COVID-19 Update September 16, 2021

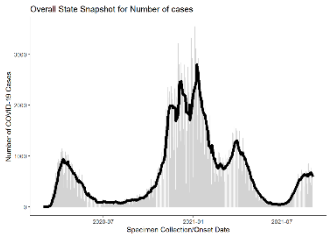
As of **September 15, 2021**, the total of laboratory-confirmed and probable COVID-19 cases reported among Connecticut residents is **382798**, including **347255** laboratory-confirmed and **35543** probable cases. **Three hundred twenty-five** patients are currently hospitalized with laboratory-confirmed COVID-19; of these, 237 (72.9%) are not fully vaccinated. There have been **8447** COVID-19-associated deaths.

Overall Summary	Total*	Change Since Yesterday
COVID-19 Cases (confirmed and probable)	382798	+1066
COVID-19 Tests Reported (molecular and antigen)	10812091	+36180
Daily Test Positivity*		2.95%
Patients Currently Hospitalized with COVID-19	325	-3
	Total	Change since 9/09/2021
COVID-19-Associated Deaths**	8447	+31

*Includes confirmed plus probable cases

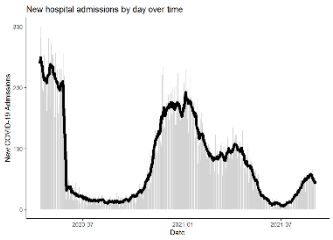
**Based on data reported through 9/13/2021

Cases



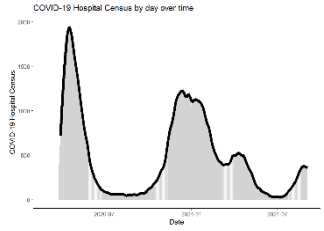
Total Cases: 382,798

Admissions



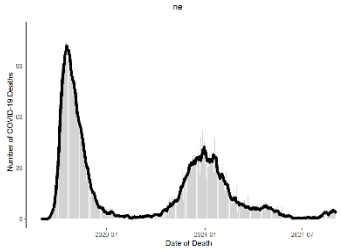
Total Hospitalizations: 39,013

Hospital Census



Hospital Census: 9/15/2021: 325

Deaths



Total Deaths: 8447

All data are preliminary and subject to change.

New COVID-19 cases in the past 7 days by vaccination status

Status	Case Count	Percent
New Cases	2627	
Not Fully Vaccinated	1848	70.3
Fully Vaccinated	779	29.7

COVID-19 Cases and Associated Deaths by County of Residence as of 09/15/21.

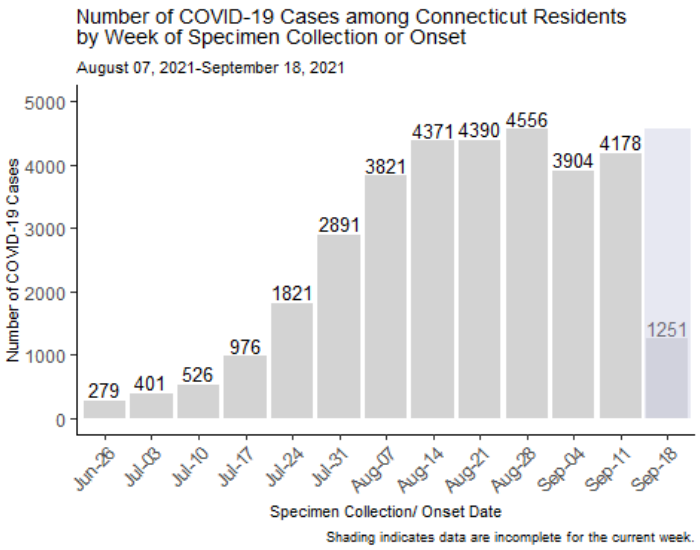
County	COVID-19 Cases		COVID-19-Associated Deaths	
	Confirmed	Probable	Confirmed	Probable
Fairfield County	97,753	10,568	1,803	435
Hartford County	86,434	7,007	2,049	448
Litchfield County	14,143	2,010	263	39
Middlesex County	12,779	1,402	291	88
New Haven County	90,001	11,034	1,879	302
New London County	23,962	1,713	357	102
Tolland County	9,645	1,038	151	40
Windham County	11,432	580	155	43
Pending address validation	1,106	191	2	0
Total	**347255**	**35543**	**6950**	**1497**

National COVID-19 statistics and information about preventing spread of COVID-19 are available from the Centers for Disease Control and Prevention.

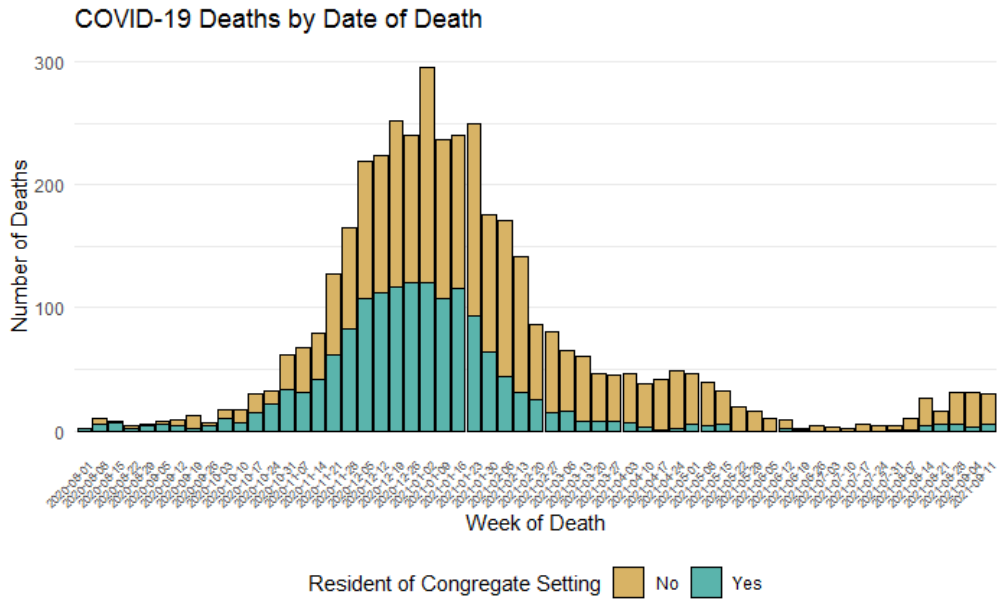
Day-to-day changes reflect newly reported cases, deaths, and tests that occurred over the last several days to week. All data in this report are preliminary; data for previous dates will be updated as new reports are received and data errors are corrected. Hospitalization data were collected by the Connecticut Hospital Association. Deaths reported to either OCME or DPH are included in the daily COVID-19 update.

COVID-19 Cases and Deaths Over Time

The chart below shows the number of new COVID-19 cases reported to CT DPH by week of specimen collection or onset of illness. Case data now includes probable cases based on positive antigen test results. During the past two weeks (August 29-September 11), there were 8082 new COVID-19 cases, including cases among people residing in the community and congregate settings, such as nursing homes, managed residential communities, and correctional facilities.



The graph below shows the number of COVID-19 associated deaths since August 1, 2020 by week of death and whether the person was residing in a congregate setting, such as a nursing home, managed residential community, or correctional facility.

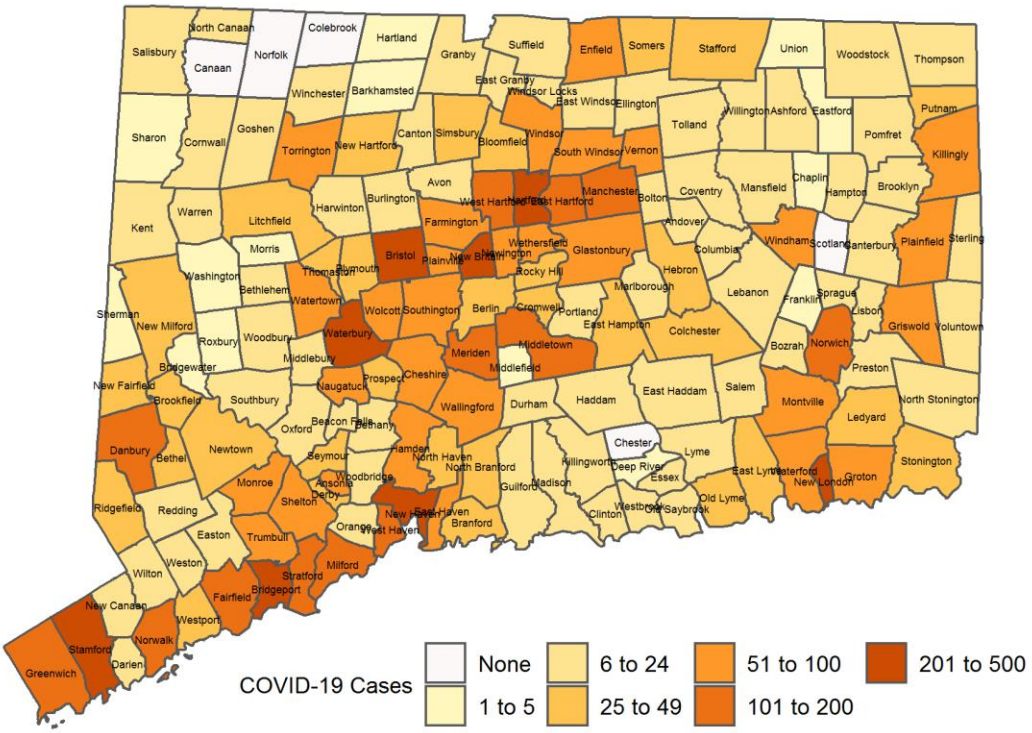


Community Transmission of COVID-19

Among 8082 new COVID-19 cases with specimen collection or onset date during August 29-September 11, there were 8037 cases among people living in community settings, as shown in the map below. This corresponds to an average of 16.1 new COVID-19 cases per day per 100,000 population. Cases among people residing in nursing homes, assisted living facilities, and correctional facilities are excluded. Darker colors indicate towns with more cases.

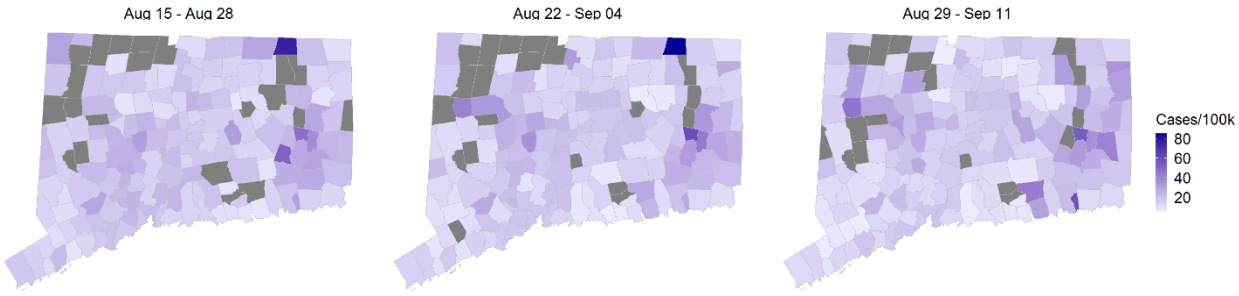
During this two-week period, there were more than 100 new COVID-19 cases in 21 towns.

Number of COVID-19 Cases among People Living in Community Settings by Town with Specimen Collection or Onset Date During August 29-September 11



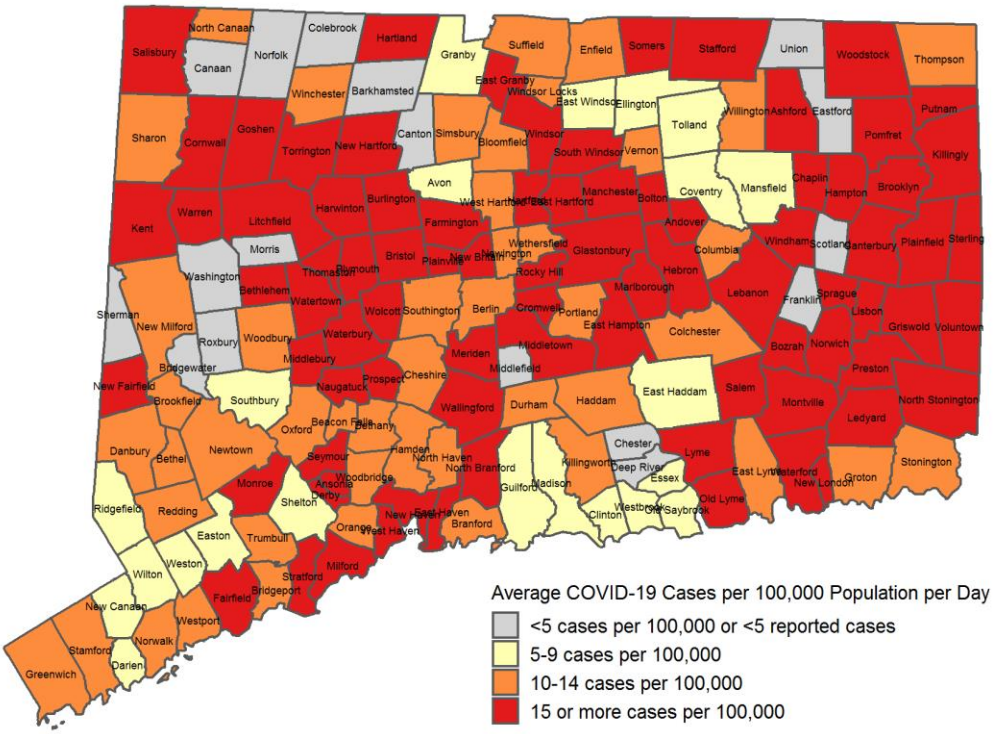
Map does not include 38 *cases pending address validation*

Because towns with larger populations are likely to have more cases, it is also important to look at the number of new cases per 100,000 population. The maps below show the average number of new cases per 100,000 population per day, with darker colors indicating higher rates. Cases among people residing in nursing homes, assisted living facilities, and correctional facilities are excluded.



