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Progress Together

A Study of the COVID-19 Outbreak and Response in Connecticut Long-Term Care Facilities

Joint Appropriations, Human Services, and Public Health Committees Informational Forum on the Mathematica Interim Report

September 8, 2020

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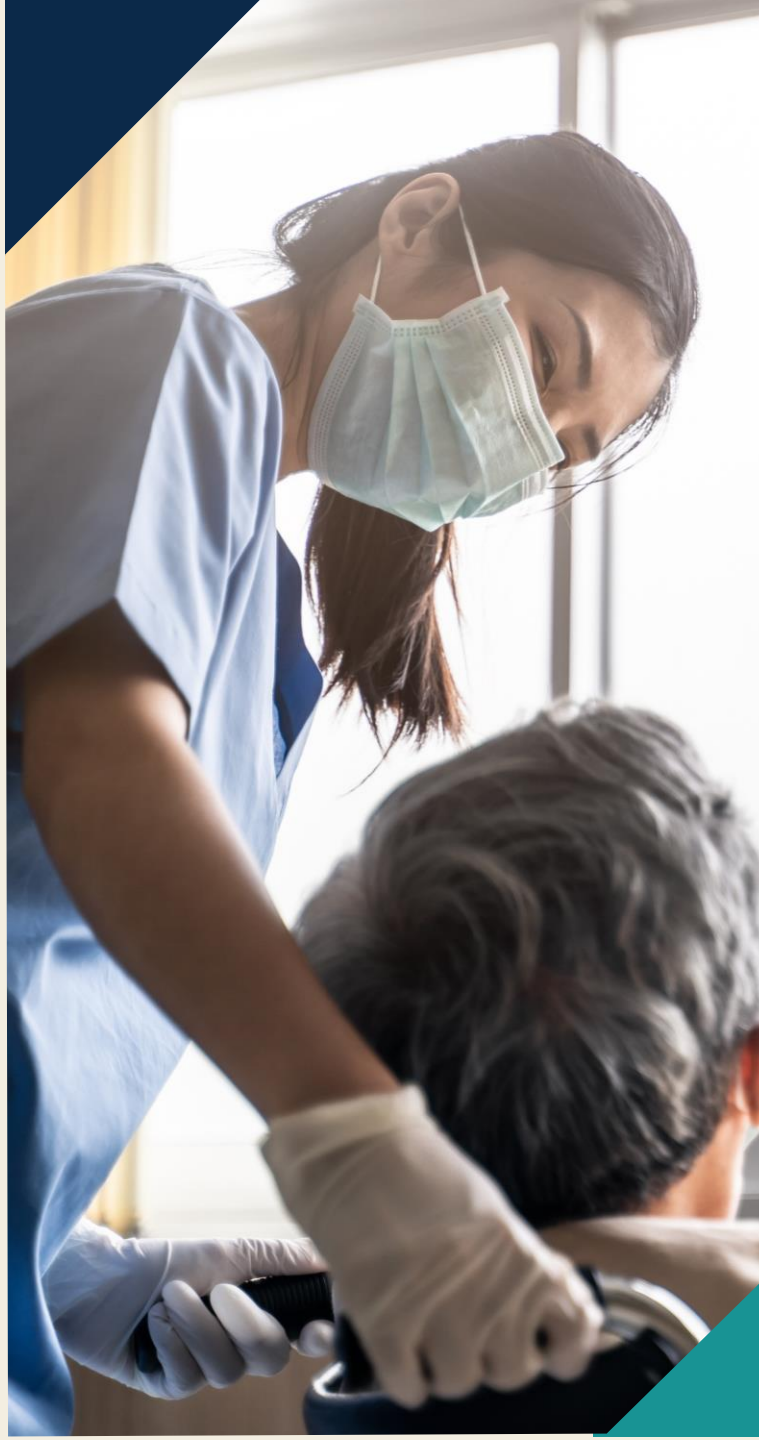


