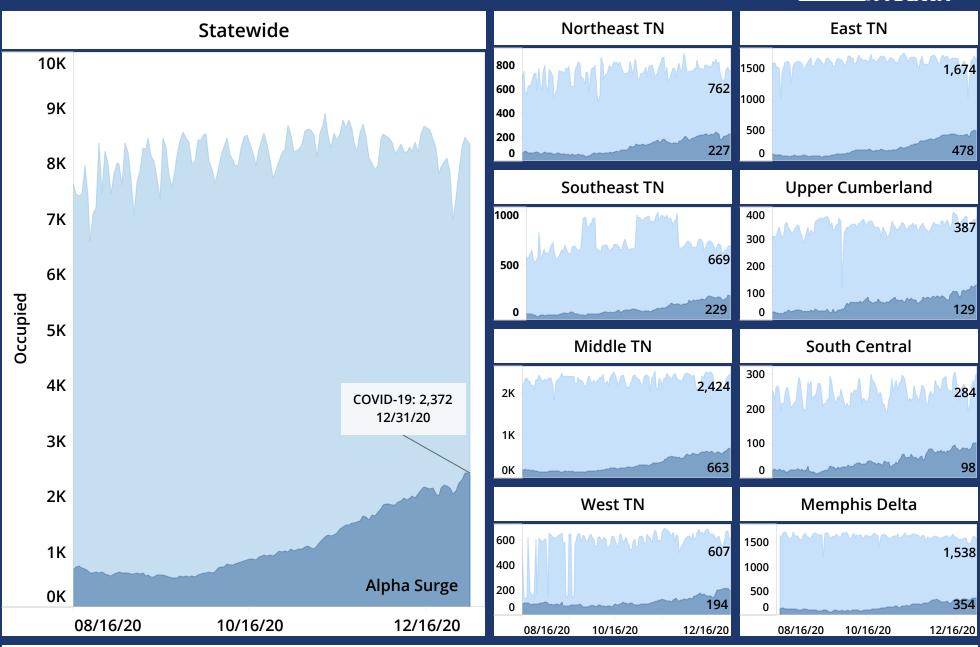
Hospital utilization data are from the Healthcare Resource Tracking System (HRTS). HRTS is a secure website used by Tennessee healthcare facilities and emergency managers to direct ill or injured patients to appropriate healthcare facilities in the event of an emergency or disaster. HRTS allows healthcare facilities to record and continually update their current availability of beds, specialty services, and resources providing state-wide awareness for emergency managers. The hospitalization data in this portion of the report are based on the bed occupancy per day. The number of hospitalized adults with diagnosed COVID-19 and non-COVID-19 diagnoses are compared to illustrate the impact of COVID-19 on the hospital infrastructure across Tennessee.

For more data on COVID-19 hospitalizations visit: https://www.tn.gov/health/cedep/ncov/data/hospitalization-data.html.

Hospital Utilization in Tennessee



Adult Floor Bed Hospital Patients (COVID-19 vs. Non-COVID-19)



This portion of the report details a comparison between COVID-19 hospitalizations and non-COVID-19 hospitalizations in TN among the Healthcare Coalitions and statewide. As of December 31, 2020, there were 2,372 COVID-19 adult hospitalizations.

COVID-19 Vaccinations





This portion of the report highlights COVID-19 vaccination data from the Tennessee Immunization Information System (TennIIS).

Providers administering COVID-19 vaccines are expected to report vaccine doses to TennIIS within 24 hours of administration and are required to report doses no later than 72 hours after administration. TennIIS does not collect data for COVID-19 vaccinations administered by the Bureau of Prisons (BOP), Department of Defense (DOD), Indian Health Service (IHS), and Veterans Health Administration (VHA).

The Food and Drug Administration approved emergency use authorizations for two-dose primary series of the COVID-19 vaccine for Pfizer on December, 11, 2020 and Moderna on December 17, 2020.

For more COVID-19 Vaccine information visit: https://www.tn.gov/health/cedep/ncov/covid-19-vaccine.html

COVID-19 Vaccine Administration

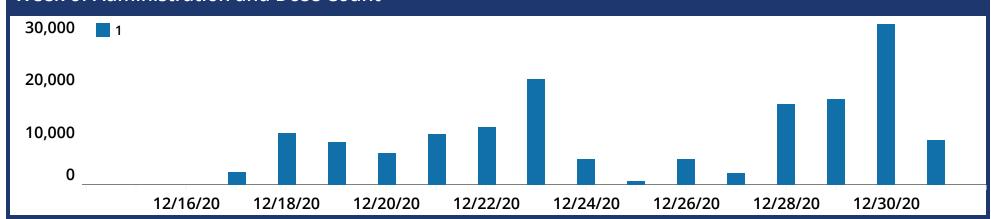


123,224

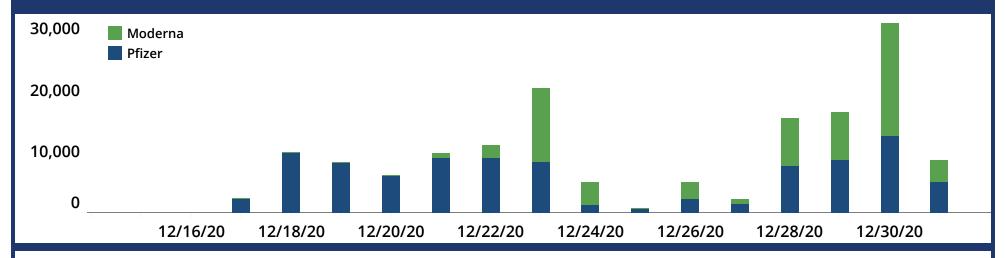
Total Vaccinations Reported

Number of COVID-19 Vaccine Doses Administered and Reported to TennIIS:

Week of Administration and Dose Count



Week of Adminstration and Vaccine Manufacturer



COVID-19 vaccines became available in TN in December 2020. Between December 17, 2020 and December 31, 2020, there were 123,244 vaccinations reported in TN with the first dose given at Vanderbilt Medical Center on December 16, 2020.

COVID-19 Vaccination Demographics

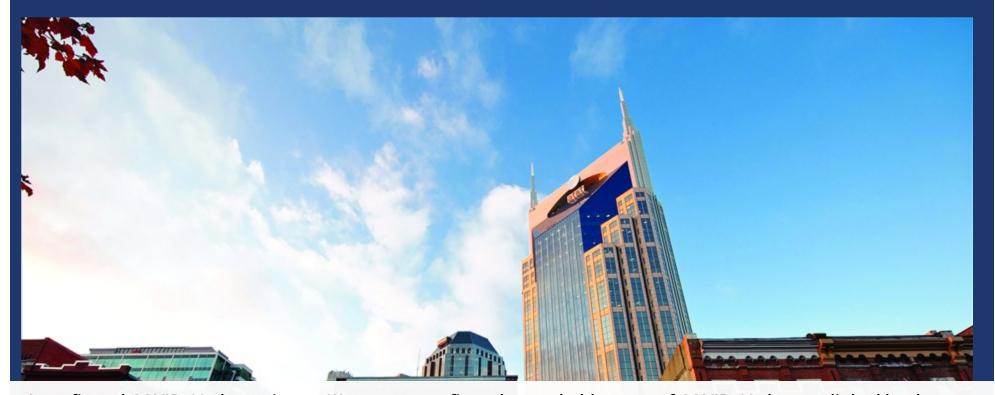


Category	Category Breakdown	People Vaccinated	Percent Vaccinated	Age Range	People Vaccinated	Percent Vaccinated
	White	56,563	46%	16-20 years	386	1%
	Black or African American	4,659	4%			
RACE	Asian	1,382	1%	21-30 years	16,252	13%
RACE	Other/Multiracial	6,851	6%	31-40 years	25,594	22%
	Unknown	53,769	43%			
	Total	123,224	100%	41-50 years	25,687	22%
	Hispanic	2,271	2%	51-60 years	26,687	21%
ET INICITY	Not Hispanic or Latino	79,286	64%			
ETHNICITY	Unknown	41,667	34%	61-70 years	18,049	12%
	Total	123,224	100%	71-80 years	6,940	5%
	Female	79,365	64%			
	Male	43,550	36%	81+ years	3,617	4%
SEX	Other	5	0%	Unknown	7	0%
	Unknown	304	0%		_	
	Total	123,224	100%	Total	123,224	100%

In TN from December 17, 2020 to December 31, 2020, there were 123,224 people vaccinated with the highest number of people vaccinated amongst White, non-Hispanic, and female demographic groups. During 2020, the highest number of people vaccinated were 31-40-year-olds and 41-50-year-olds.