Among towns with at least 5 new cases during August 29-September 11, 84 towns had an average rate of 15 or more cases per 100,000 population per day, shown in red in the map below.

Average Daily Rate of COVID-19 Cases among People Living in Community Settings per 100,000 Population by Town
with Specimen Collection or Onset Date During August 29-September 11



Map does not include 38 *cases pending address validation*

Epidemiology of COVID-19 by Vaccine Status

Methodology

Since February 2021, cases of COVID-19 among fully vaccinated persons (e.g., vaccine breakthrough cases) were identified based on a medical provider report to DPH identifying such cases. Recently, DPH developed a process that matches COVID-19 case data with the vaccine registry to determine which cases meet the definition of being fully vaccinated and are also vaccine breakthrough cases. A case of COVID-19 in a fully vaccinated person (e.g., vaccine breakthrough case) is defined as a person who has a positive PCR/NAAT or antigen test in a respiratory specimen collected ≥14 days after completing the final dose of an FDA-authorized or approved COVID-19 vaccine series and who did not have a previously positive COVID-19 test <45 days prior to the positive test currently under investigation. This newer process provides more accurate and complete data on the vaccine status of persons who have tested positive for COVID-19.

Data

As of September 16, 2021, 11,179 cases of COVID-19 among fully vaccinated persons in Connecticut have been identified. Of the 2,304,873 persons who have completed their vaccine series, 0.49 percent of Connecticut's fully vaccinated persons have contracted the virus.

Eighty-three COVID-19 related deaths have occurred among the 11,179 fully vaccinated persons confirmed with COVID-19. These deaths represent 8.2% of all COVID-19 deaths since 2/9/2021.

The table below shows cases and deaths among fully vaccinated persons by age group.

Cases and Deaths Among Fully Vaccinated Persons by Age Group

Age groups	# (%) Cases	# (%) Deaths
<=15	135 (1.2%)	
16-24	1275 (11.4%)	
25-34	1720 (15.4%)	
35-44	1768 (15.8%)	1 (1.2%)
45-54	1843 (16.5%)	2 (2.4%)
55-64	1934 (17.3%)	8 (9.6%)
65-74	1297 (11.6%)	6 (7.2%)
75+	1207 (10.8%)	66 (79.5%)
TOTAL	11,179	83

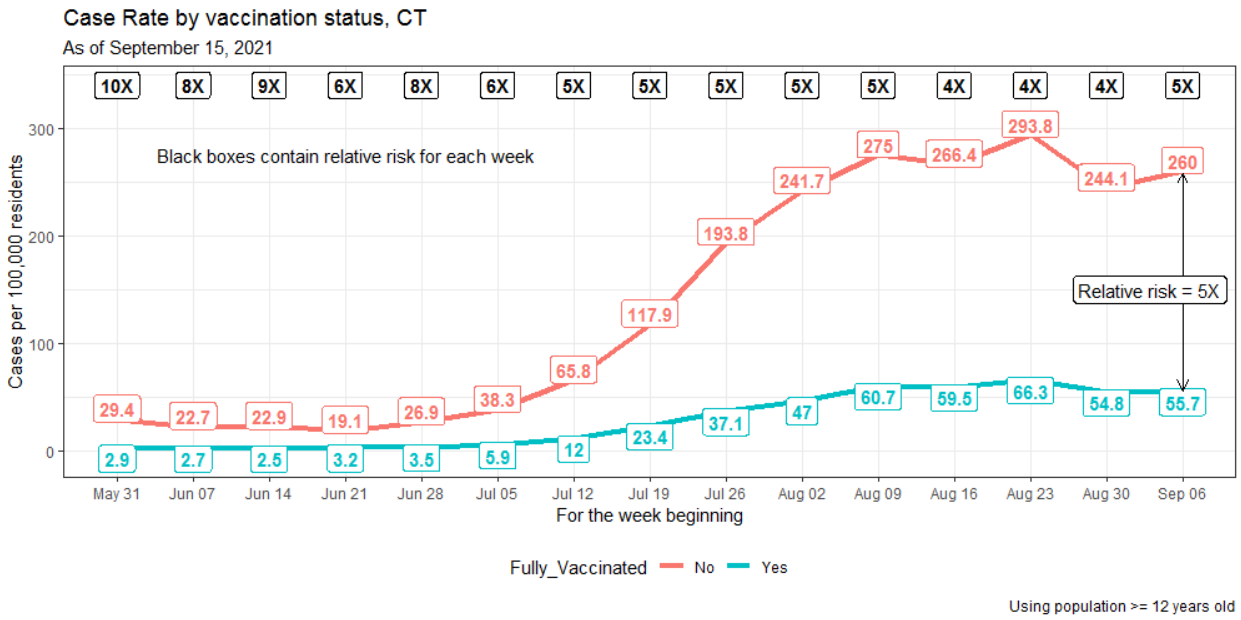
The figures below show the difference in COVID-19 case rates, death rates and hospitalization rates based on the vaccine status of affected persons from February–August 2021. For hospitalizations, data from COVID-NET, which focuses on hospitalizations among residents of New Haven and Middlesex counties, are used because they are the most complete and up-to-date.

The risk of being infected, hospitalized or dying from COVID-19 has changed over time. The risk is higher when there is more virus spreading from person to person; being vaccinated against COVID-19 decreases the risk. In June 2021, the amount of virus spreading was low which resulted in low rates of COVID-19 for both vaccinated and unvaccinated persons. Since then, COVID-19 case rates have increased significantly. The figures below show that COVID-19 case rates, hospitalization rates and death rates have increased the most among unvaccinated persons. The figures also show the relative risk (RR) which is the difference in risk when comparing rates between vaccinated and unvaccinated persons. When the relative risk is InfX, it means the risk was only for unvaccinated persons, since no deaths were reported among vaccinated persons that week.

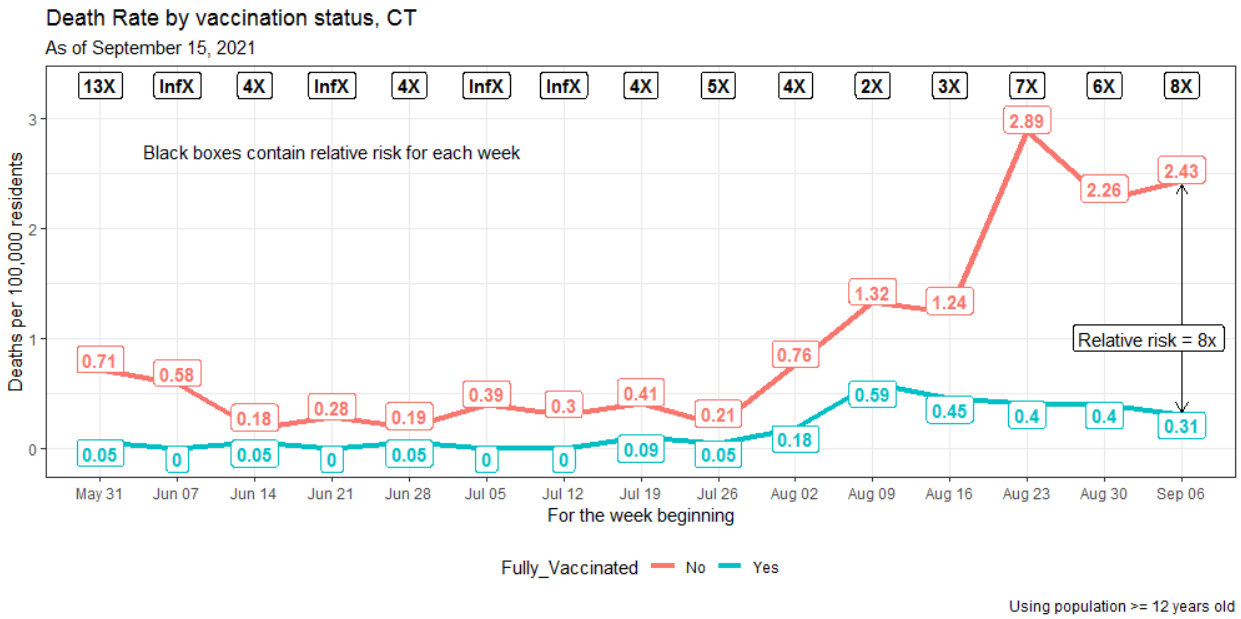
Compared to being vaccinated, being unvaccinated currently has the following relative risk:

- 5 Times higher risk of being infected with COVID-19
- 8 Times higher risk of dying from COVID-19
- 6 Times higher risk of being hospitalized with COVID-19

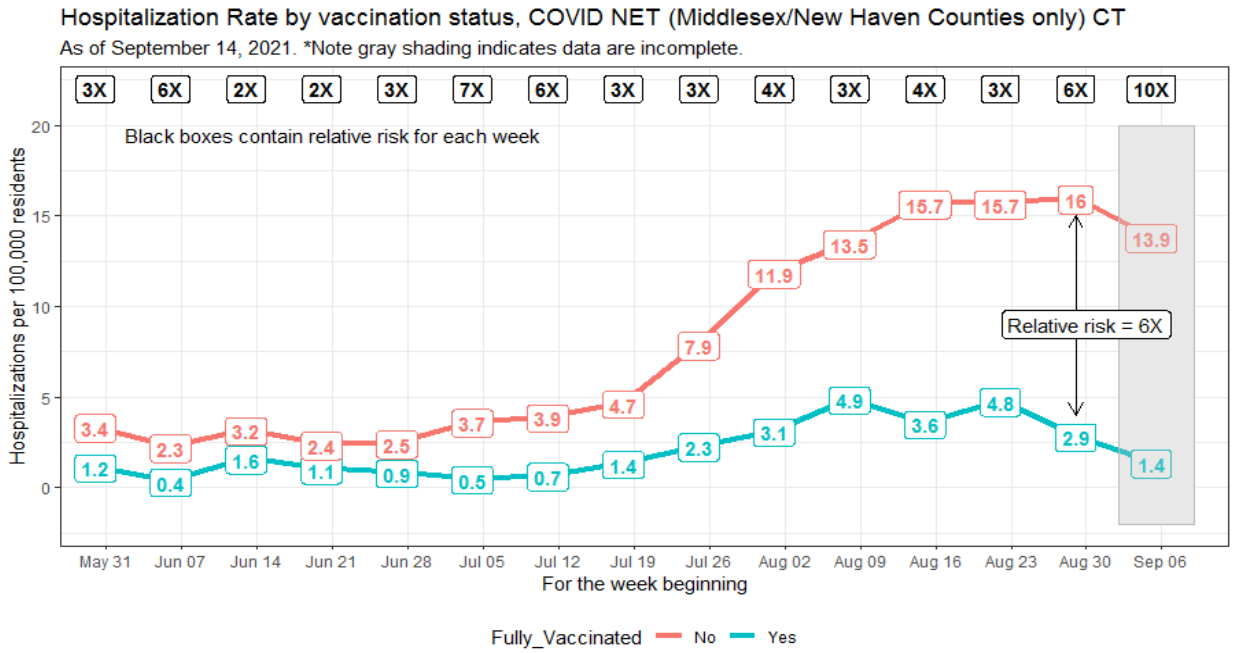
COVID-19 Cases



COVID-19 Deaths



COVID-19 Hospitalizations



SARS-CoV-2 Variant Surveillance

The Centers for Disease Control and Prevention (CDC) have identified three types of SARS-CoV-2 variants: variants of interest, variants of concern and variants of high consequence. The definitions for the three different variant categories and substitutions of therapeutic concern can be found here: SARS-CoV-2 Variants of Concern | CDC.

Different terminology has been developed by international scientists for naming SARS-CoV-2 variants. Recently, the World Health Organization (WHO) developed new labels for describing these variants to the public. Below, both the Pango lineage and sub-lineages (used by CDC) and the WHO label are listed (if available) for each variant described.

Data provided are from the Global Initiative for Sharing Avian Influenza Data (GISAID). GISAID is a global science initiative established in 2008 that provides open-access to genomic data of influenza viruses and the SARS-CoV-2 virus responsible for the COVID-19 pandemic. Laboratories performing whole genome sequencing are encouraged to share their data on this website. More information about GISAID can be found at GISAID - Initiative. This data source provides the ability to monitor all variants of the SARS-CoV-2 virus that are circulating and might be identified in the future.