Project motivation

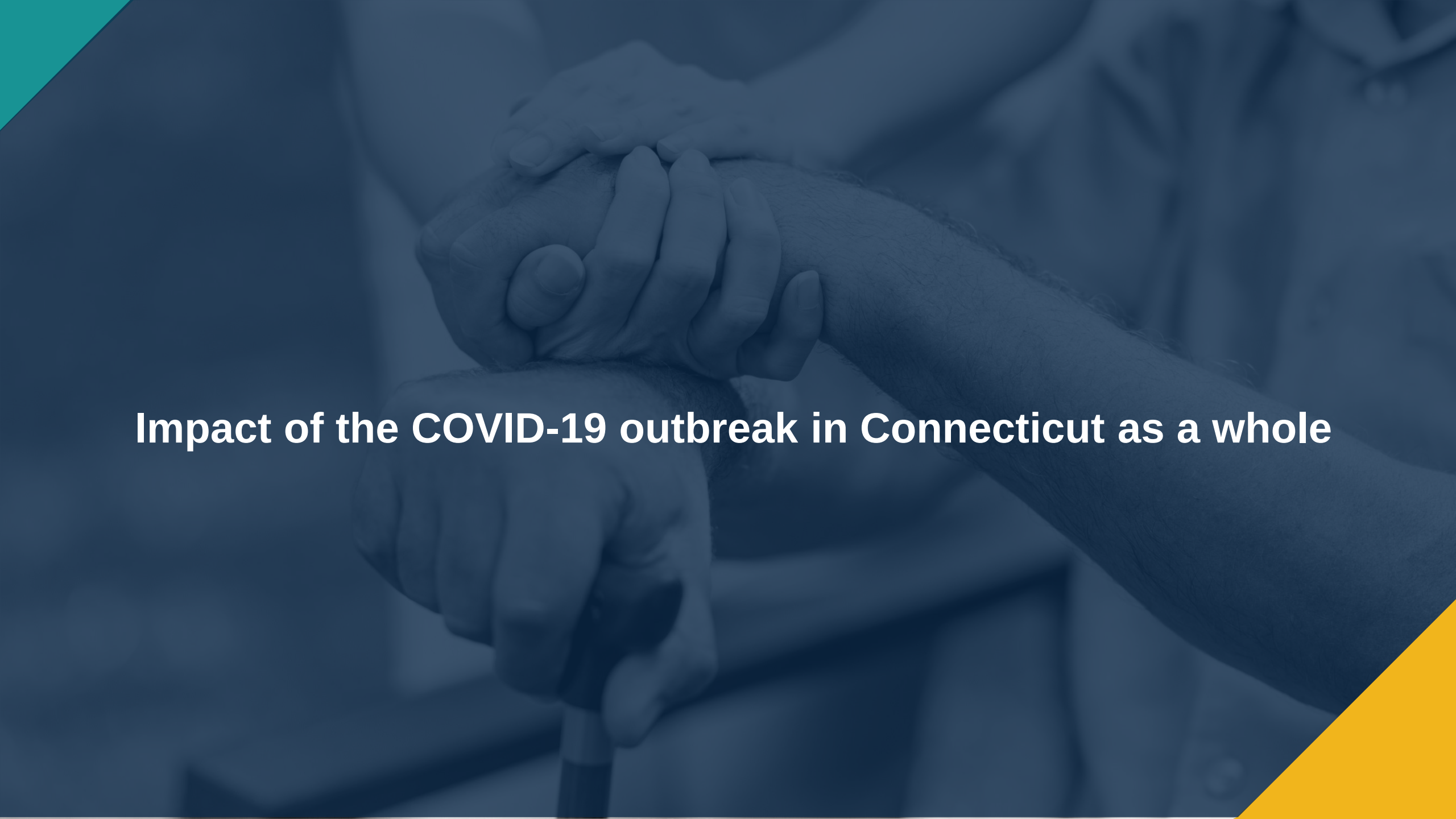
- **Older adults living in long-term care (LTC) facilities are at greater risk of complications from COVID-19 than non-residents.**
  - The increased risk comes from underlying clinical conditions, the transmissible nature of the virus, and the frequent interactions common in congregate care.
- **COVID-19 has had a disproportionate impact on residents of nursing homes and assisted living facilities.**
  - Nationwide, more than 40 percent of all COVID-19 deaths have occurred among LTC residents.
  - In Connecticut, more than 3,000 LTC residents have died, accounting for 74 percent of all COVID-19 deaths in the state as of July 30.

Purpose of the interim report

- **On June 8, 2020, Governor Ned Lamont ordered an independent assessment of the impact of COVID-19 in the state's nursing homes and assisted living facilities.**
  - This report presents a preliminary assessment and interim recommendations for short-term changes the state and industry can take to mitigate a potential second wave of COVID-19.
  - The final report will have a more complete assessment of the preparedness and response.
- **This interim report has three goals:**
  - Describe the impact of COVID-19 in Connecticut as a whole and in LTC facilities compared with other states in the region and the country.
  - Assess the state and LTC industry's preparedness and response to the COVID-19 outbreak.
  - Identify immediate and achievable steps the state and LTC industry can take to prepare for a second wave of COVID-19.

Sources

- **This report is informed by the following:**
  - Mathematica's review of data reported by nursing homes and assisted living communities to the Connecticut Department of Public Health (DPH)
  - Mathematica's review of information provided by DPH and other relevant state agencies
  - 30 interviews with about 60 people conducted from July 13 to August 7
- **Mathematica interviewed a sample of state agency staff, facility administrators, trade association representatives, labor representatives, legislators, and family members with loved ones living in LTC facilities.**
  - Interviews are ongoing, and those conducted after August 7 will inform the final report.