COVID-19 Clusters





A confirmed <u>COVID-19 cluster</u> is two (2) or more confirmed or probable cases of COVID-19 that are linked by the same location of exposure (e.g., workplace, long-term care facility, grocery store, etc.) or exposure event (e.g., work party, vacation, etc.) within a 14-day period that is not a household or school-associated exposure.

For more information about COVID-19 and congregate care settings visit:

https://www.tn.gov/health/cedep/ncov/congregate-care-settings.html



COVID-19 Clusters

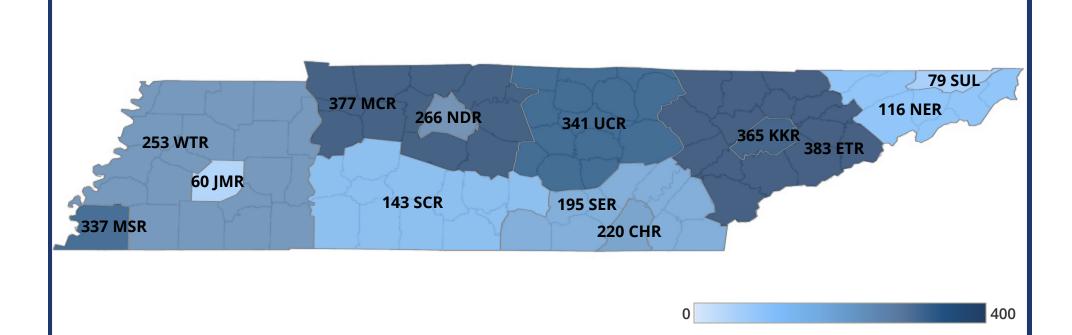


3,140Total Clusters

58,781Total Clustered Cases

2,576Total Cluster-Associated
Deaths

Clusters by Region



This visualization shows the sum of clusters by county from March 16, 2020 to December 31, 2020. The counties with the highest amount of clusters are Knox, Shelby, and Davidson. This could be due to these counties being more densely populated.

For more information visit: https://www.tn.gov/content/dam/tn/health/documents/cedep/novel-coronavirus/COVID19-Cluster-FAQs.pdf

COVID-19 Clusters by Facility Type

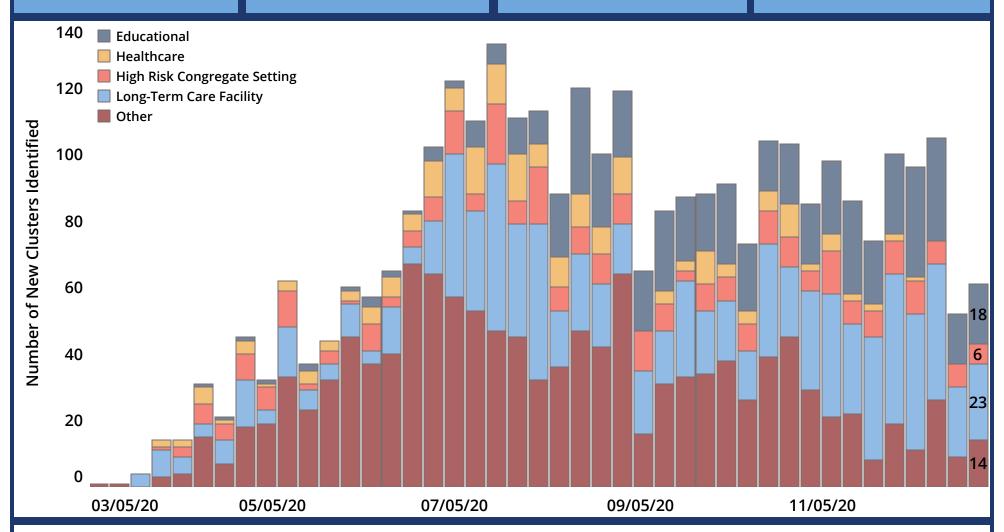


1,023Total LTCF Clusters

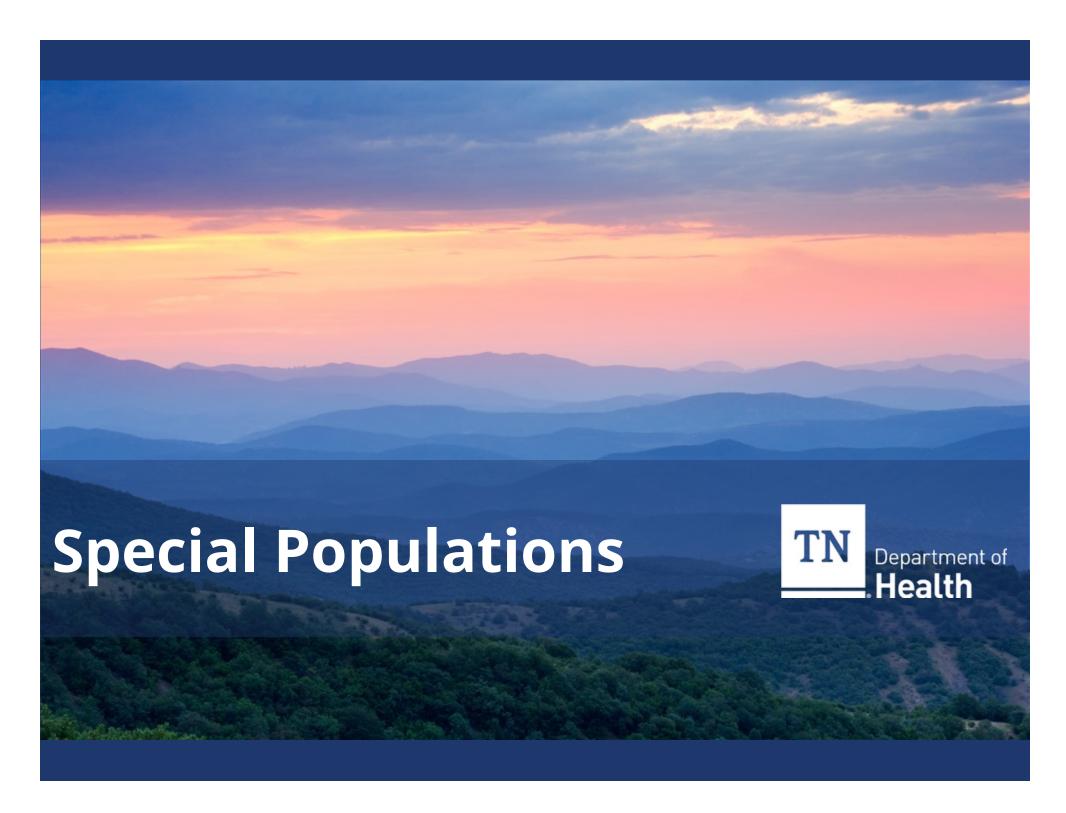
14,666Total Staff Cases

18,297Total Resident Cases

2,540Total Resident Deaths



This bar chart shows the number of new clusters identified by facility type from March 16, 2020 to December 31, 2020. For 2020, the group titled "other" is made up of workplace, community, food, and religious clusters. Long-term care facility and "other" make up the highest counts of clusters during 2020.