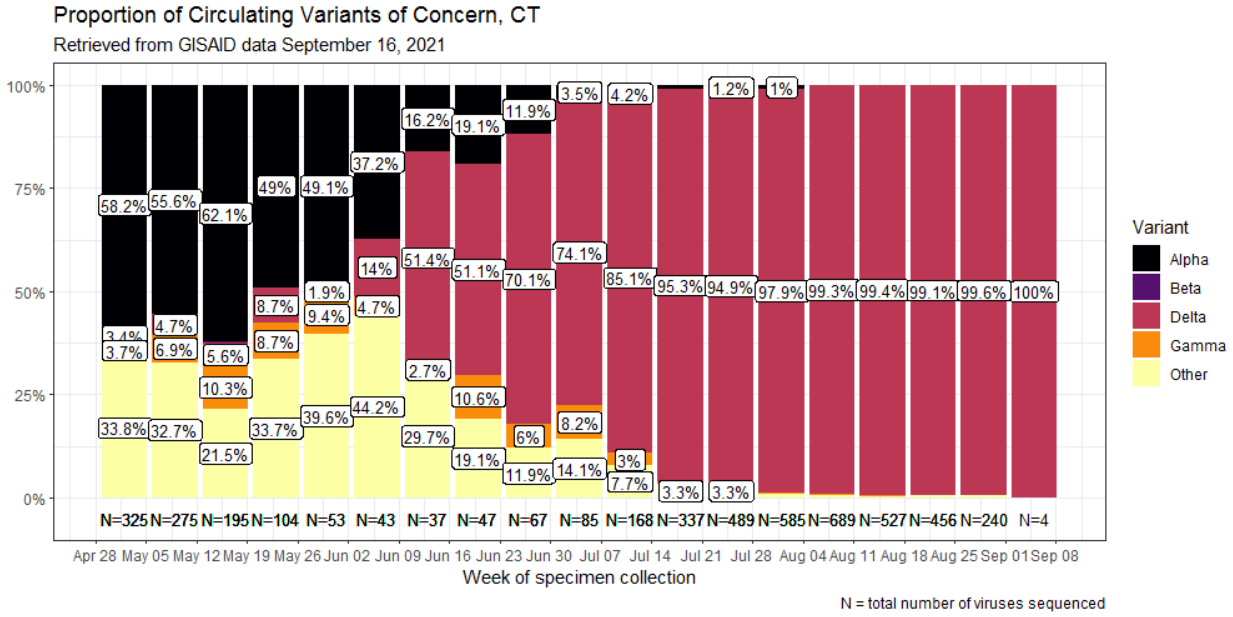
Below are data on variants of concern, variants of interest and substitutions of therapeutic concern identified among Connecticut residents. No variants of high consequence have been defined by CDC to date.

Data are from GISAID as of 09/16/2021 and represent sequences from specimens with dates of collection from 3/2/2020–09/06/2021. **The total number of SARS-CoV-2 sequences in GISAID for Connecticut residents are 11,795.**

	Number	Percentage
Variants of Concern		
B.1.1.7 and Q sub-lineages (Alpha)	3,394	34.9%
B.1.351/B.1.351.2/B.1.351.3 (Beta)	38	0.4%
B.1.617.2 and all AY sub-lineages (Delta)	3,609	37.1%
P.1 and P.1 sub-lineages (Gamma)	210	2.2%
Variants of Interest		
B.1.525 (Eta)	21	0.2%
B.1.526 (Iota)	1,553	16.0%
B.1.617.1 (Kappa)	3	0.03%
B.1.617.3	0	0%

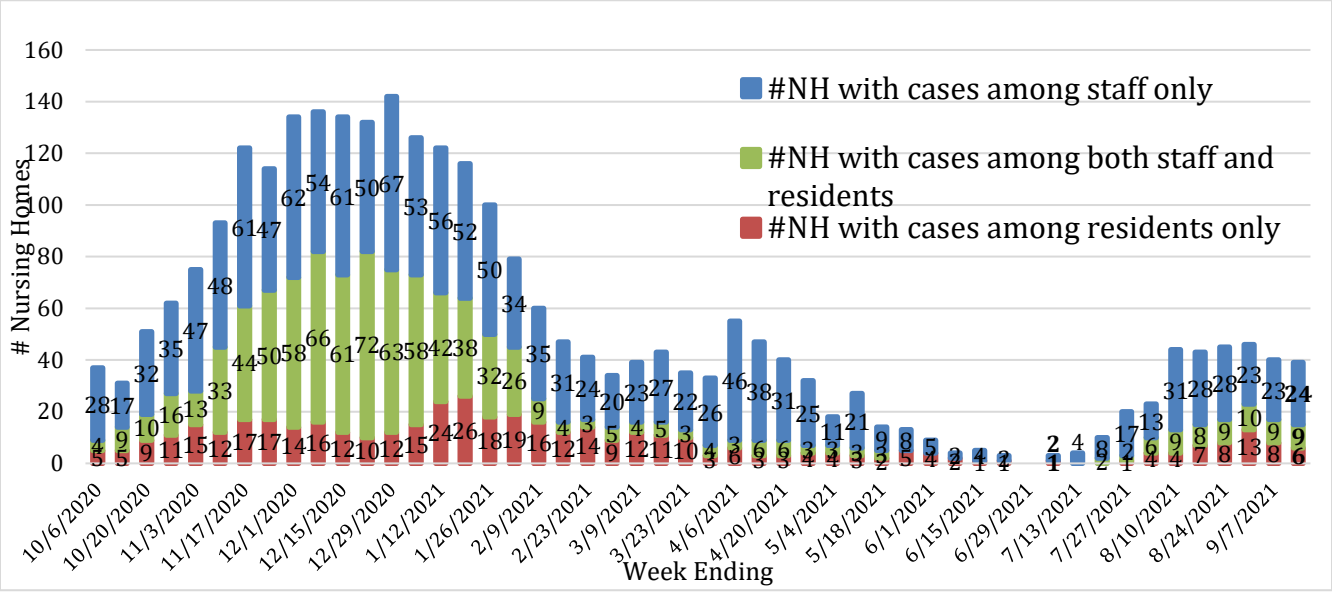
SARS-CoV-2 Variant Surveillance, continued.

The plot below, based on data extracted from GISAID on 8/26/2021, shows the change in proportion of circulating variants of concern by week. Data include sequences from specimens with dates of collection from 3/2/2020–09/06/2021.



Connecticut nursing homes are required by the Connecticut Department of Public Health (DPH) and the Centers for Medicare and Medicaid Services (CMS) to report on the impact of COVID-19 on their residents and staff through CDC's National Healthcare Safety Network (NHSN). CT DPH uses data submitted to NHSN to produce a weekly nursing home report to depict recent COVID-19 activity in nursing homes. The following graph and table provide a quick overview of COVID-19 in CT nursing homes. For the complete DPH nursing home report, please see Nursing Home and Assisted Living Facilities Data.

Figure 1. Nursing Homes with Positive Staff or Residents October 6, 2020–September 14, 2021[1,2,3]



[1] For more detailed information on COVID-19 reporting and NHSN, please see here.
[2] Similar to DPH, CMS makes COVID-19 nursing home data, including vaccination rates, publicly available. Please see CMS' COVID-19 Nursing Home Data website.
[3] 8 facilities did not report for this week, as of September 16,2021.

Table 1: Statewide COVID-19 Vaccination coverage among nursing home residents and staff from NHSN[1,2]

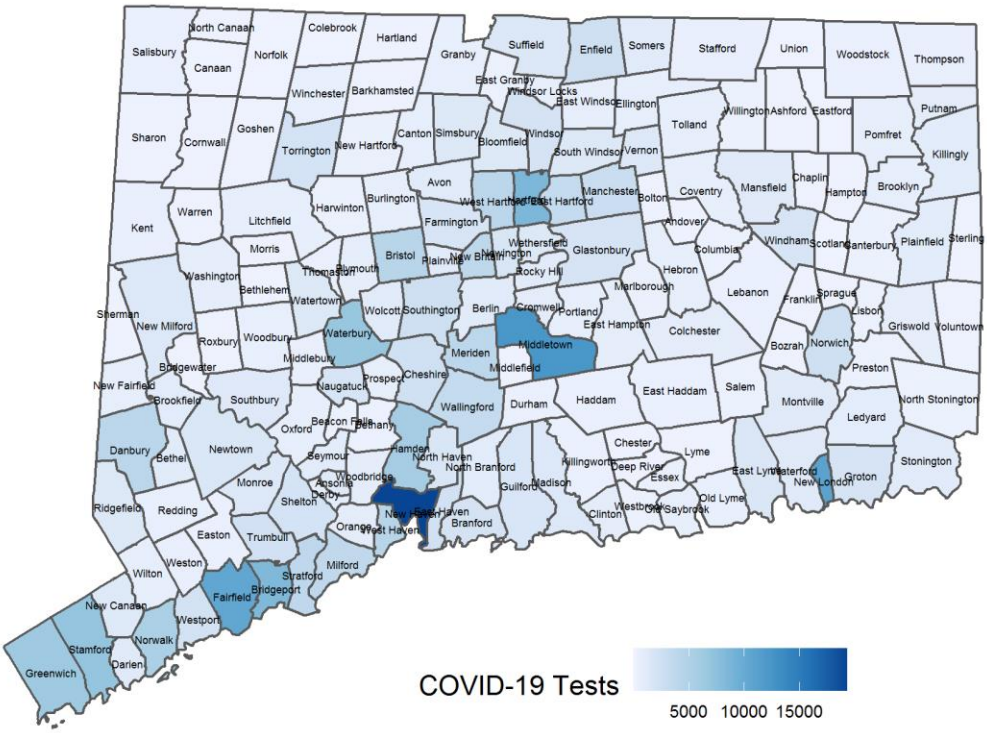
	Statewide COVID-19 Vaccination Rate Data as of September 5, 2021	
	Resident Vaccination Rates N= 206 homes	**Staff Vaccination Rates N= 207 homes**
Average Vaccination Rate	92%	80%
Median Vaccination Rate	94%	81%
Range of Vaccination Rates	58-100%	44-100%
% of the reporting nursing homes with vaccination rate ≥ 75%	96%	68%

[1] NHSN vaccine reporting instructions for nursing homes can be found here.
[2] Similar to DPH, CMS makes COVID-19 nursing home data, including vaccination rates, publicly available. Please see CMS' COVID-19 Nursing Home Data website.

COVID-19 Molecular and Antigen Tests during August 29-September 11

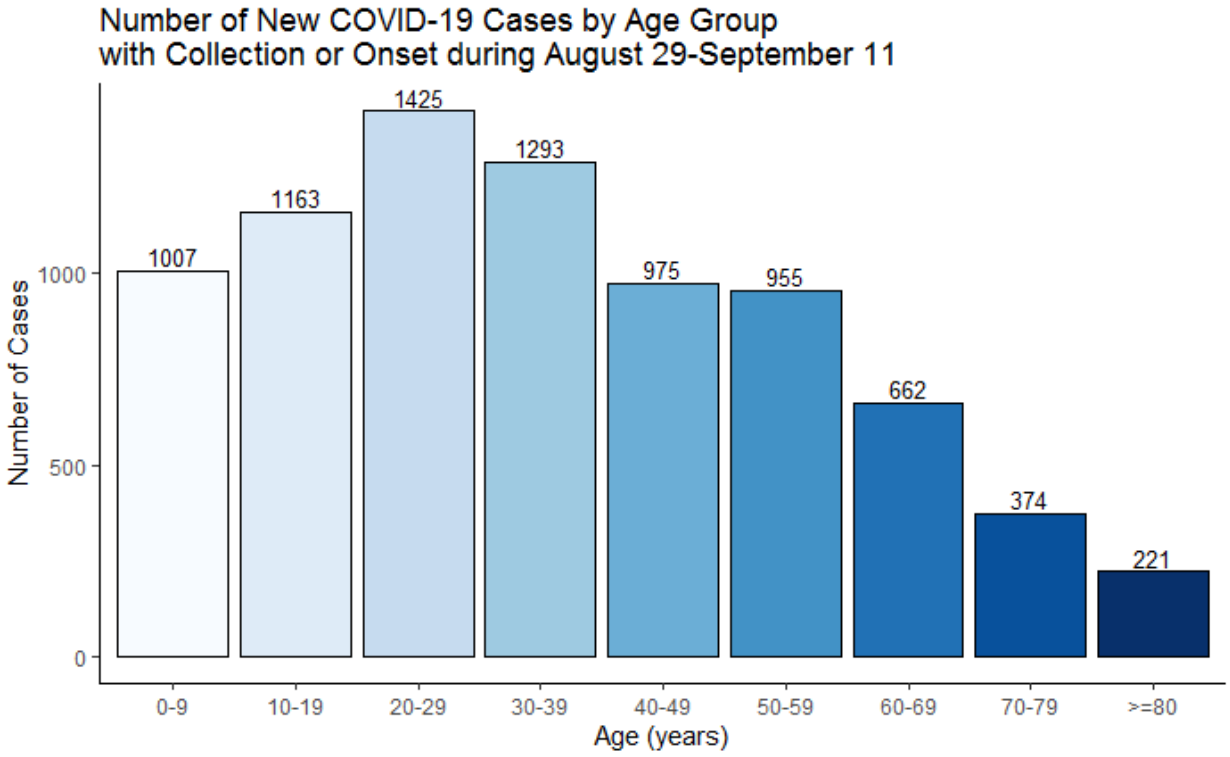
Among 277527 molecular and antigen tests for COVID-19 with specimen collection date during August 29-September 11, 260686 (94%) tests were conducted among people who did not reside in congregate settings (including nursing homes, assisted living, and correctional facilities). Of these 260686 tests, 9571 (4%) were positive. The map below shows the number of molecular and antigen COVID-19 tests by town with specimen collection date during August 29-September 11 that were conducted among community residents.