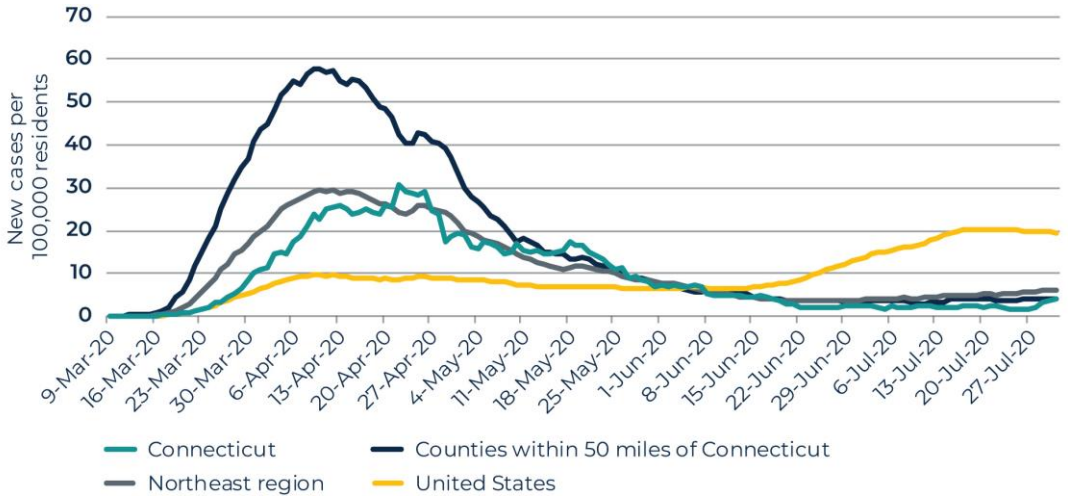


Impact of the COVID-19 outbreak in Connecticut as a whole

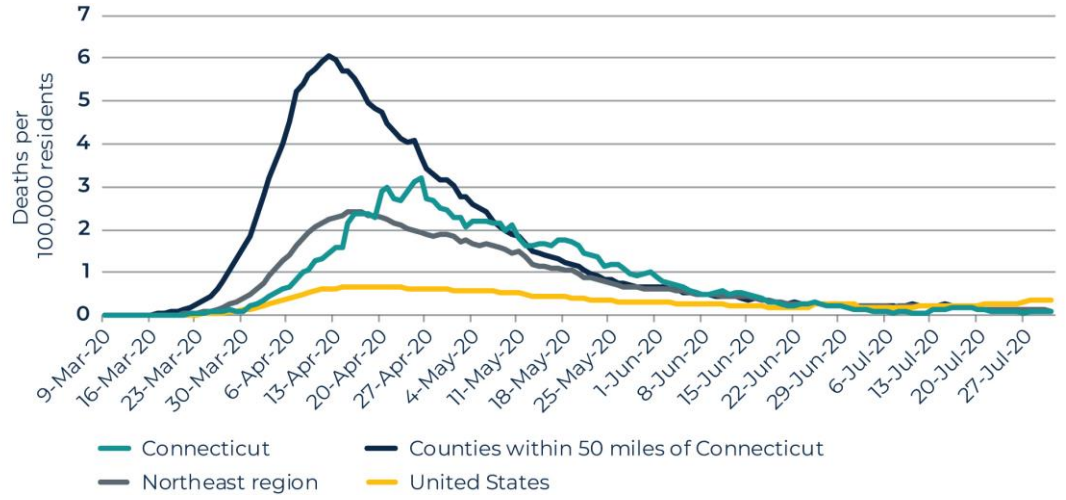
COVID-19 outbreak in Connecticut

- **More severe than in the United States as a whole.**
- **More cases and deaths than the Northeast region, but fewer cases and deaths than counties in neighboring states.**