Health Disparities and Social Vulnerability Index





According to the CDC, "health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by populations that have been disadvantaged by their social or economic status, geographic location, and environment".

Social Vulnerability refers to the potential negative effects on communities caused by natural and human influenced disasters or disease outbreaks.

The CDC Social Vulnerability Index (SVI) ranks Census tracts and counties on 16 social factors including poverty and educational attainment, and ranks them into four themes: socioeconomic status, household characteristics, racial and ethnic minority status, and housing type/transportation. Each tract or county receives a ranking for each theme and one overall ranking based on all four themes. These rankings help emergency response planners and public health officials identify and map out communities that will likely need support before, during, and after a hazardous event.

For more information about health disparities vist: https://www.cdc.gov/healthequity/whatis/index.html

For more information about SVI visit: https://www.atsdr.cdc.gov/placeandhealth/svi/fact-sheet/fact-sheet.html



Health Disparities in Black or African American COVID-19 Cases, Hospitalizations, and Deaths

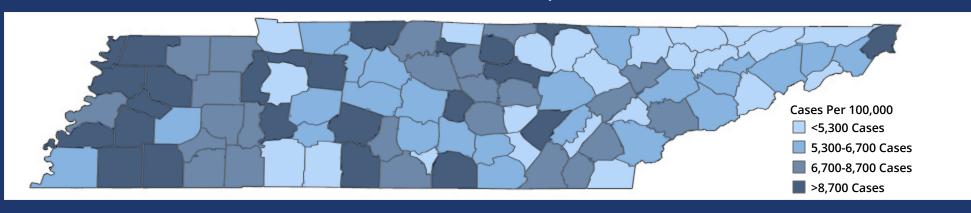


82,788Total Cases

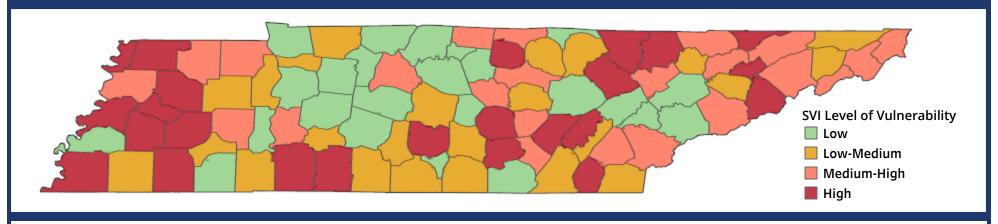
5,322Total Hospitalizations

1,719 Total Deaths

Black or African American COVID-19 Cases Per 100,000 | 03/05/2020-12/31/2020



CDC Social Vulnerability Index Rankings



Featured, is a side by side of SVI rankings for Tennessee and the total 2020 COVID-19 case rate in Black or African American (AA) populations to show the association between the effects on this community and potential support needed based on this disease outbreak.

Health Disparities in Black or African American COVID-19 Cases, Hospitalizations, and Deaths



Age Range	Black/AA Cases	% of Black/AA Cases	Black/AA Hosp	% Black/AA Hosp	Black/AA Deaths	% of Black/AA Deaths	
0-10 years	4,611	5.6%	34	0.7%	*	*	
11-20 years	9,780	11.8%	87	0.9%	*	*	
21-30 years	16,041	19.4%	278	1.7%	23	1.3%	
31-40 years	14,324	17.3%	468	3.3%	44	2.6%	
41-50 years	12,768	15.4%	718	5.6%	104	6.1%	
51-60 years	11,862	14.3%	1,107	9.3%	231	13.4%	
61-70 years	8,059	9.7%	1,268	15.7%	440	25.6%	
71-80 years	3,599	4.3%	879	24.4%	466	27.1%	
81+ years	1,704	2.1%	490	28.8%	409	23.8%	
Unknown	40	0.0%	1	2.5%	*	*	
Total	82,788	100.0%	5,322	100.0%	1,719	100.0%	
Sex	Black/AA Cases	% of Black/AA Cases	Black/AA Hosp	% Black/AA Hosp	Black/AA Deaths	% of Black/AA Deaths	
Female	46,943	56.7%	2,867	6.1%	813	47.3%	
Male	35,228	42.6%	2,456	7.0%	906	52.7%	
Unknown	617	0.7%	7	1.1%	0	0.0%	
Total	82,788	100.0%	5,322	100.0%	1,719	100.0%	

The above visualization highlights the number of cases, hospitalizations, and deaths in Black or African Americans by age groups and sex from March 5, 2020 to December 31, 2020. The highest percentage of cases were observed in young adult age groups (21-30 years) and in the female population. | *Counts less than 20 have been suppressed due to data privacy.

Health Disparities in Hispanic COVID-19 Cases, Hospitalizations, and Deaths

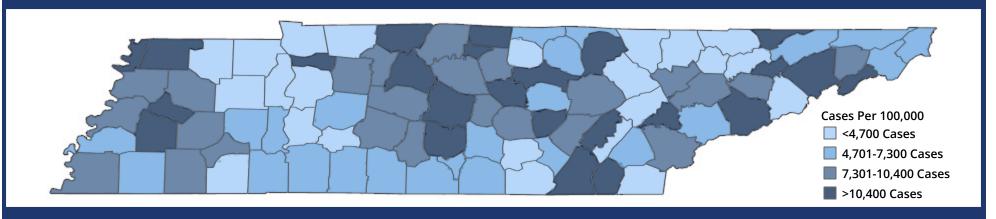


41,989 Total Cases

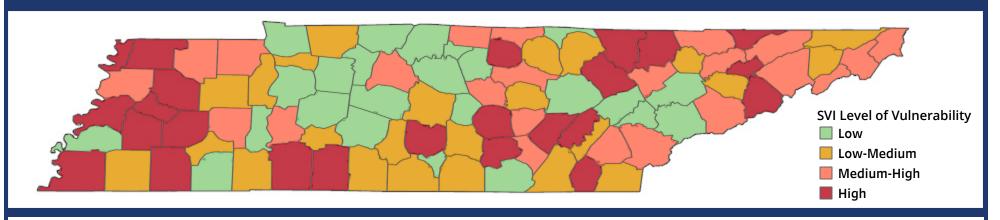
1,394Total Hospitalizations

268Total Deaths

Hispanic Total COVID-19 Cases Per 100,000 | 03/05/2020-12/31/2020



CDC Social Vulnerability Index Rankings



Featured, is a side by side of SVI rankings for Tennessee and the total 2020 COVID-19 case rate in Hispanic populations to show the association between the effects on this community and potential support needed based on this disease outbreak.