Number of Molecular and Antigen Tests for COVID-19 among
People Living in Community Settings by Town
with Specimen Collection Date During August 29-September 11



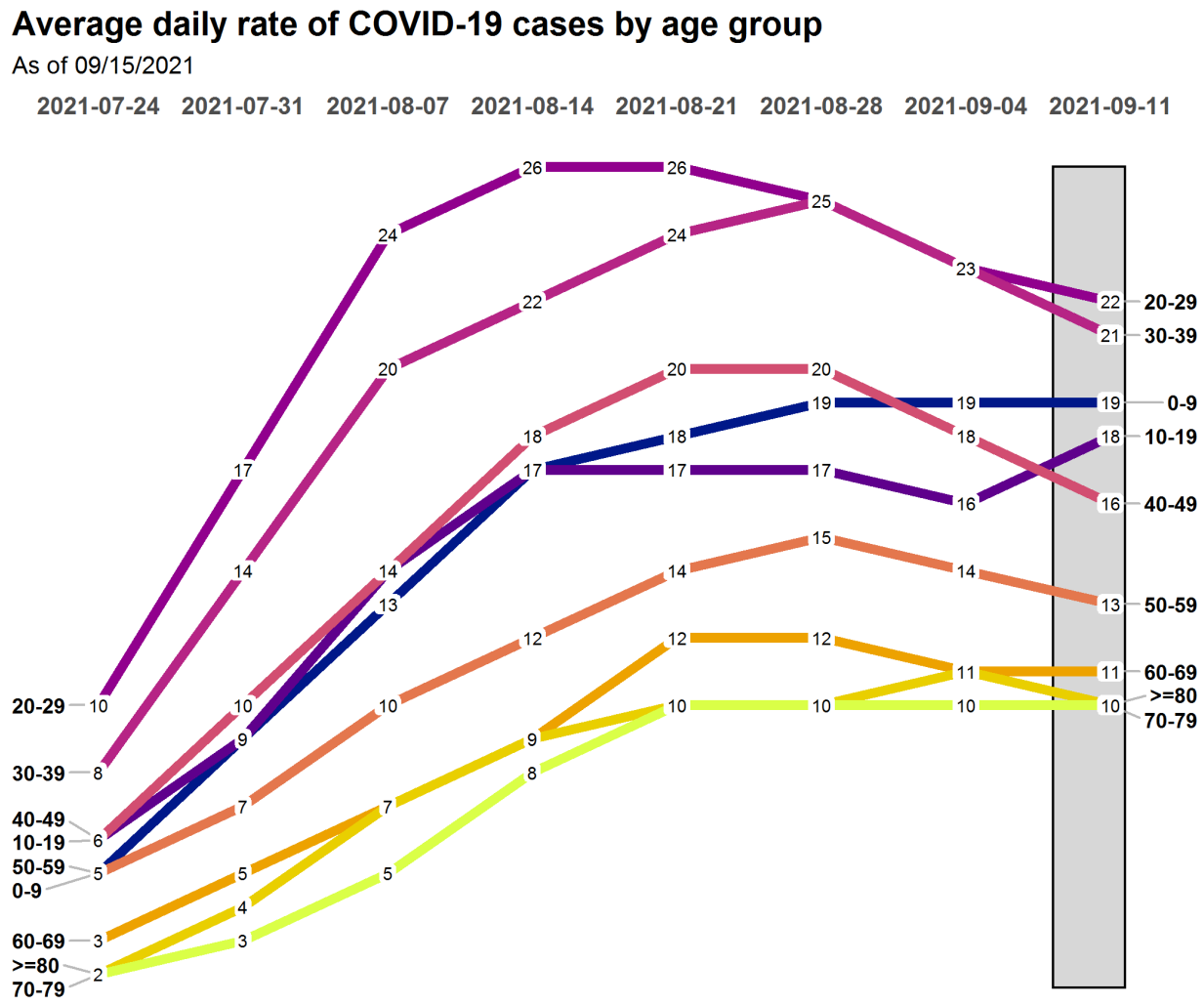
Map does not include tests pending address validation

Age Distribution of COVID-19 Cases with Specimen Collection or Onset During August 29-September 11, 2020



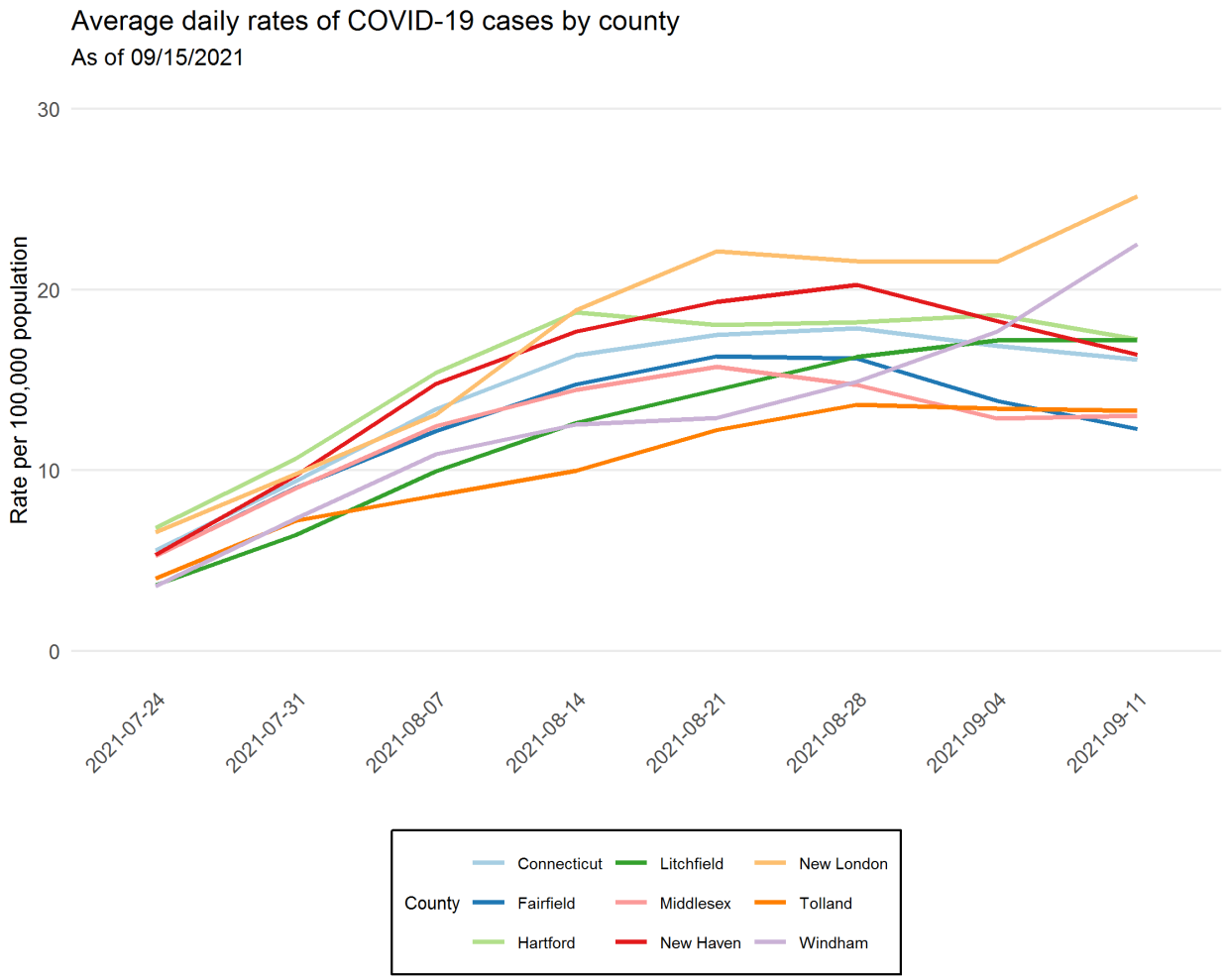
Average Daily Incidence by Age Group

The chart below shows the average number of new COVID-19 cases per day per 100,000 population by age group. The rates in this chart are calculated by averaging the number of new cases diagnosed each day during the previous two weeks, dividing by the annual population in each age group, and then multiplying by 100,000.



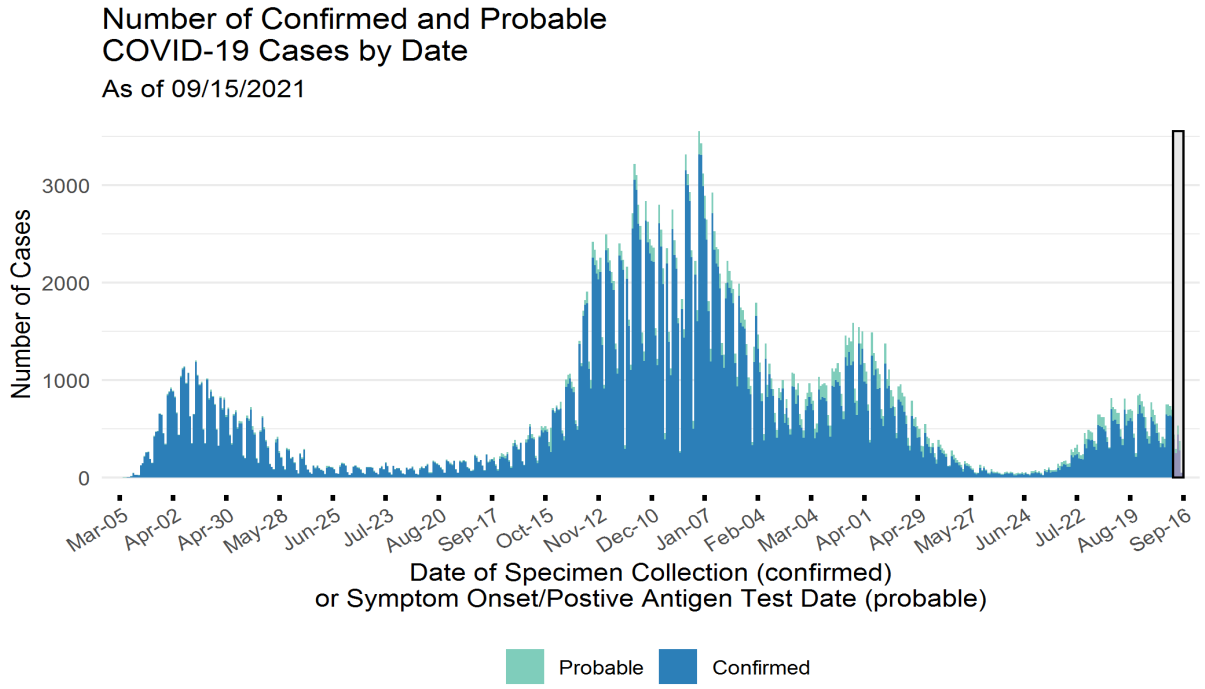
Average Daily Incidence by County

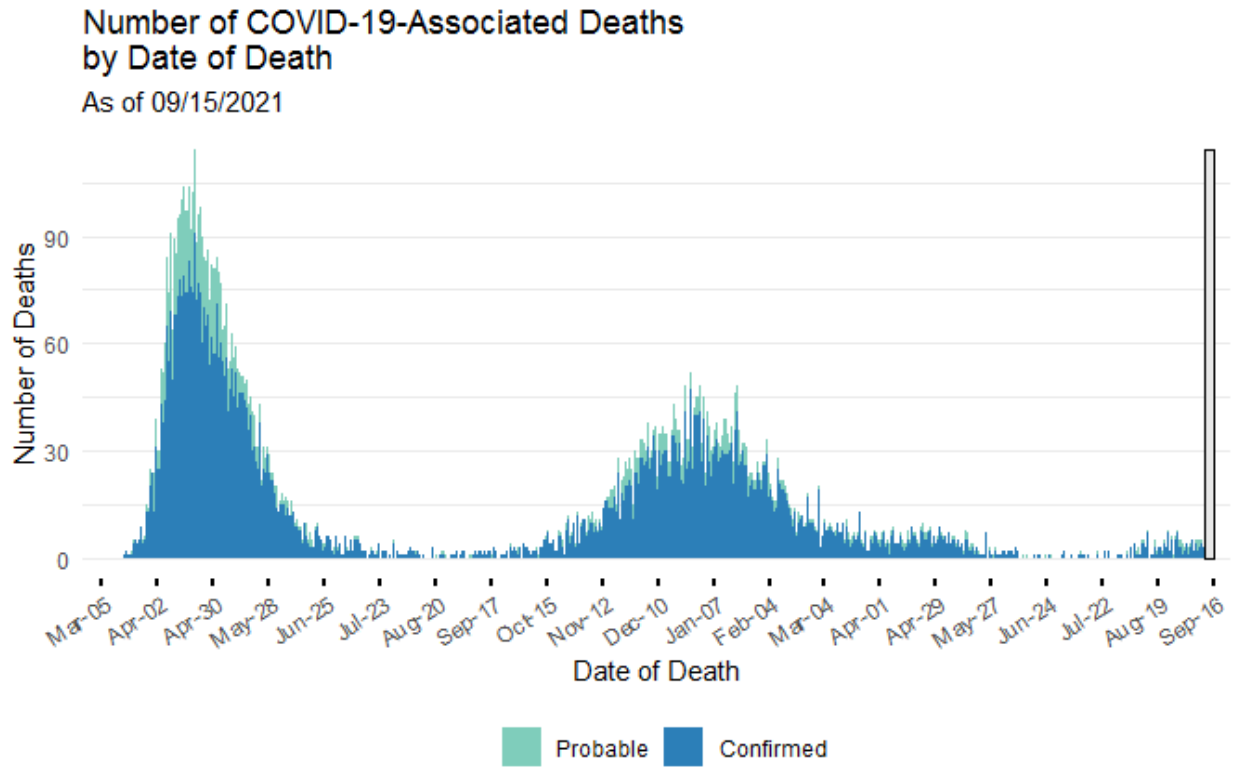
The chart below shows the average number of new COVID-19 cases per day per 100,000 population in the state of Connecticut and for each Connecticut county. The rates in this chart are calculated by averaging the number of new cases diagnosed each day during the previous two weeks, dividing by the annual estimated population, and then multiplying by 100,000.