New COVID-19 cases

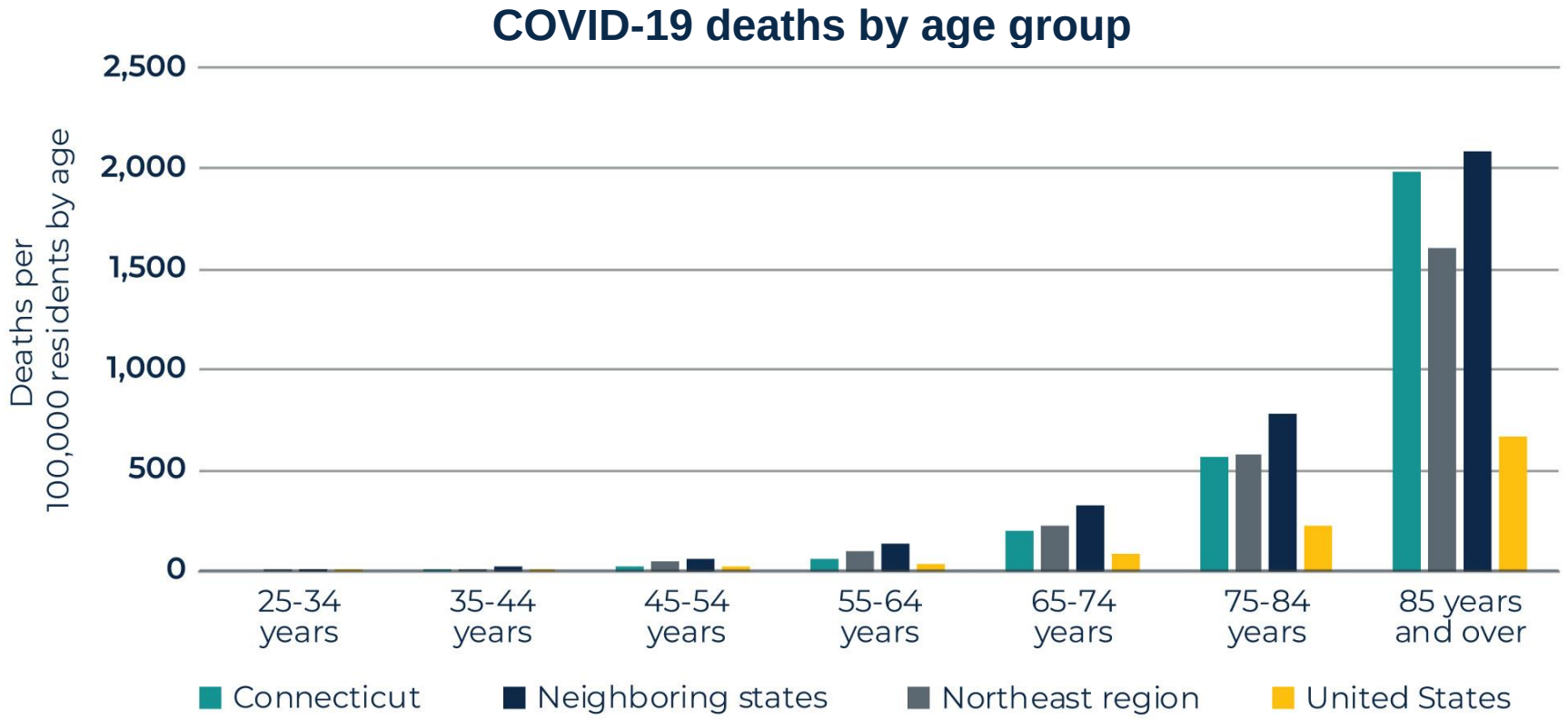


New COVID-19 deaths



Sources: Mathematica's analysis of data collected from Johns Hopkins University and the New York Times.
Notes: This slide depicts the seven-day moving average of new COVID-19 cases and deaths. The Northeast region includes Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Washington, DC.

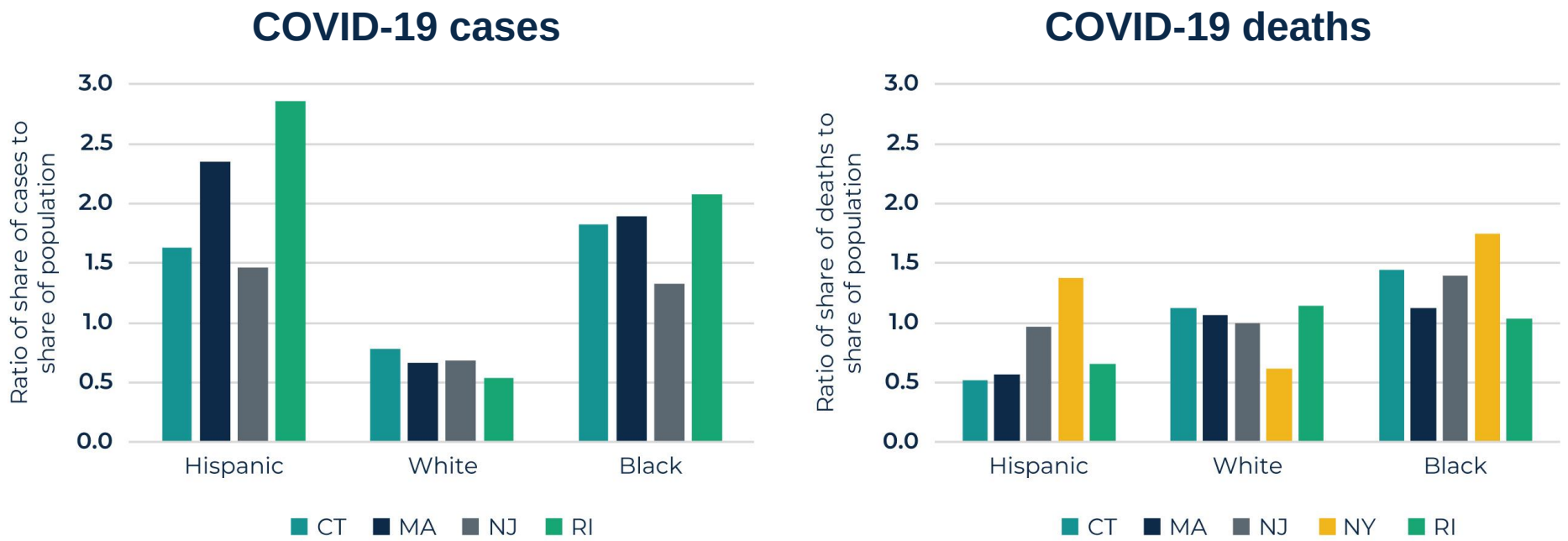
Connecticut adults over 85 were most severely affected