Health Disparities in Hispanic COVID-19 Cases, Hospitalizations, and Deaths

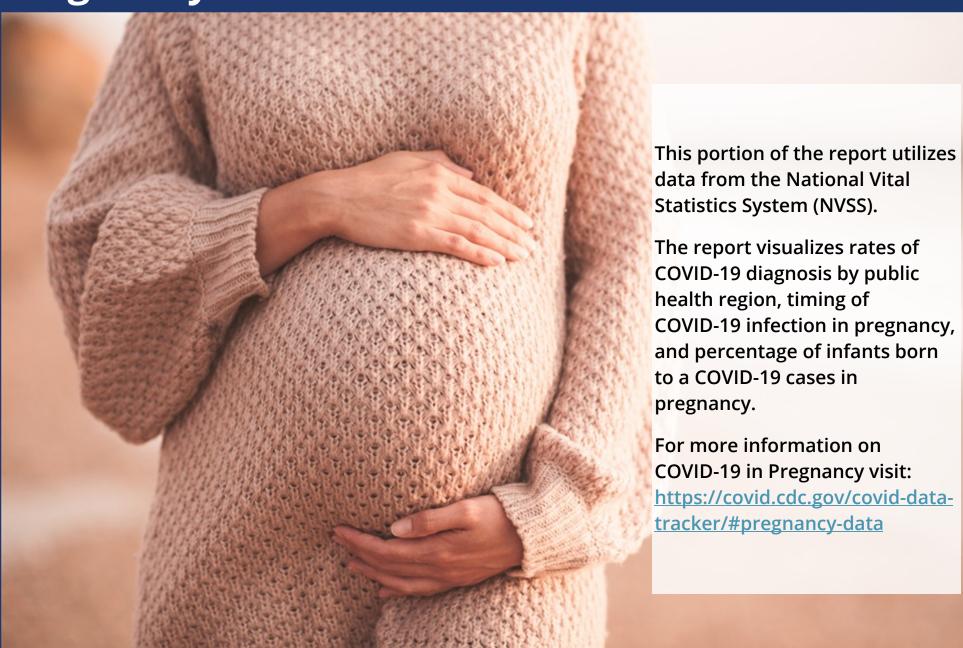


Age Range	Hispanic Cases	% of Hispanic Cases	Hispanic Hosp	% of Hispanic Hosp	Hispanic Deaths	% of Hispanic Deaths	
0-10 years	3,898	9.3%	36	0.9%	*	*	
11-20 years	6,983	16.6%	52	0.7%	*	*	
21-30 years	9,100	21.7%	134	1.5%	*	*	
31-40 years	9,281	22.1%	287	3.1%	*	*	
41-50 years	7,137	17.0%	362	5.1%	43	16.0%	
51-60 years	3,542	8.4%	261	7.4%	61	22.8%	
61-70 years	1,425	3.4%	143	10.0%	54	20.1%	
71-80 years	464	1.1%	73	15.7%	49	18.3%	
81+ years	179	0.4%	49	27.4%	37	13.8%	
Unknown	22	0.1%	0	0.0%	*	*	
Total	41,989	100.0%	1,394	100.0%	268	100.0%	
Sex	Hispanic Cases	% of Hispanic Cases	Hispanic Hosp	% of Hispanic Hosp	Hispanic Deaths	% of Hispanic Deaths	
Female	20,315	48.3%	623	3.1%	85	31.7%	
Male	21,336	50.8%	769	3.6%	183	68.3%	
Unknown	380	0.9%	5	1.3%	0	0.0%	
Total	41,989	100.0%	1,394	100.0%	268	100.0%	

The above visualization highlights the number of cases, hospitalizations, and deaths in the Hispanic population by age groups and sex from March 5, 2020 to December 31, 2020. The highest percentage of cases were observed in young adult age groups (31-40 years) and in the male population. | *Counts less than 20 have been suppressed due to data privacy.

Characteristics of COVID-19 in Pregnancy





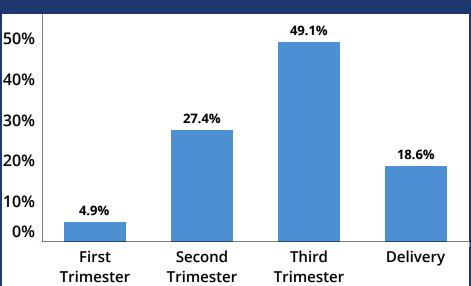
Characteristics of COVID-19 in Pregnancy*



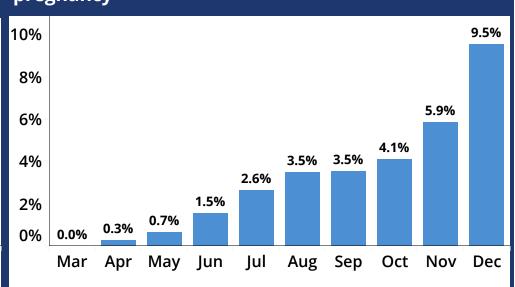
Rates of COVID-19 diagnosis in pregnancy by public health region



Timing of COVID-19 infection in pregnancy



Percentage of infants born to a COVID-19 case in pregnancy



From March 1, 2020 to December 30, 2020 there were 65,011 pregnancies completed in TN, of which 2,084 (3%) had a PCR-confirmed COVID-19 diagnosis in pregnancy.

^{*}Only pregnancies that have resulted in a live birth are included in these data; therefore, data for pregnancies that were ongoing at the time are not presented here.

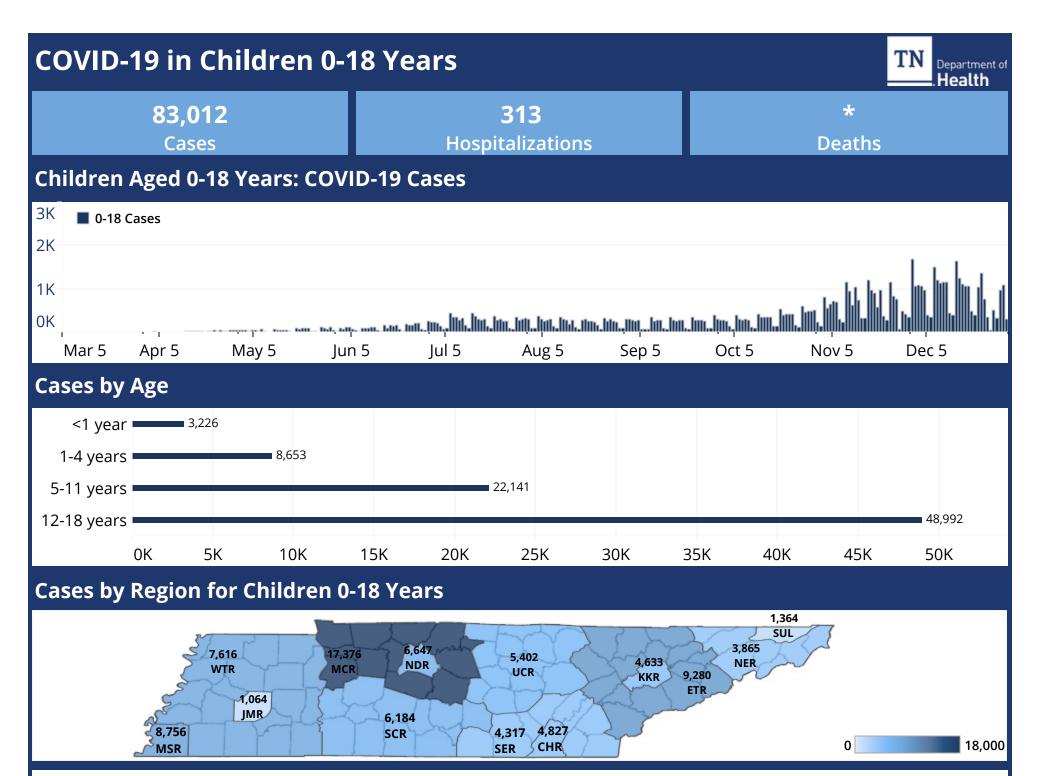
COVID-19 in Children 0-18





This portion of the report covers the COVID-19 numbers for school aged children 0-18 years. The report visualizes the number of 0-18 cases, 0-18 cases by age group, and 0-18 cases by region.