Cumulative Number of COVID-19 Cases and COVID-19-Associated Deaths by Date

Test results may be reported several days after the result. Data are incomplete for most recent dates shaded in grey. Data from previous dates are routinely updated.



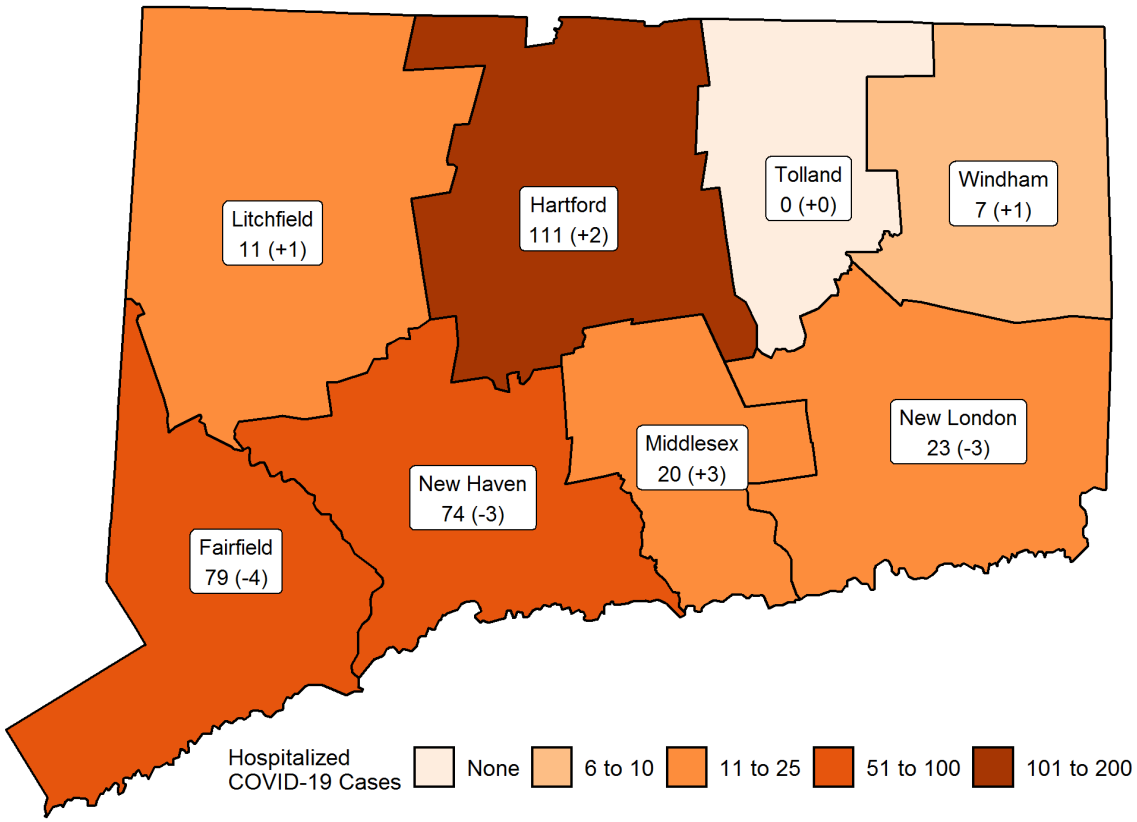


Hospitalization Surveillance

The map below shows the number of patients currently hospitalized with laboratory-confirmed COVID-19 by county based on data collected by the Connecticut Hospital Association. The distribution is by location of hospital, not patient residence. The labels indicate the number of patients currently hospitalized with the change since yesterday in parentheses.

Patients Currently Hospitalized by Connecticut County

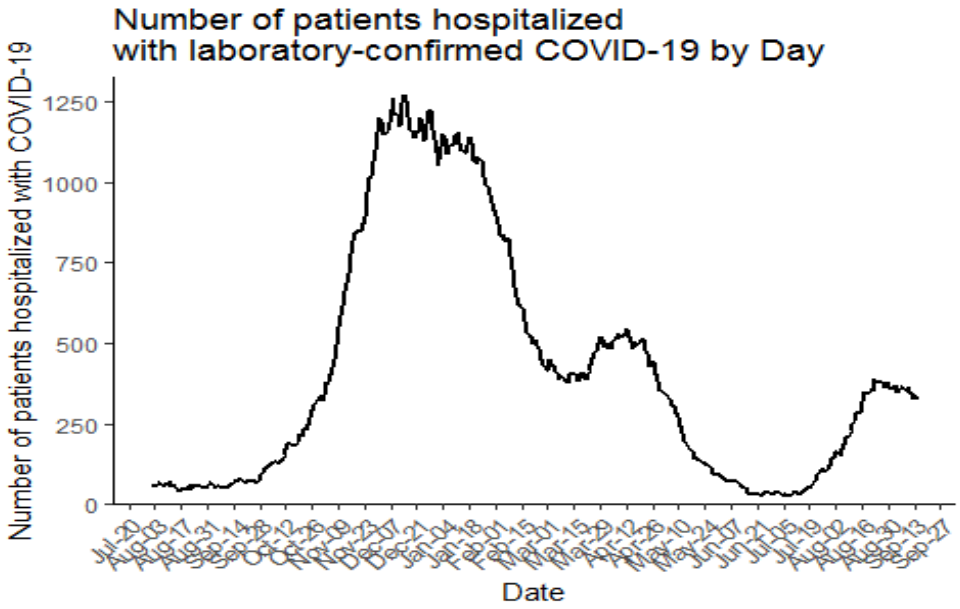
Distribution by location of hospital not patient residence. Data from the Connecticut Hospital Association.

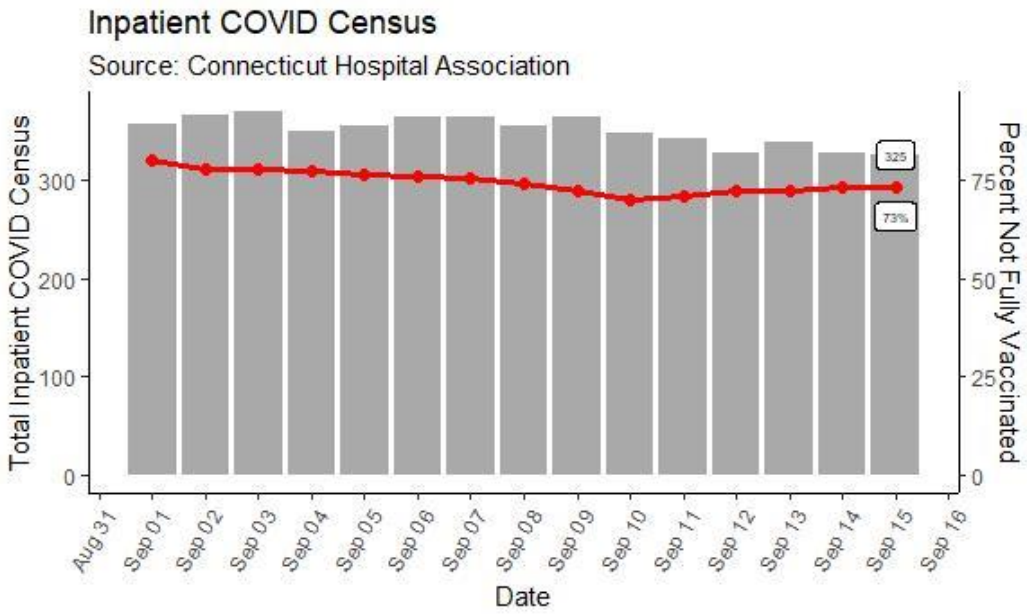


More information about hospitalized cases of COVID-19 in New Haven and Middlesex Counties is available from COVID-NET.

COVID-19 Hospital Census in Connecticut

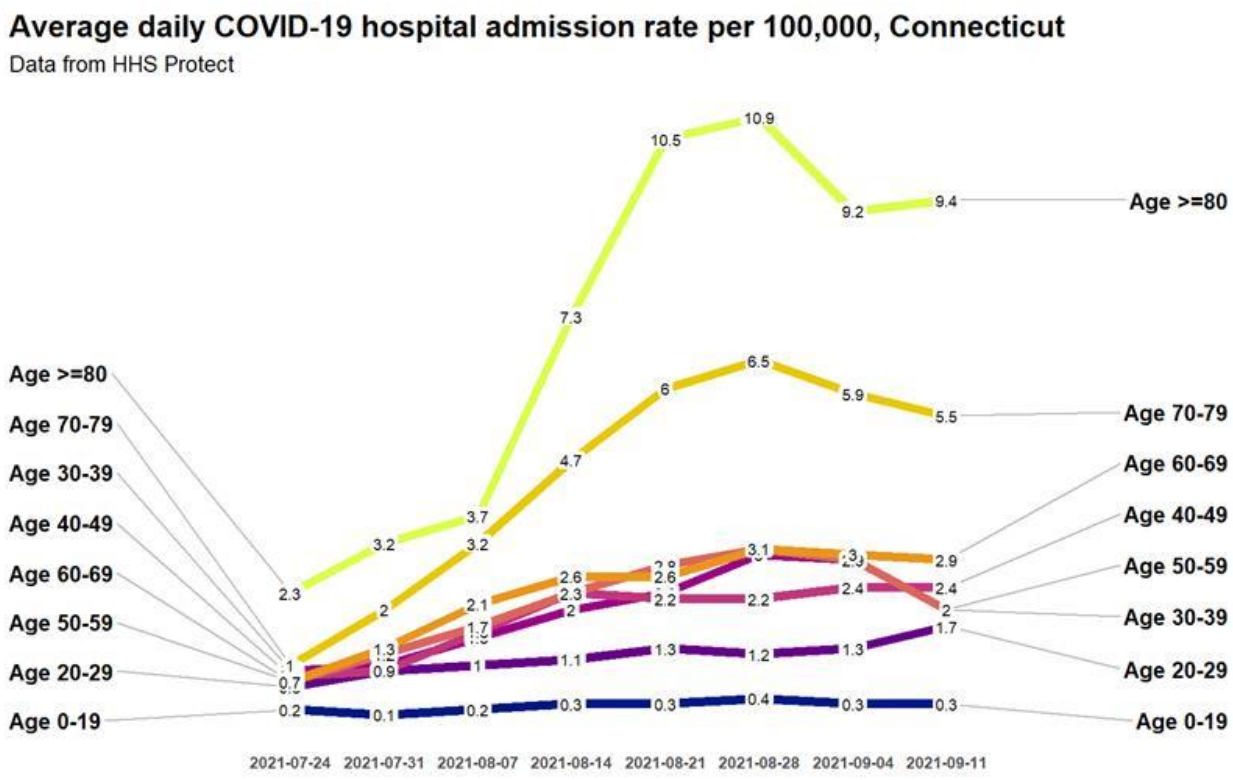
The chart below shows the COVID-19 hospital census, which is the number of patients currently hospitalized with laboratory-confirmed COVID-19 on each day. Data were collected by the Connecticut Hospital Association and are shown since August 1, 2020. The second chart shows the COVID-19 daily census for the last 14 days in grey bars and the percentage not fully vaccinated (partially vaccinated, not vaccinated or unknown) for each day.





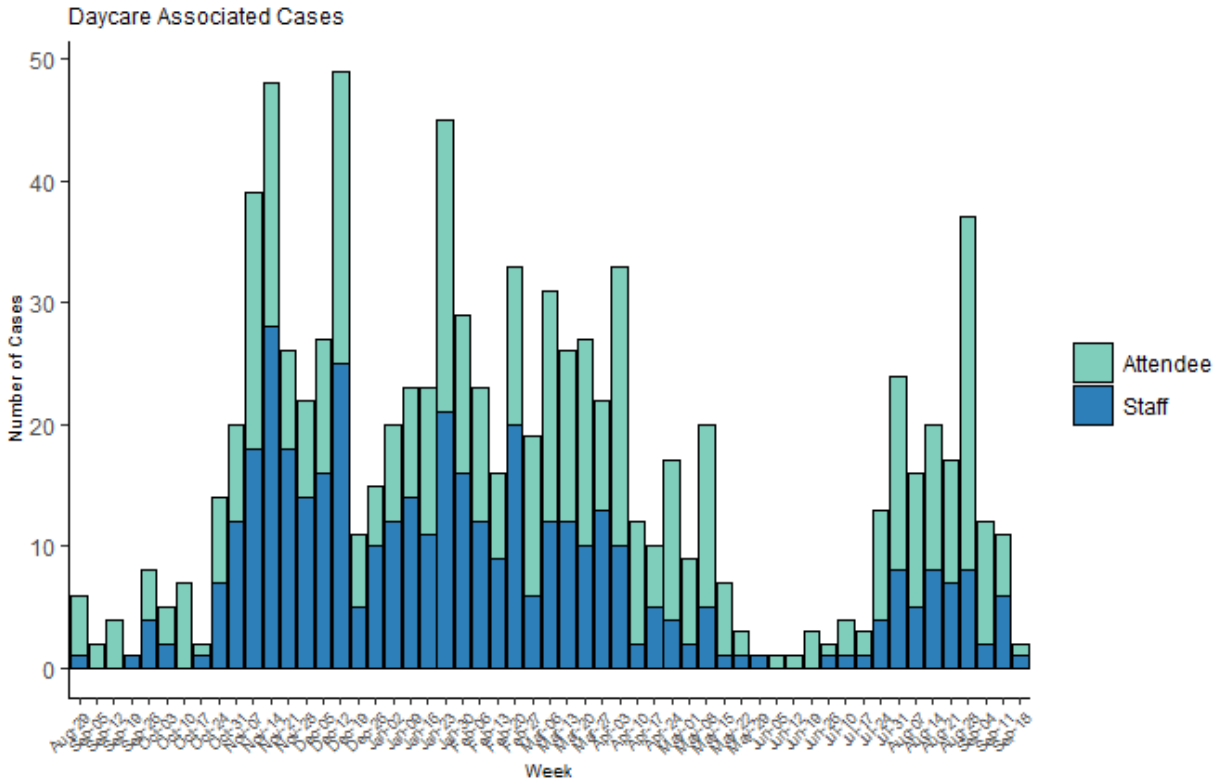
COVID-19 Admissions

The chart below shows the average daily rate of hospital admissions with laboratory-confirmed COVID-19 by age group. The data used to create this plot were gathered from HHS Protect. More information on HHS Protect data can be found here: https://protect-public.hhs.gov/.