Source: Mathematica's analysis of data collected from the Centers for Disease Control and Prevention.
Notes: Neighboring states includes Massachusetts, New Jersey, New York, and Rhode Island. The Northeast region includes these four states plus Delaware, Maine, Maryland, New Hampshire, Pennsylvania, Vermont, and Washington, DC

Patterns by race and ethnicity

- **COVID-19 cases in Connecticut were disproportionately higher among Hispanic and Black residents than White residents.**
- **Deaths attributable to COVID-19 in Connecticut were higher for Black residents and lower for Hispanic residents relative to White residents.**



Sources: Mathematica's analysis of data collected from the COVID-19 racial data dashboard as compiled by the COVID Tracking Project and Census Bureau estimates.
Note: Each bar represents the ratio of the share of COVID-19 cases for that race or ethnicity group divided by the group's share of the general population. New York is excluded from the ratio of cases because it does not report the racial composition of cases.

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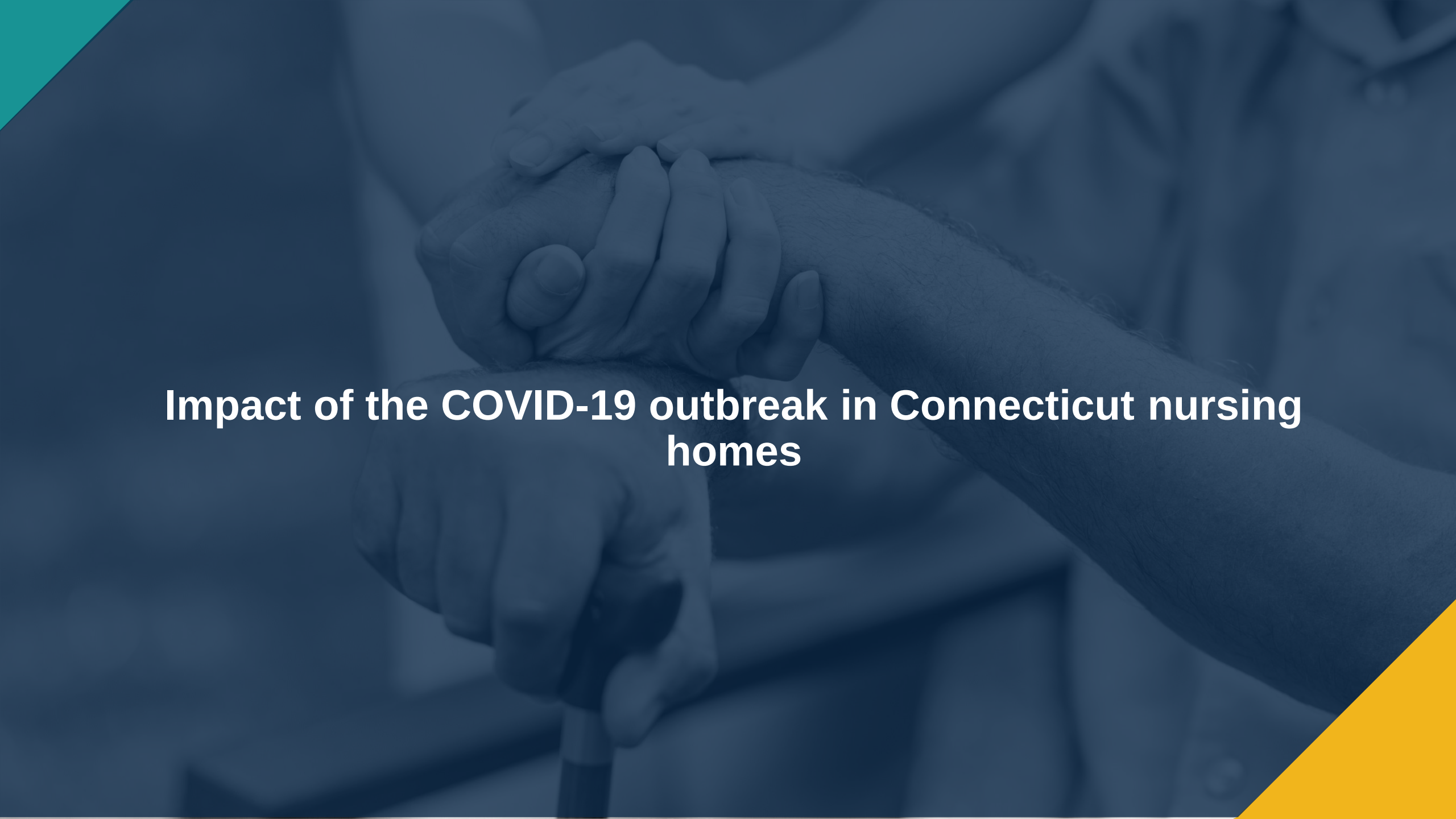
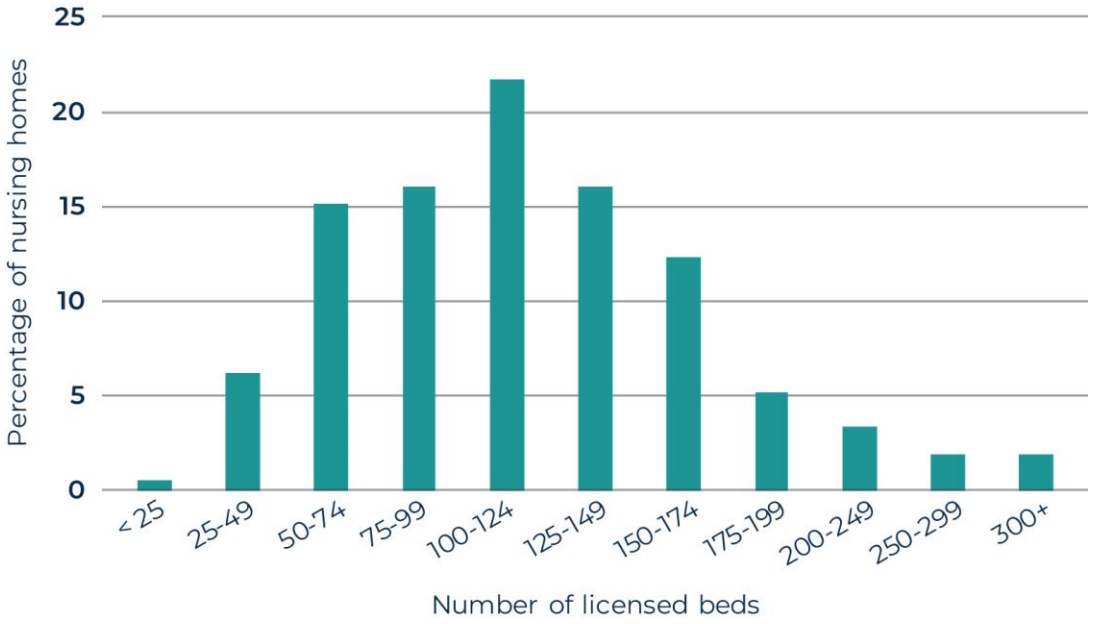


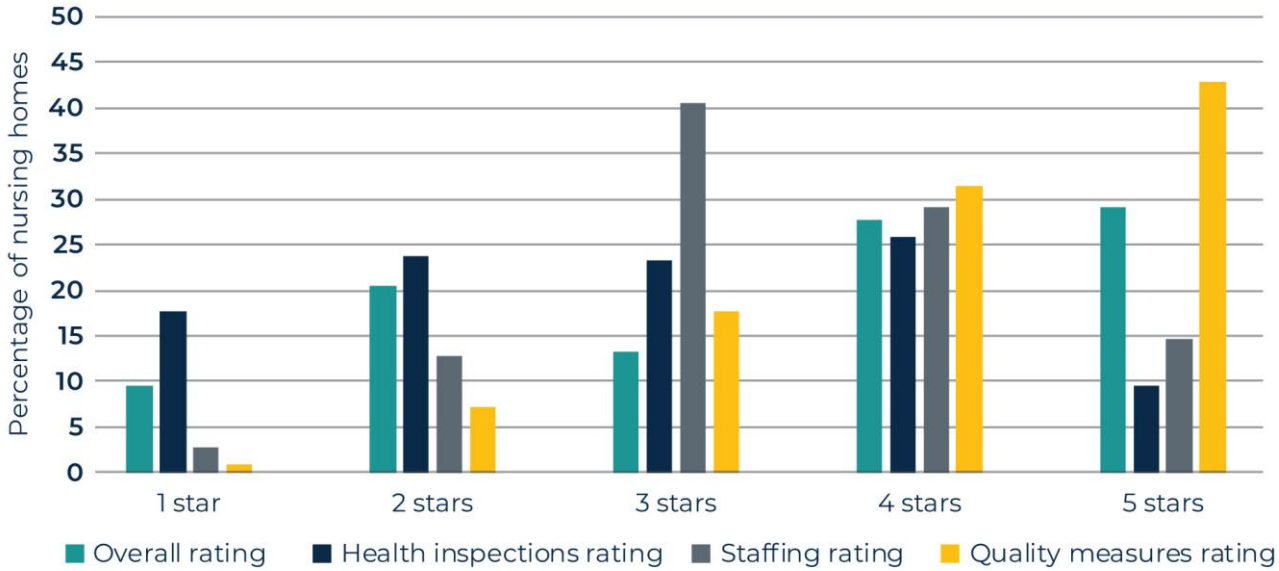
Impact of the COVID-19 outbreak in Connecticut nursing homes