For more information on children 0-18 years in Tennessee visit: https://www.tn.gov/health/cedep/ncov/data/special-populations.html



These visualizations show the number of COVID-19 cases in 0-18 year olds by date, age group, and region. Overall cases in children 0-18 years began to rise towards the end of 2020. | *Counts less than 20 have been suppressed due to data privacy.

Multisystem Inflammatory Syndrome in Children (MIS-C)





According to the CDC, "Multisystem inflammatory syndrome (MIS) is a rare but serious condition associated with COVID-19 in which different internal and external body parts become inflamed, including the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal tract. MIS can affect children (MIS-C) and adults (MIS-A). MIS-C case definition includes people who are younger than 21 years old."

For present Tennessee data on MIS-C visit:

https://www.tn.gov/health/cedep/ncov/data/special-populations.html

For more information from the CDC on MIS-C visit:

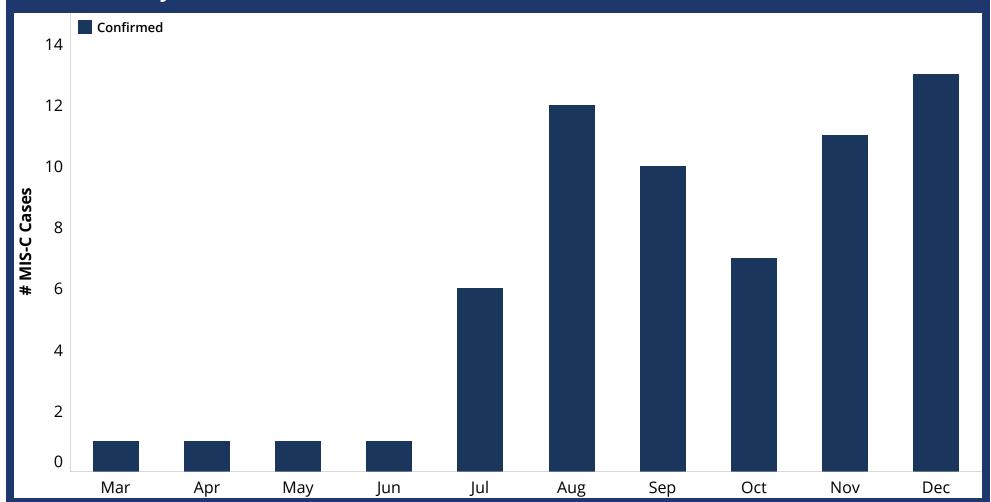
https://www.cdc.gov/mis/mis-c.html



Multi-System Inflammatory Syndrome in Children (MIS-C)



MIS-C Cases by Month



These visualizations highlight the number of MIS-C cases in 2020. MIS-C cases began to increase during the later months of 2020. There were overall small case numbers around the state and the majority of cases (n=18) were idenitfied in MSR. *Counts less than 11 have been suppressed due to data privacy.

Acknowledgments





Acknowledgments:

Dr. John Dunn Dr. Mary-Margaret Fill

COVID-19 Clusters Team
COVID-19 Wastewater Surveillance Team
Maternal and Child Health Team
TennIIS Data Quality and Management Team

COVID-19 Support Branch:
COVID-19 Case and Community Support Team
COVID-19 Data Entry Team
COVID-19 Data Quality Team
Genomic Surveillance Team

All staff who supported the TDH COVID-19 Pandemic Response County, Regional and Metropolitan Health Departments





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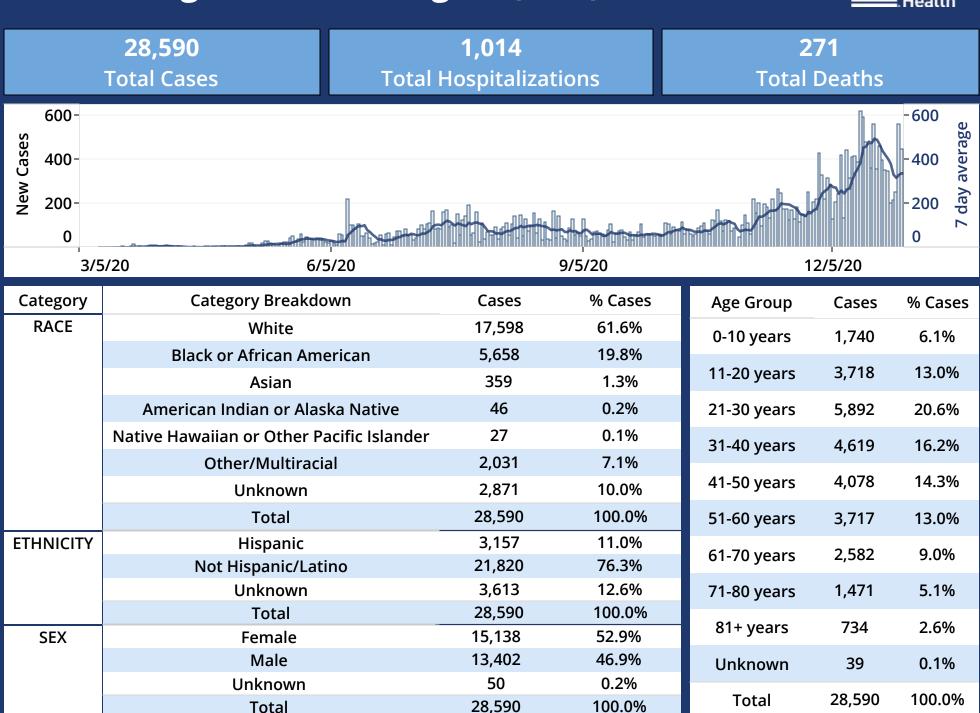
Centers for Disease Control and Prevention. (2022, October 26). CDC/ATSDR SVI Fact sheet. Place and Health. https://www.atsdr.cdc.gov/placeandhealth/svi/fact_sheet/fact_sheet.html

Centers for Disease Control and Prevention. (2022, September 30). What is the NEDSS base system (NBS)? National Electronic Disease Surveillance System Base System (NBS). https://www.cdc.gov/nbs/ overview/index.html



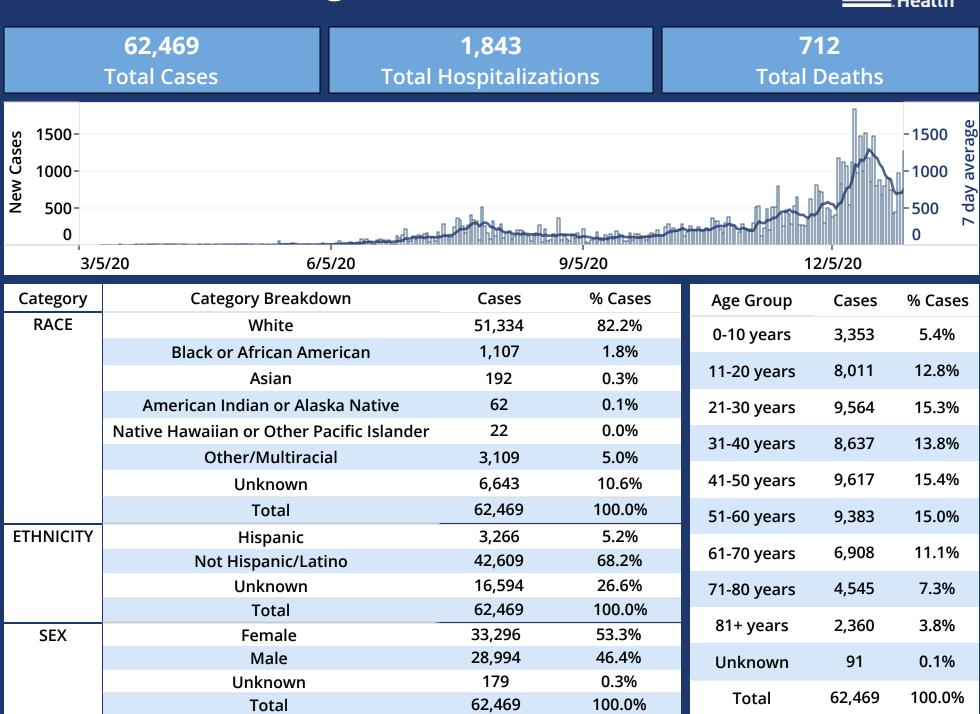
Chattanooga Hamilton Region (CHR)