Daycare Surveillance

Licensed daycare providers are required to report cases of COVID-19 among attendees and staff to the Department of Public Health (DPH) and the local health department. This figure shows the number of cases among daycare attendees and staff reported to DPH since September 1, 2020. Data are preliminary and like other passive surveillance systems, under reporting occurs and the true incidence of disease is more than the number of cases reported.

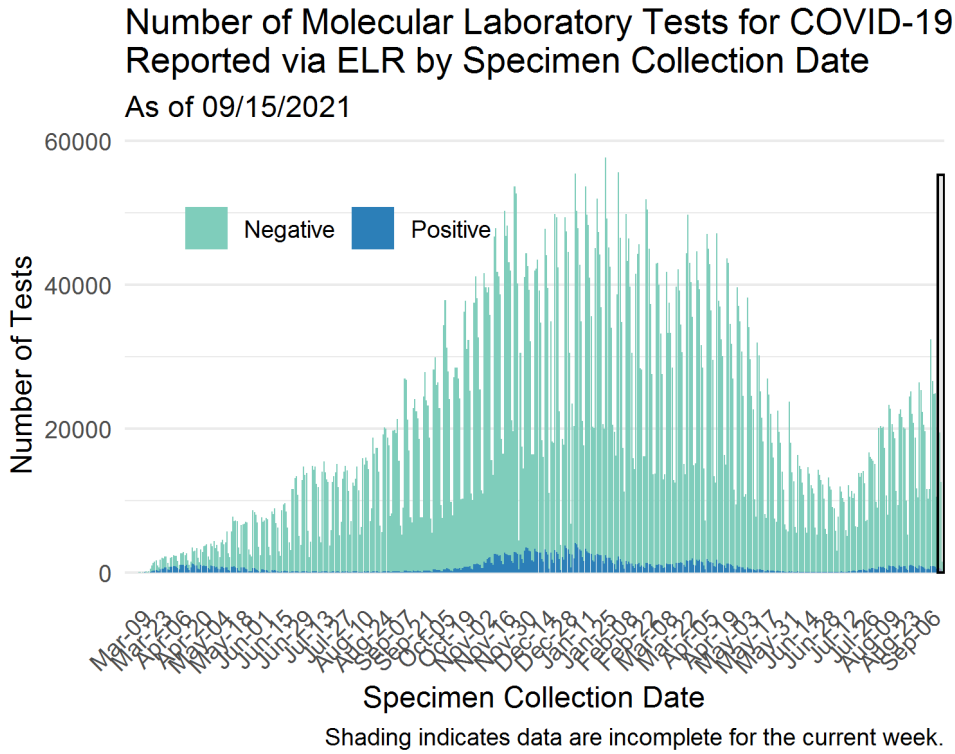


Laboratory Surveillance

Molecular Tests

To date, DPH has received reports on a total of 9840381 molecular COVID-19 laboratory tests; of these 9645019 test results were received via electronic laboratory reporting (ELR) methods from commercial laboratories, hospital laboratories, and the Dr. Katherine A. Kelley State Public Health Laboratory. The chart below shows the number of tests reported via ELR by date of specimen collection and test result.

Test results may be reported several days after specimen collection. Data are incomplete for most recent dates shaded in grey. Data for previous dates are routinely updated.



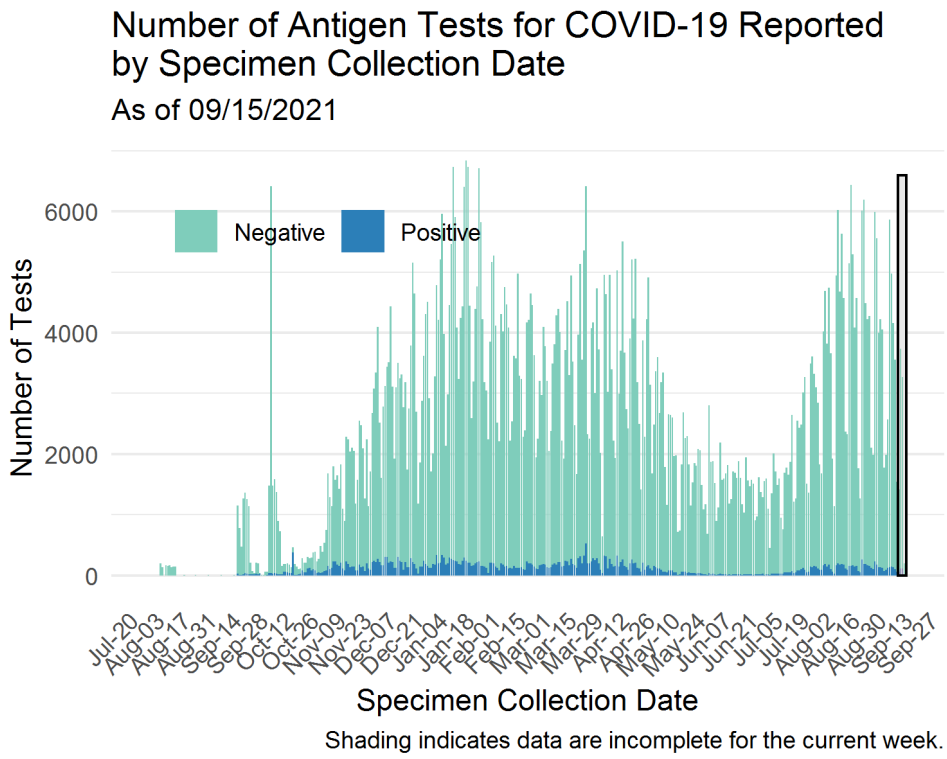
Testing of recently collected specimens is ongoing and does not reflect a decrease in testing. Chart only includes test results received by electronic laboratory reporting.

ELR = Electronic Laboratory Reporting

Antigen Tests

To date, DPH has received reports on a total of 971710 COVID-19 antigen laboratory tests. The chart below shows the number of antigen tests reported to DPH by specimen collection date and test result.

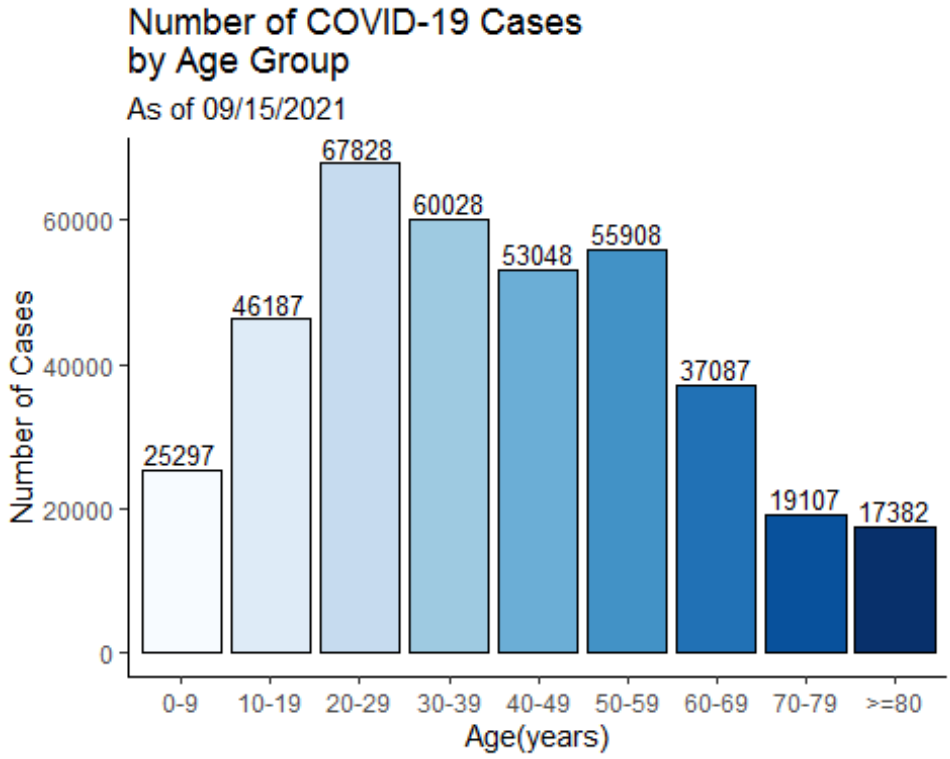
Test results may be reported several days after specimen collection. Data are incomplete for most recent dates shaded in grey. Data for previous dates are routinely updated.

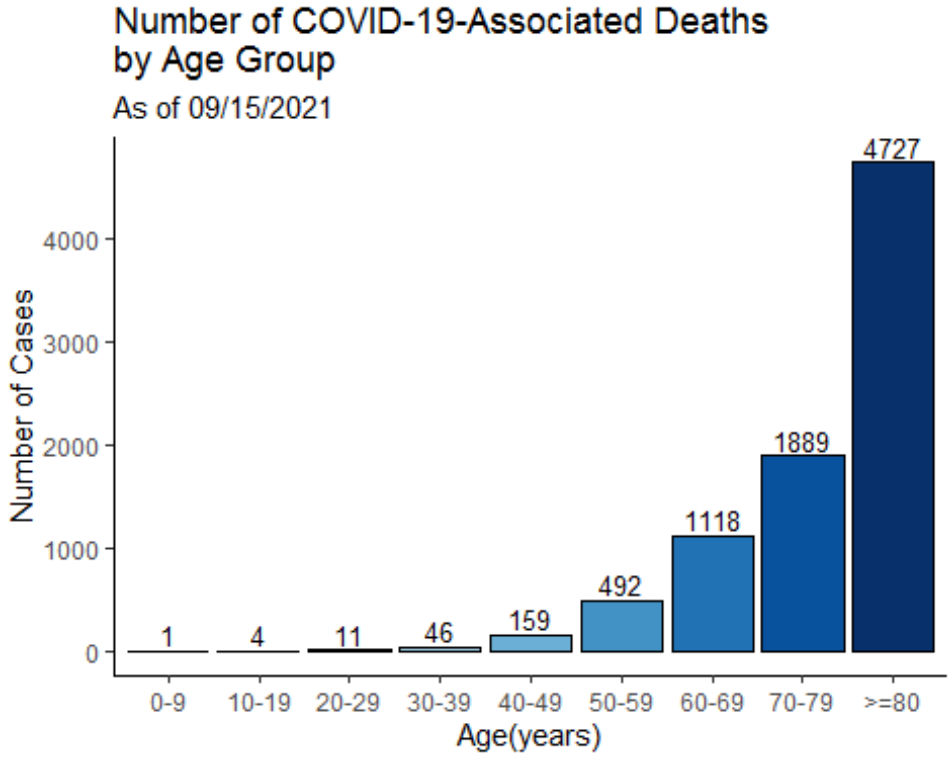


Testing of recently collected specimens is ongoing and does not reflect a decrease in testing.

