

Supplemental Methods and Results

Methods

Population Denominators: We used total Connecticut population data from the 2019 US Census estimates then calculated age-adjusted rates for composite race and ethnic groups among non-congregate residence settings.(1) We did not subtract counts for the population residing in congregate facilities from the denominators, since age, race and ethnicity stratified data is not available for this population. However, these estimates of age-adjusted rates are a reasonable approximation since congregate residential populations account for approximately 1% of the Connecticut population.

Pandemic Period Definition: We defined pandemic periods based on the lowest 7-day rolling average of daily deaths (nadir) between three large COVID-19 epidemic waves in Connecticut. The three waves occurred in the spring of 2020, fall of 2020 through spring of 2021, and fall of 2021 through the end of the study period (December 13, 2021). The two nadirs were on August 25th, 2020, and July 12th, 2021, corresponding with 7-day rolling average death counts of 1.13 and 1.29, respectively.

Ascertainment of COVID-19 related deaths in congregate and non-congregate settings:

Connecticut Department of Public Health (DPH) defines congregate residential settings as long-term care facilities (LTCFs), assisted living facilities, and correctional facilities. At the beginning of the pandemic, COVID-19 cases and deaths were defined by DPH as congregate setting residents if the geocoded residential address extracted from the Connecticut Electronic Disease Surveillance System fell within 150 feet of a registered congregate setting.(2,3) As of February

2021, DPH used address-based text-matching to registered congregate settings as the method of identifying COVID-19 cases and deaths in congregate facility residences.

Results**eTable.** Age-Adjusted COVID-19 Mortality and Mortality Rate Ratios in the Connecticut Non-Congregate Population, According to Composite Race and Ethnicity Groups, During Three Pandemic Periods.

Group/Period ^b	Population-Months of Observation ^a	No. Deaths	Crude Mortality Rate ^c	Age-Adjusted Mortality (95% CI) ^{c,d}	MRR (95% CI) ^d	MRR normalized to 1 st Wave (95% CI) ^d
Non-Hispanic White	54,808,226	2532	4.6	6.4 (5.8, 7.0)	(ref)	-
1 st period	14,940,068	613	4.1	5.7 (5.1, 6.4)	(ref)	-
2 nd period	26,942,482	1524	5.7	7.8 (7.1, 8.6)	(ref)	-
3 rd period	12,925,676	395	3.1	4.2 (3.7, 4.8)	(ref)	-
Non-Hispanic Black	8,601,736	592	6.9	17.3 (15.4, 19.5)	2.7 (2.5, 3.0)	-
1 st period	2,344,730	272	11.6	29.3 (25.3, 34.0)	5.2 (4.5, 5.9)	(ref)
2 nd period	4,228,418	277	6.6	16.5 (14.2, 19.1)	2.1 (1.9, 2.4)	0.4 (0.3, 0.5)
3 rd period	2,028,587	43	2.1	5.3 (3.9, 7.3)	1.3 (0.9, 1.7)	0.2 (0.2, 0.3)
Hispanic	14,015,129	692	4.9	19.6 (17.5, 22.1)	3.1 (2.8, 3.4)	-
1 st period	3,820,357	209	5.5	21.9 (18.6, 25.8)	3.9 (3.3, 4.5)	(ref)
2 nd period	6,889,520	415	6.0	24.0 (21.1, 27.4)	3.1 (2.8, 3.4)	0.8 (0.7, 1.0)
3 rd period	3,305,252	68	2.1	8.2 (6.3, 10.6)	1.9 (1.5, 2.5)	0.5 (0.4, 0.7)

^aPerson months estimated as the state population times the number of months included in each wave, partial months were estimated using an average month duration of 30.5 days

^bPeriods defined using the low points between three large waves in COVID-19 deaths in Connecticut (1st period: March 1, 2020 to August 25, 2020; 2nd period: August 26, 2020 to July 12, 2021; 3rd period: July 13, 2021 to December 13, 2021 (date of data collection))

^cCrude and age-adjusted rates presented in events per 100,000 population months

^dMRR: Mortality Rate Ratio; CI: 95% Confidence Interval

References

1. US Census Bureau. Annual County Resident Population Estimates by Age, Sex, Race, and Hispanic Origin: April 1, 2010 to July 1, 2019 (CC-EST2019-ALLDATA) [Internet]. [cited 2022 Feb 7]. Available from: <https://www.census.gov/data/tables/time-series/demo/popest/2010s-counties-detail.html>
2. Connecticut Department of Health. Connecticut Electronic Disease Surveillance System [Internet]. CT.gov. [cited 2022 Feb 5]. Available from: <https://edss.dph.ct.gov/maven/login.do>
3. Hayes L, Abdellatif E, Olson J, Backus K. Connecticut COVID-19 Mortality: Demographic Comparisons and Disparities, March 2020–February 2021. Hartford, CT: Connecticut Department of Public Health; 2021 Sep.