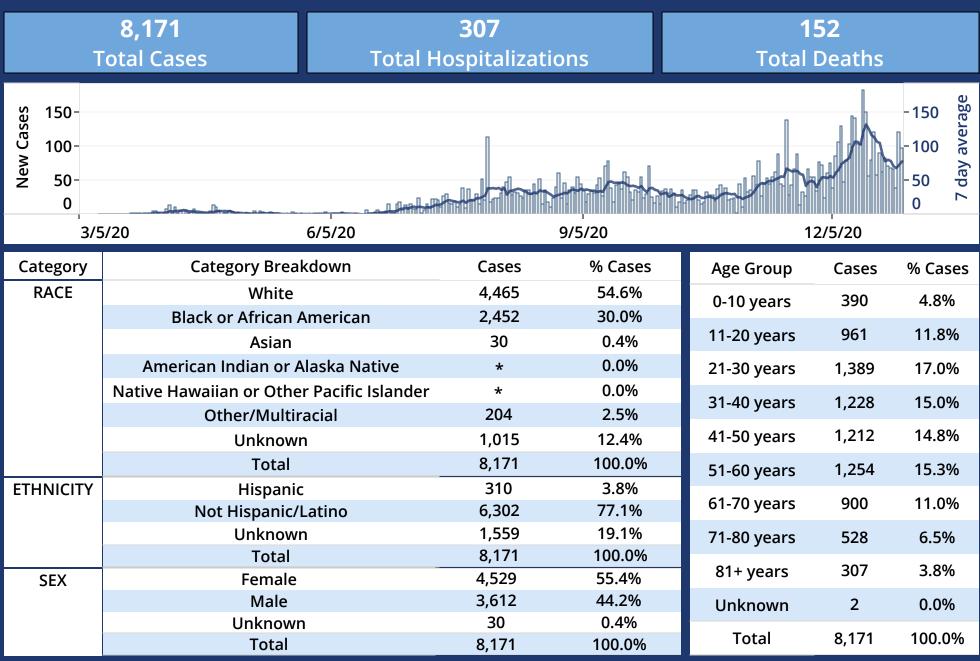
East Tennessee Region (ETR)





Jackson Madison Region (JMR)

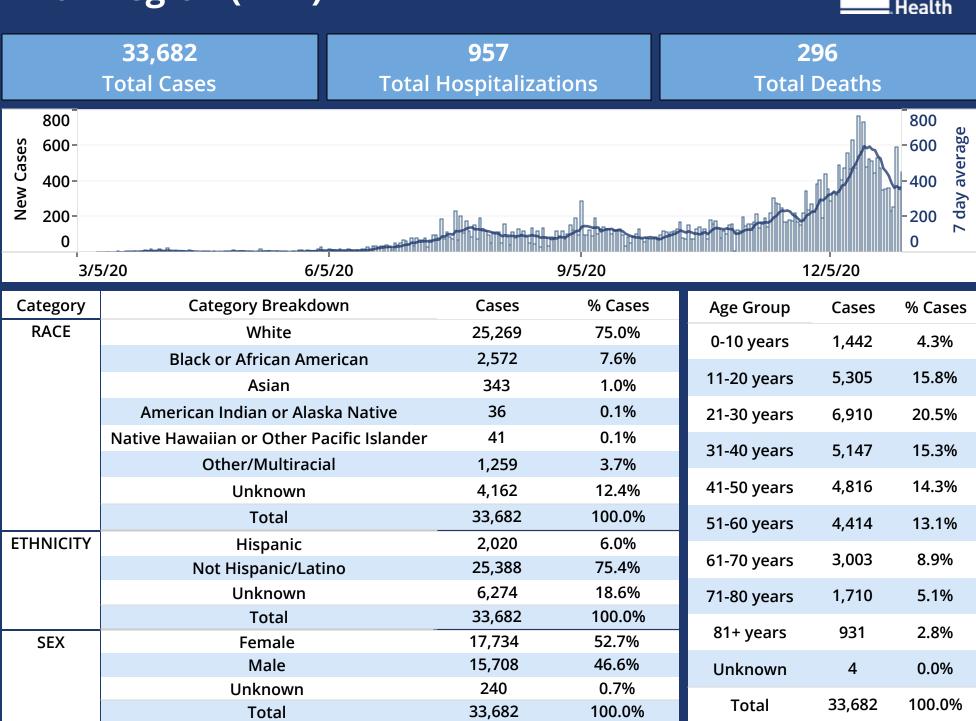




^{*}Counts less than 11 have been supressed due to data privacy.

Knox Region (KKR)





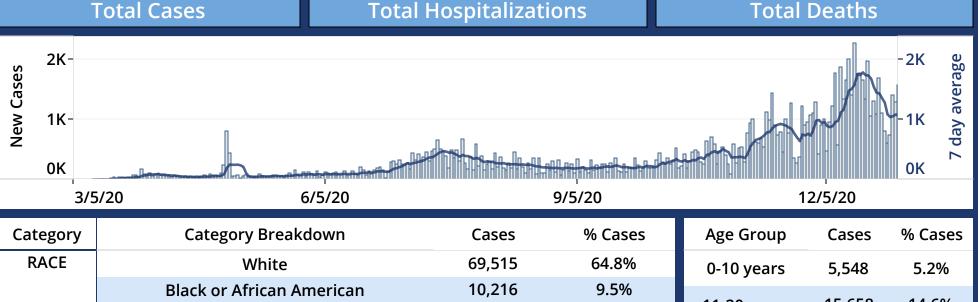
Mid Cumberland Region (MCR)



107,234 Total Cases

3,325Total Hospitalizations

1,035Total Deaths



Category	Category Breakdown	Cases	% Cases	Age Group	Cases	% Cases
RACE	White	69,515	64.8%	0-10 years	5,548	5.2%
	Black or African American	10,216	9.5%	11 20	1E CE0	14.60/
	Asian	1,389	1.3%	11-20 years	15,658	14.6%
	American Indian or Alaska Native	155	0.1%	21-30 years	18,653	17.4%
	Native Hawaiian or Other Pacific Islander	128	0.1%	31-40 years	17,527	16.3%
	Other/Multiracial	9,687	9.0%	,	•	
	Unknown	16,144	15.1%	41-50 years	17,530	16.3%
	Total	107,234	100.0%	51-60 years	14,894	13.9%
ETHNICITY	Hispanic	8,617	8.0%	61.70 years	9,414	8.8%
	Not Hispanic/Latino	69,213	64.5%	61-70 years	3,414	0.070
	Unknown	29,404	27.4%	71-80 years	5,270	4.9%
	Total	107,234	100.0%	01	2.601	2.50/
SEX	Female	56,299	52.5%	81+ years	2,681	2.5%
	Male	50,098	46.7%	Unknown	59	0.1%
	Unknown	837	0.8%		407.004	400.00/
	Total	107,234	100.0%	Total	107,234	100.0%