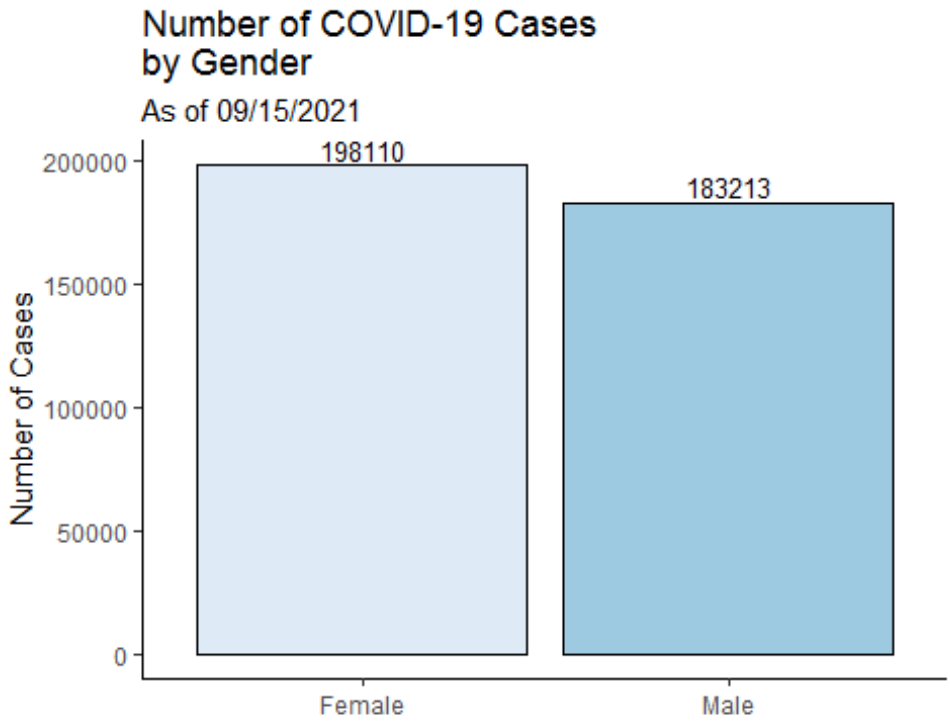
Characteristics of COVID-19 Cases and Associated Deaths

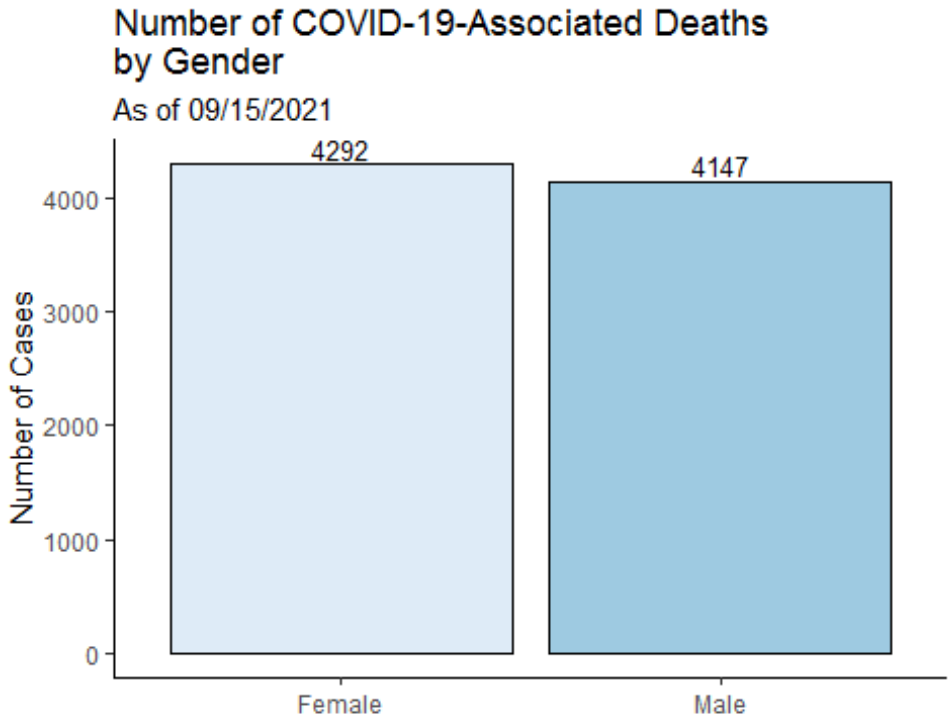
Counts may not add up to total case count because demographic data may be missing.





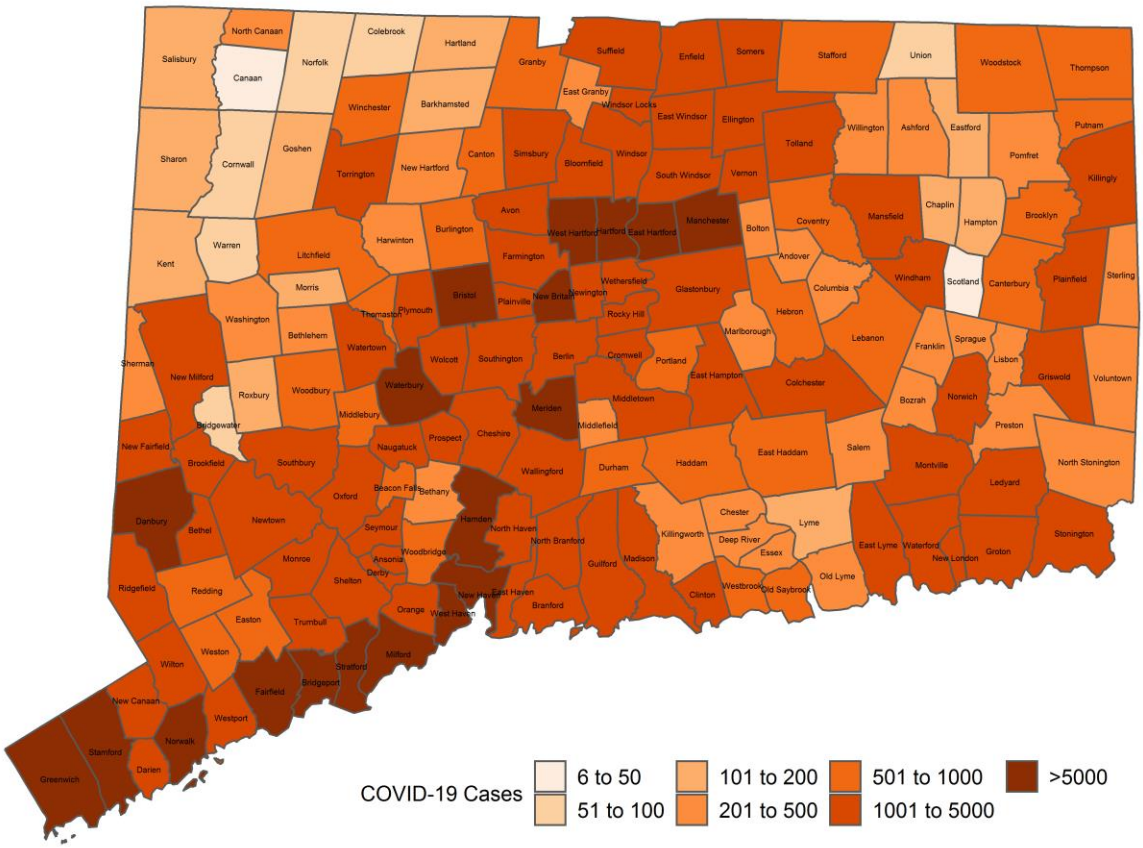
Counts may not add up to total case count because demographic data may be missing.



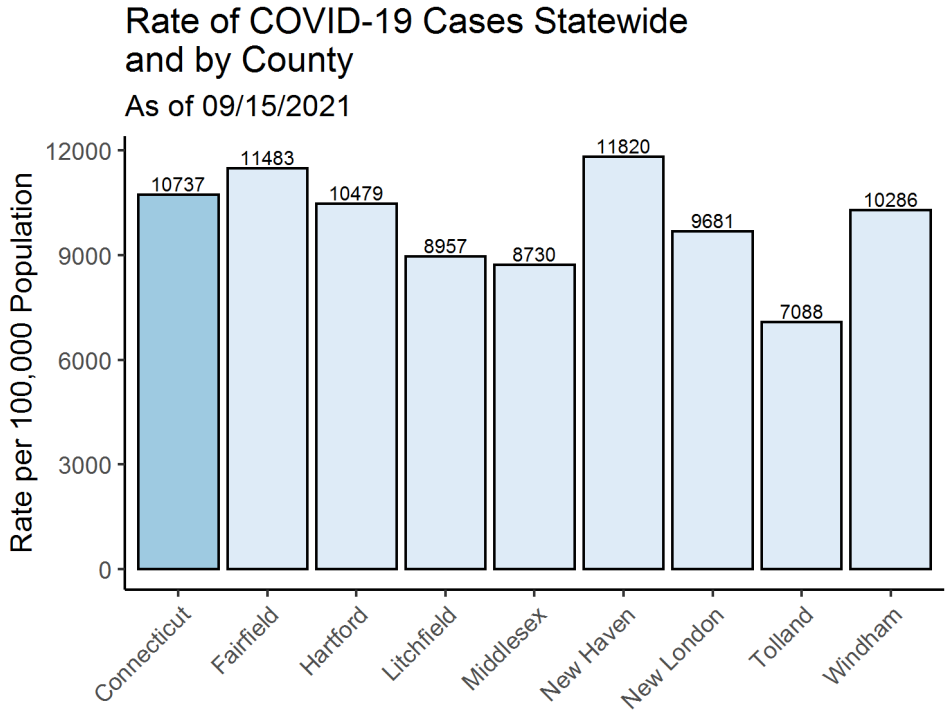


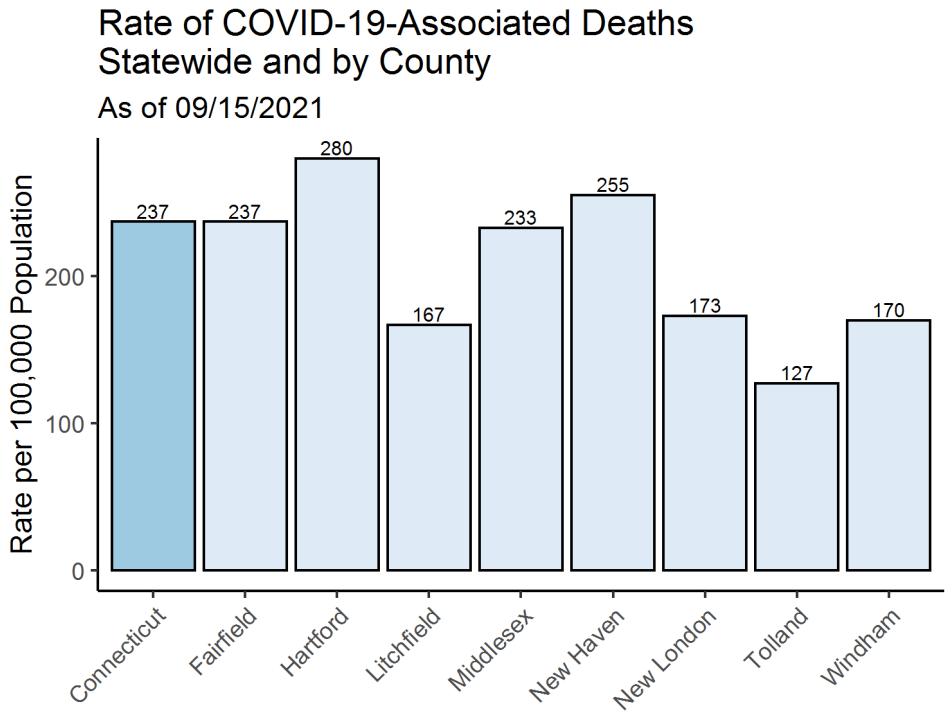
Cumulative Number of COVID-19 Cases by Town

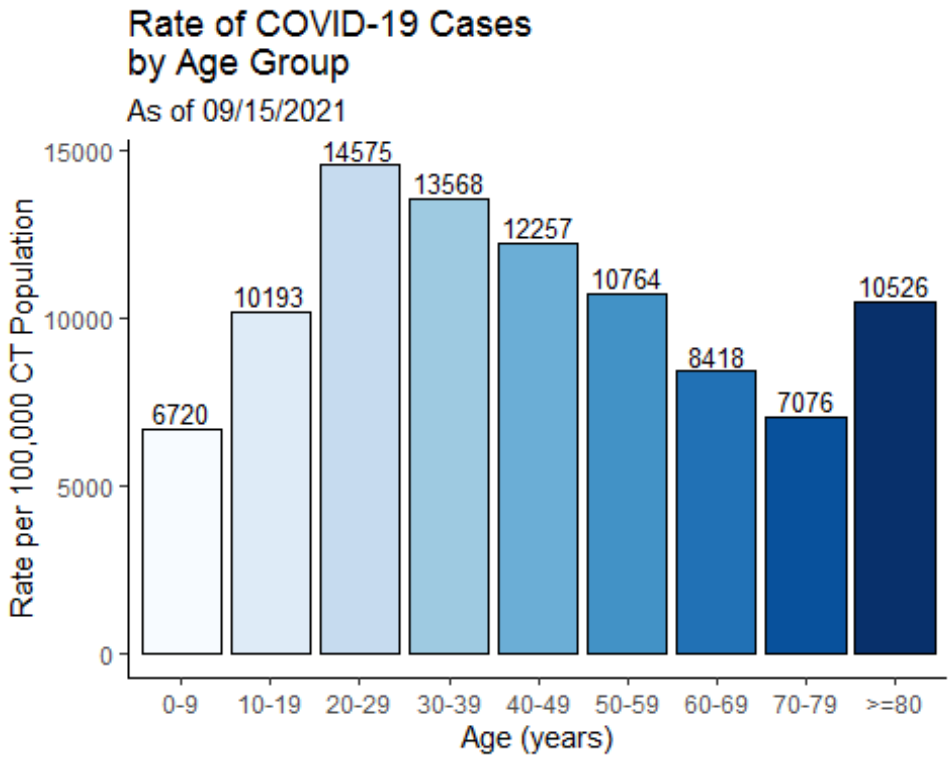
Map does not include 1297 cases pending address validation