Characteristics of Connecticut nursing homes

Distribution of nursing home size



Distribution of nursing home star ratings



Source: Mathematica's analysis of Nursing Home Compare data.
Note: This includes 212 licensed nursing homes in the state of Connecticut with data on COVID-19 cases and deaths that could be matched to data reported by Nursing Home Compare

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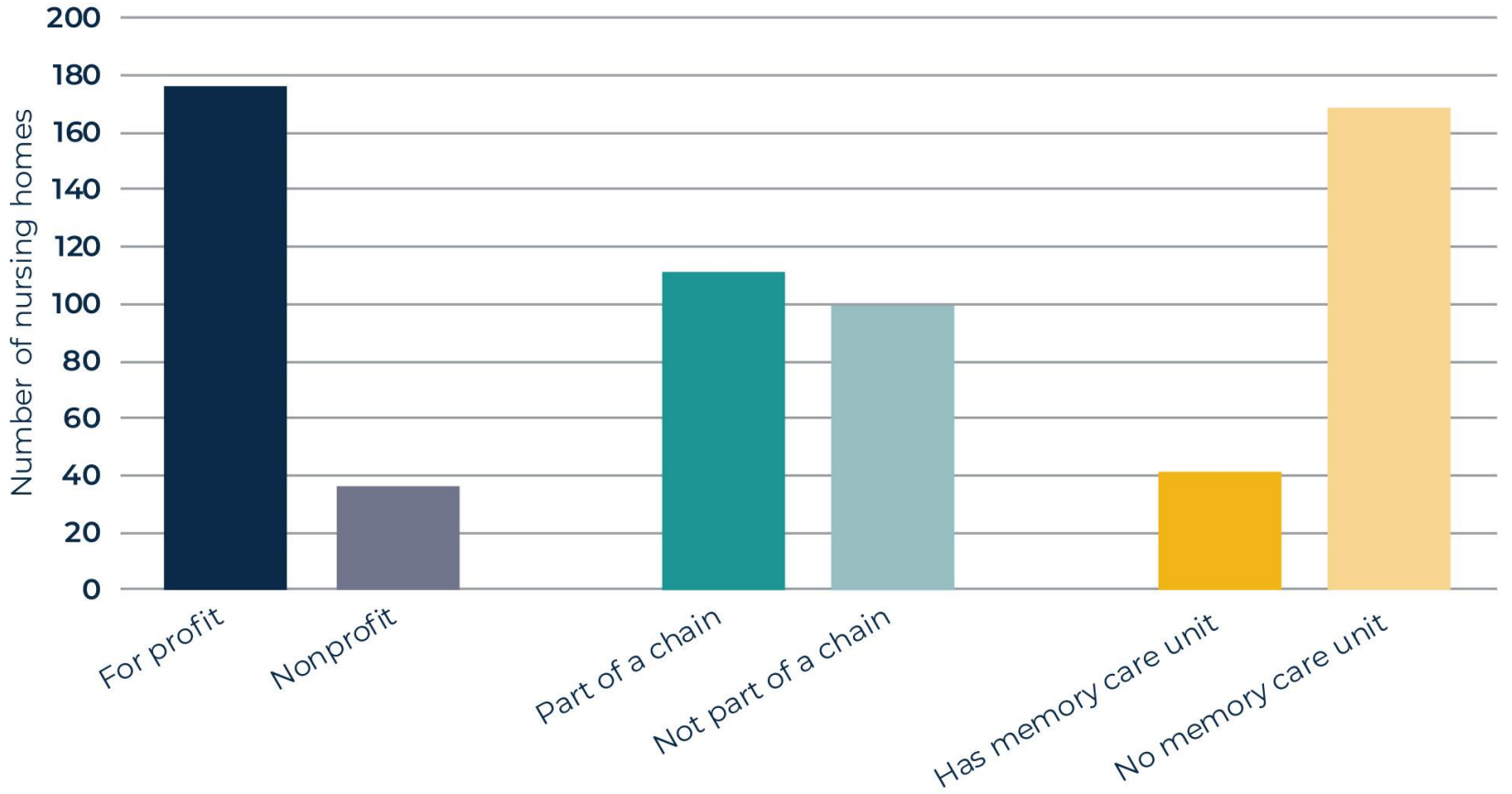
Characteristics of Connecticut nursing homes



Source: Mathematica's analysis of Nursing Home Compare and LTC Focus data.
Note: This includes 212 licensed nursing homes in the state of Connecticut with data on COVID-19 cases and deaths that could be matched to data reported by Nursing Home Compare.