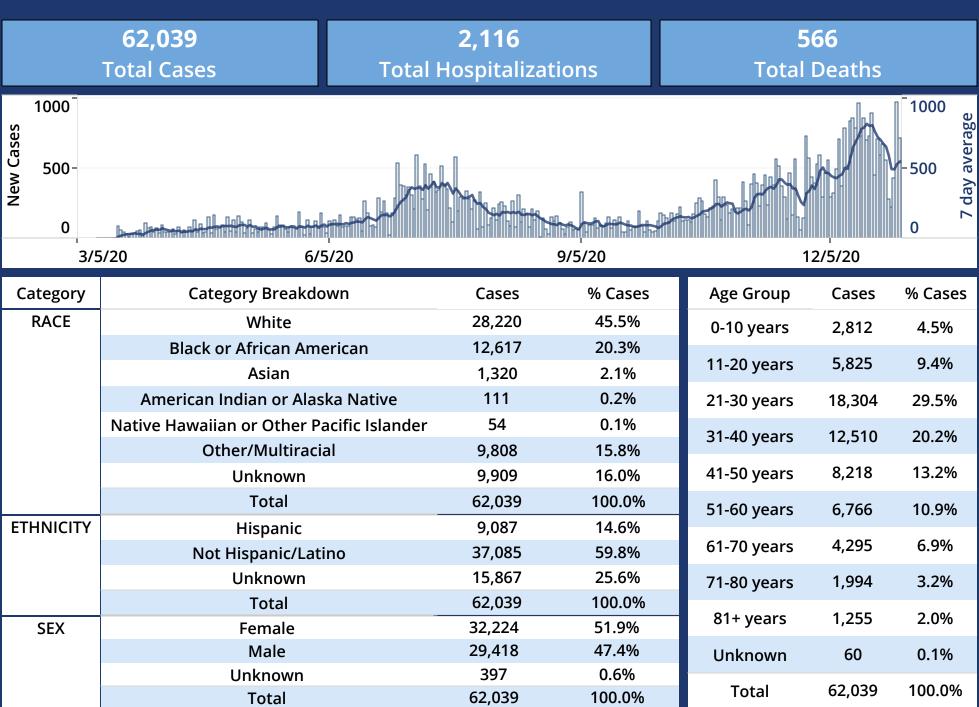
Memphis Shelby Region (MSR)



67,115 4,255 900 **Total Hospitalizations Total Cases Total Deaths** 1000--1000 7 day average **New Cases** 500-0 3/5/20 6/5/20 9/5/20 12/5/20 Category Category Breakdown % Cases Age Group % Cases Cases Cases **RACE** 23.5% White 15,758 0-10 years 3.245 4.8% 30,574 45.6% **Black or African American** 7,445 11.1% 11-20 years 625 0.9% Asian American Indian or Alaska Native 154 0.2% 21-30 years 13,406 20.0% Native Hawaiian or Other Pacific Islander 21 0.0% 11,710 31-40 years 17.4% Other/Multiracial 7.735 11.5% 10,443 15.6% 41-50 years 12,248 18.2% Unknown 67,115 100.0% **Total** 51-60 years 9,606 14.3% **ETHNICITY** 6,251 Hispanic 9.3% 61-70 years 6.380 9.5% Not Hispanic/Latino 63.8% 42,815 26.9% Unknown 18,049 3,111 71-80 years 4.6% 67,115 **Total** 100.0% 81+ years 1,741 2.6% SEX 55.2% **Female** 37,055 29,271 Male 43.6% Unknown 28 0.0% Unknown 1.2% 789 67,115 Total 100.0% Total 67,115 100.0%

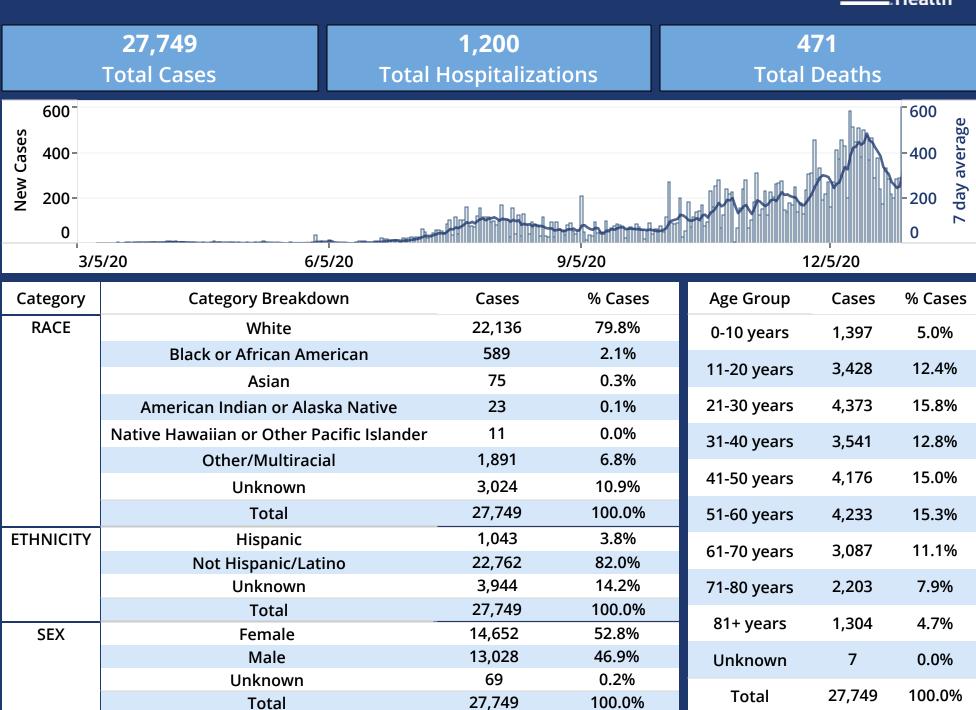
Nashville Davidson Region (NDR)





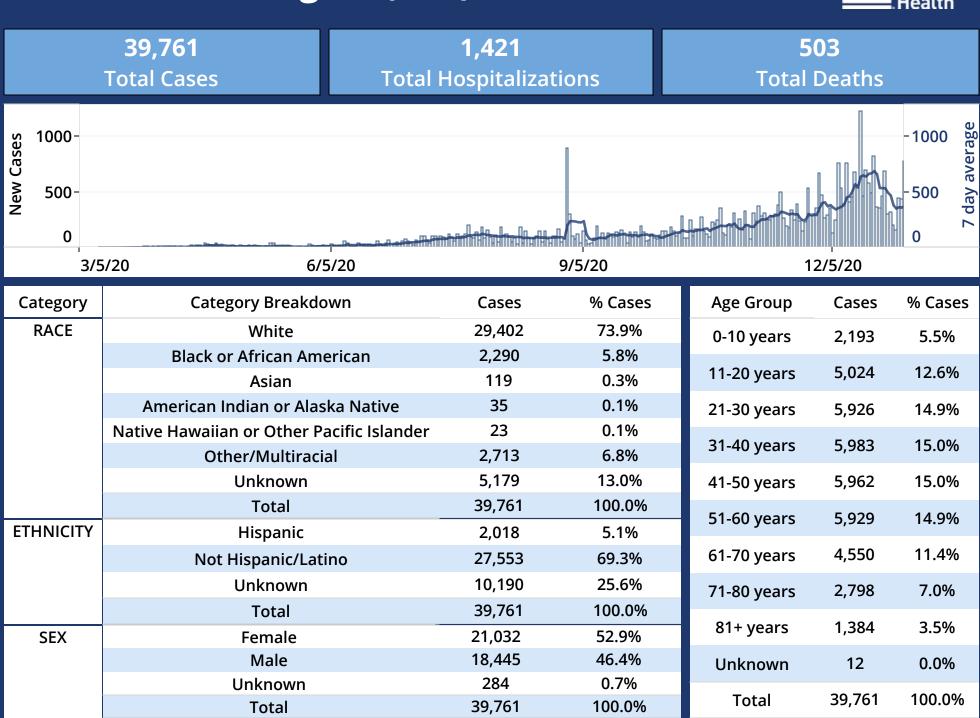
Northeast Region (NER)