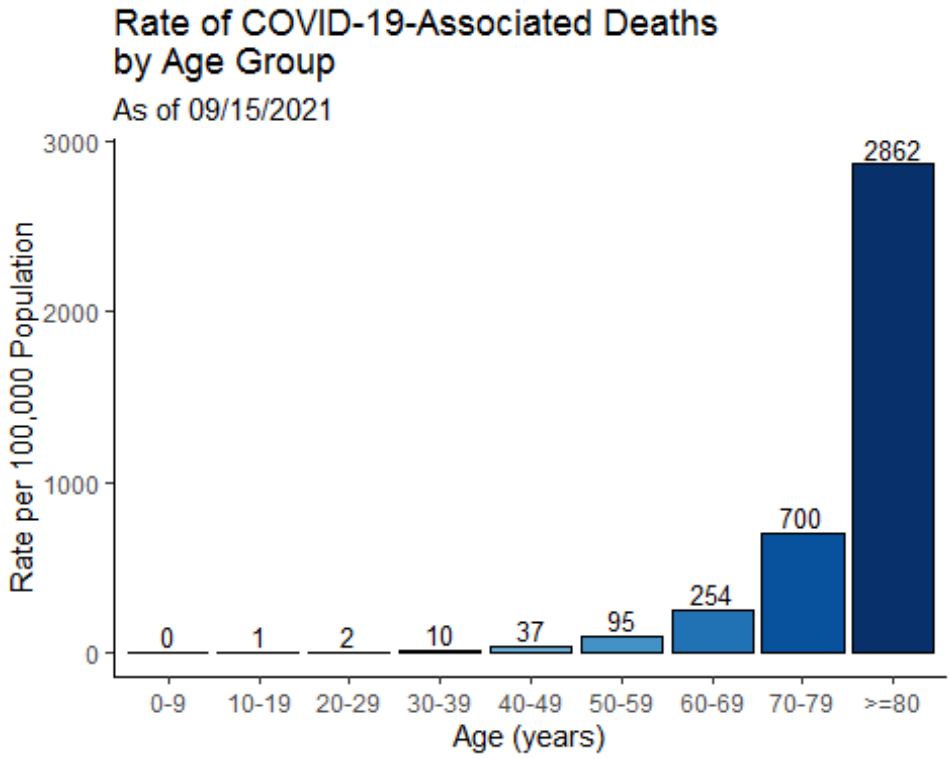


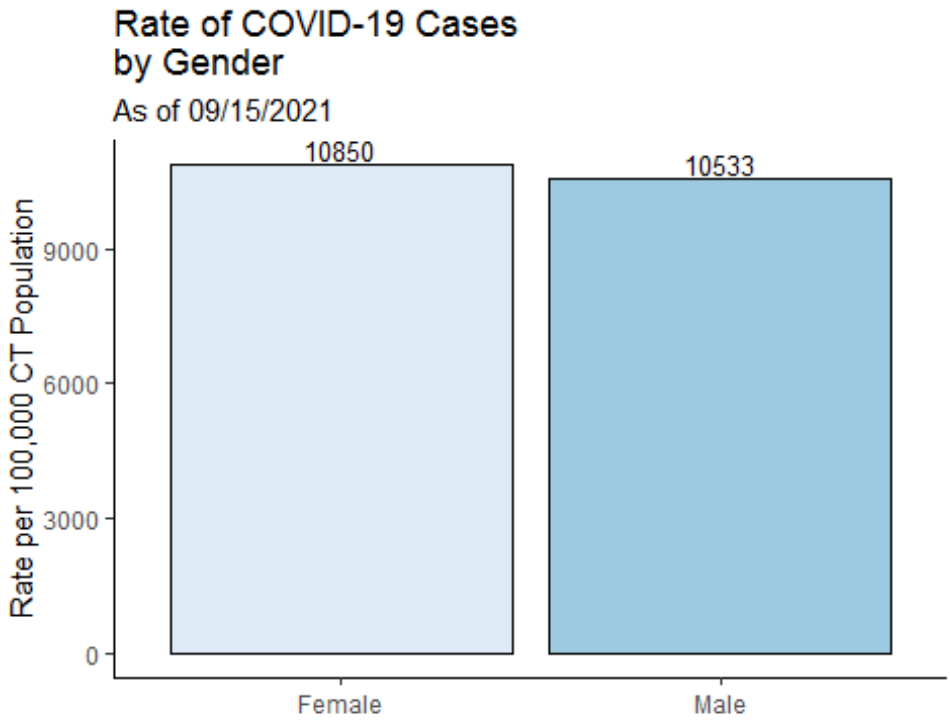
APPENDIX A. The following graphs show the number of cases per 100,000 Connecticut residents statewide and by county, age group, and gender. Population estimate from: [DPH Population Statistics]

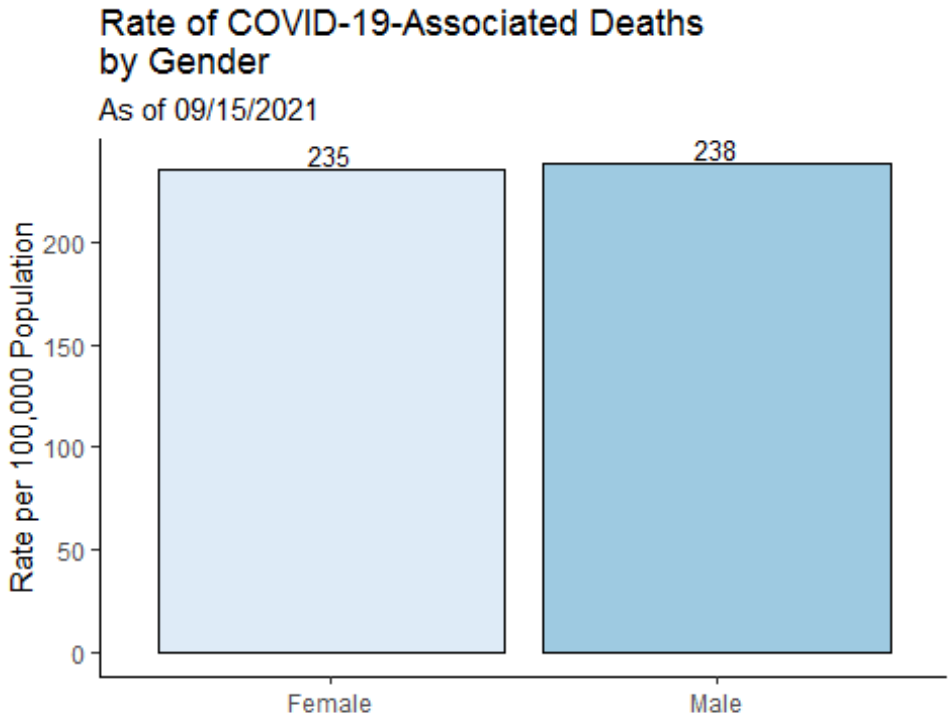




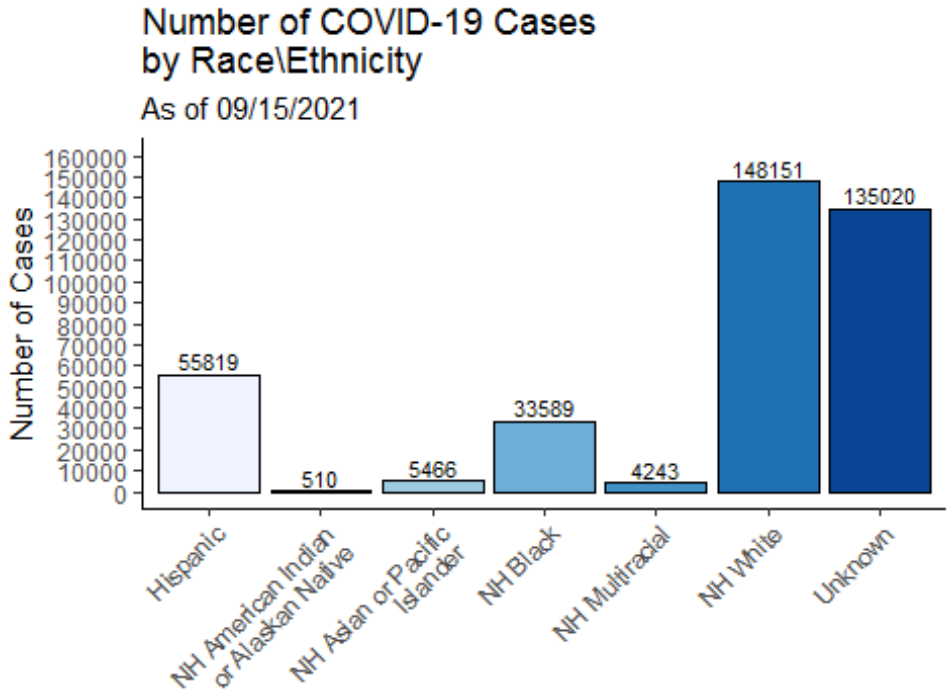


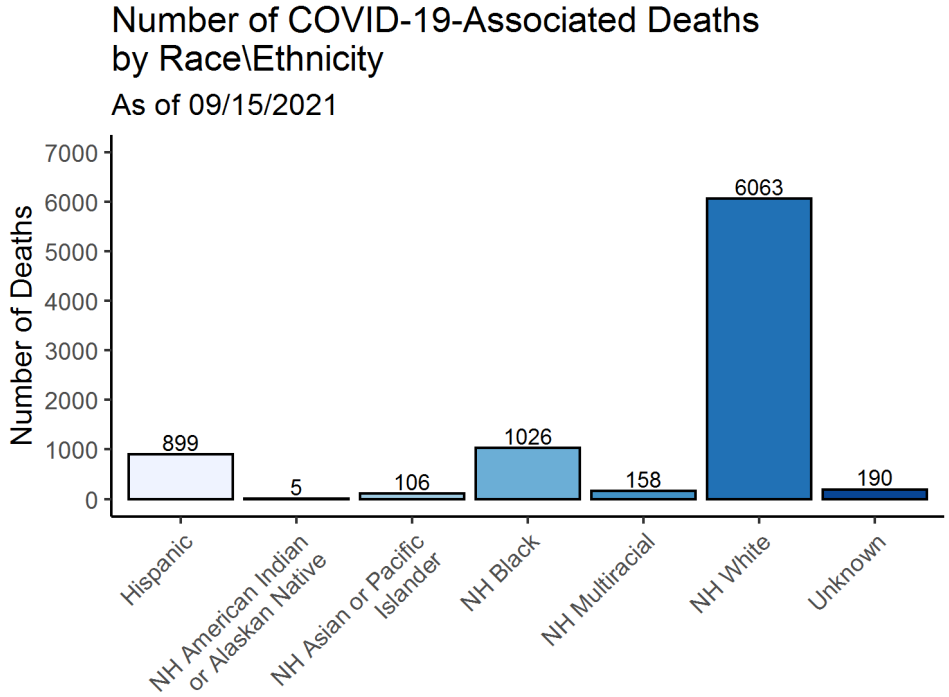






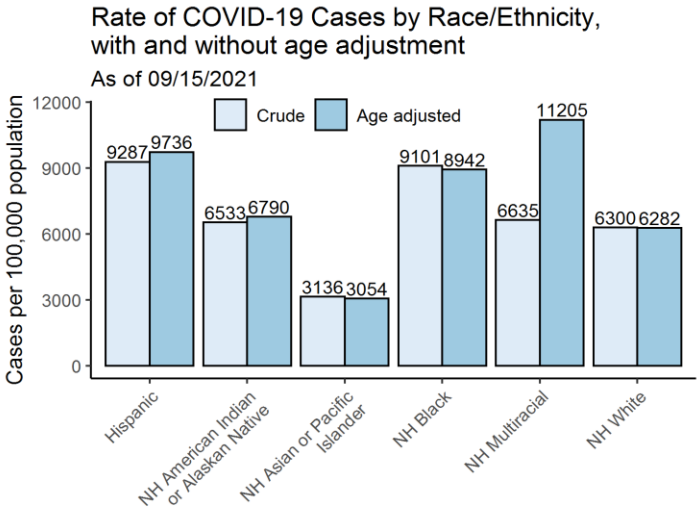
APPENDIX B. The following graphs show the number of cases and deaths by race and ethnicity. *Categories are mutually exclusive. The category "multiracial" includes people who answered 'yes' to more than one race category. NH=Non-Hispanic*

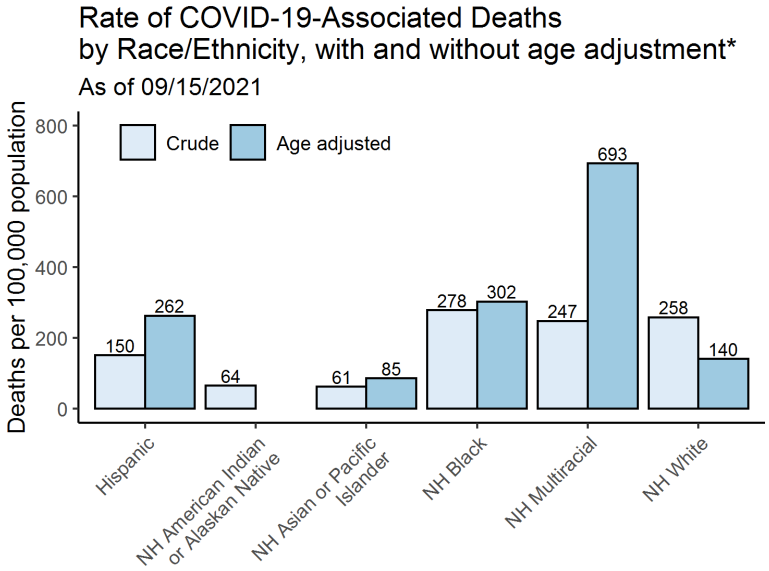




The following graphs show the number of COVID-19 cases and COVID-19-associated deaths per 100,000 population by race and ethnicity. Crude rates represent the total cases or deaths per 100,000 people. Age-adjusted rates consider the age of the person at diagnosis or death when estimating the rate and use a standardized population to provide a fair comparison between population groups with different age distributions. Age-adjustment is important in Connecticut as the median age of among the non-Hispanic white population is 47 years, whereas it is 34 years among non-Hispanic blacks, and 29 years among Hispanics. Because most non-Hispanic white residents who died were over 75 years of age, the age-adjusted rates are lower than the unadjusted rates. In contrast, Hispanic residents who died tend to be younger than 75 years of age which results in higher age-adjusted rates.

The 2018 Connecticut and 2000 US Standard Million populations were used for age adjustment; population estimates from: DPH Population Statistics. *Categories are mutually exclusive. Cases missing data on race/ethnicity are excluded from calculation of rates. NH=Non-Hispanic*





**Age adjusted rates only calculated for groups with at least 30 deaths*