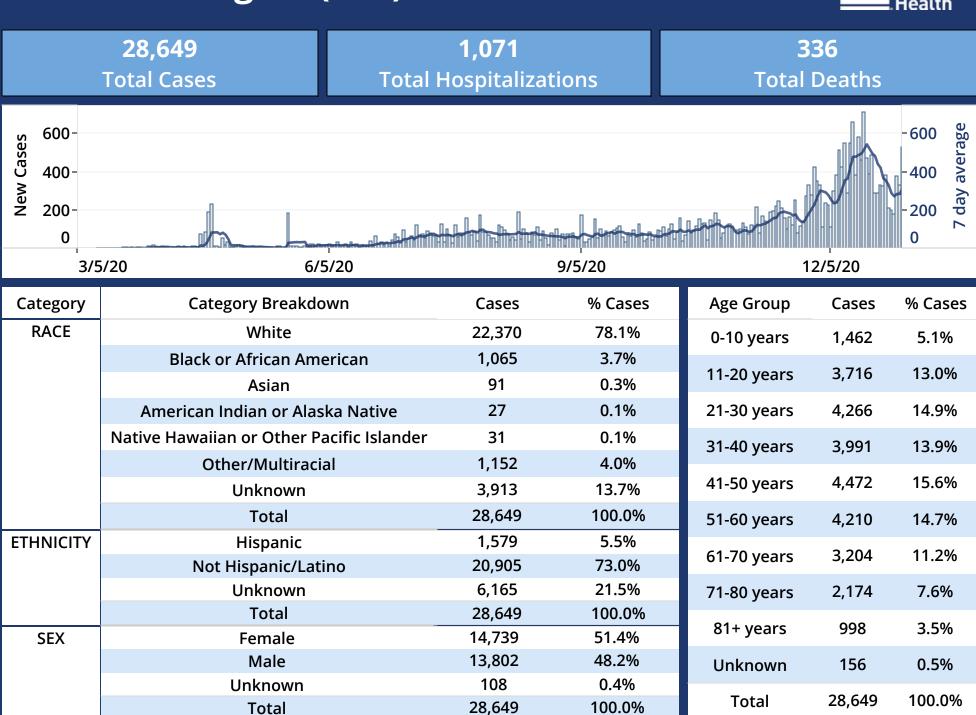
South Central Region (SCR)





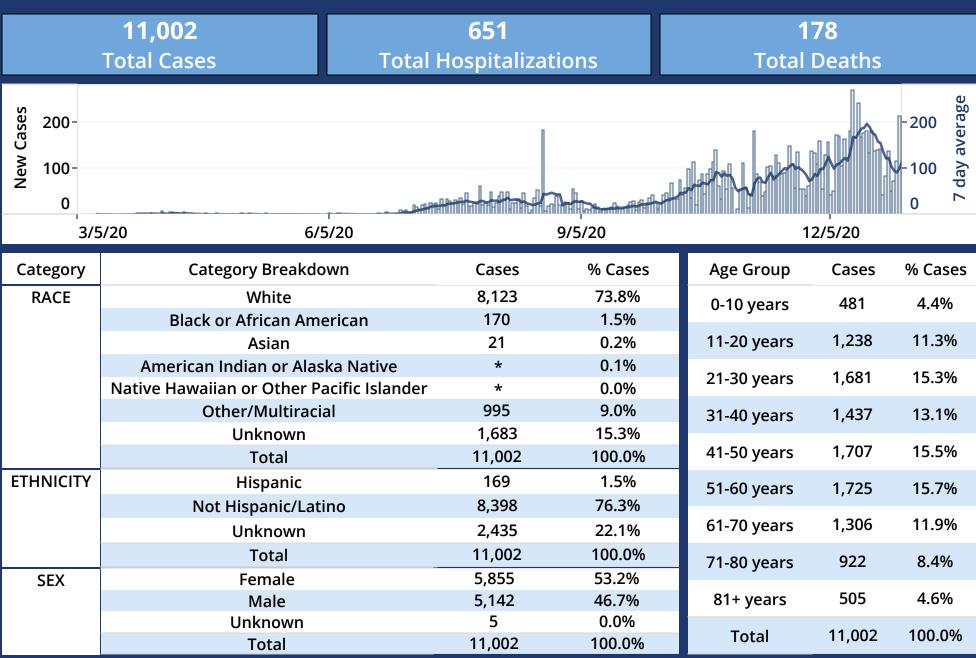
Southeast Region (SER)





Sullivan Region (SUL)

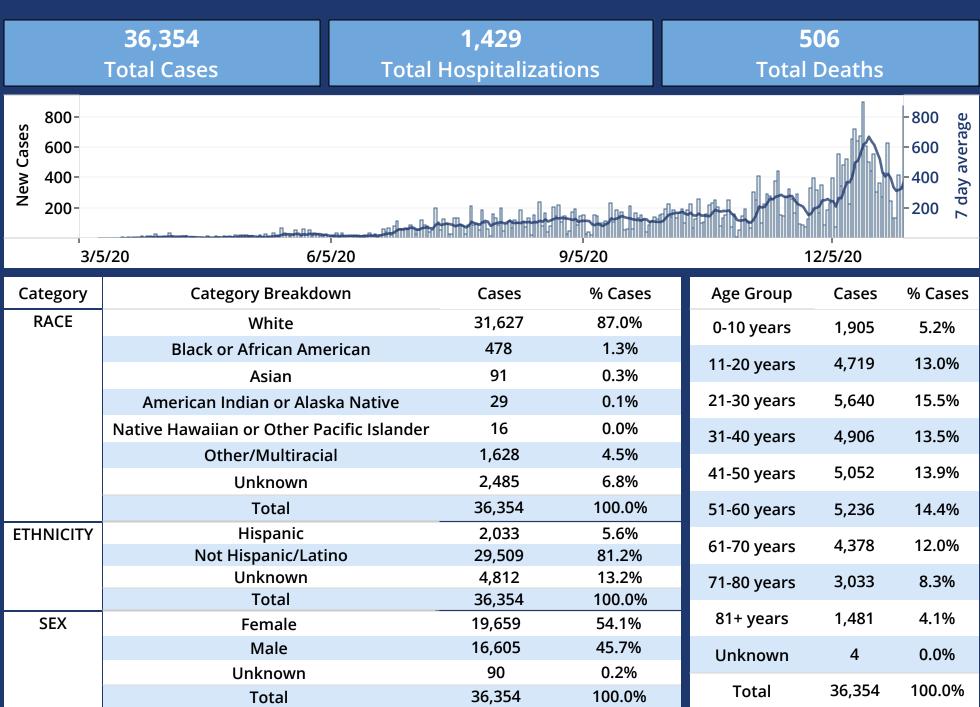




^{*}Counts less than 11 have been supressed due to data privacy.

Upper Cumberland Region (UCR)





West Region (WTR)