The COVID-19 outbreak in nursing homes peaked in mid-April, with an average of more than 200 new cases and 50 deaths in nursing homes reported daily

Cases in nursing homes

Deaths in nursing homes

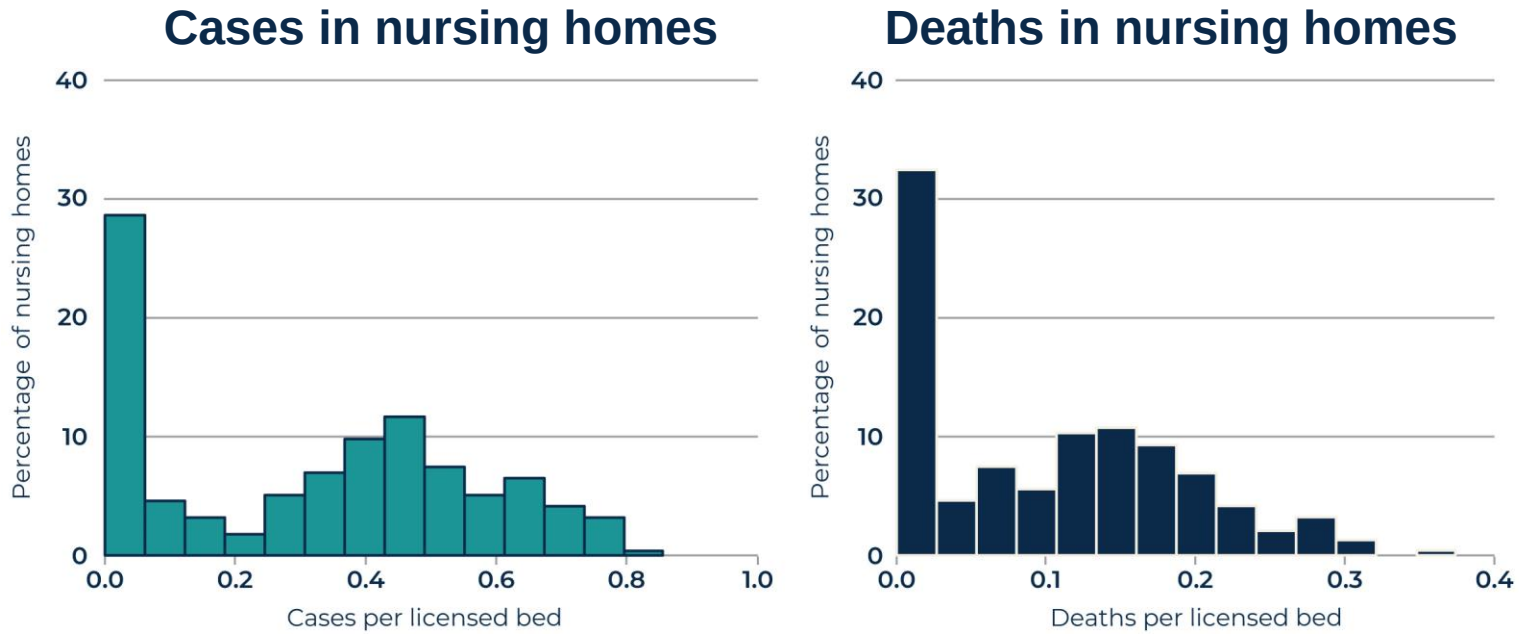
Source: Mathematica's analysis of Connecticut DPH FLIS portal on individual resident data, as reported by nursing homes.
Note: This analysis only includes cases and deaths with a non-missing date.

Key findings

- **COVID-19 cases and deaths were concentrated in certain nursing homes.**
- **Prevalence of COVID-19 in the surrounding community was a major predictor of its effect on nursing homes and assisted living communities.**
- **Larger nursing homes and assisted living communities saw more COVID-19 cases and deaths per bed.**
- **Nursing homes that were for-profit, part of a chain, or had lower staffing levels had worse outcomes.**
- **The COVID-19 outbreak in Connecticut nursing homes did not vary much across nearby states.**

COVID-19 cases and deaths were concentrated in certain nursing homes

- **At least 50 percent of residents contracted COVID-19 in about 1 in 4 (26 percent) of nursing homes, and at least 20 percent of residents died in 1 in 7 (15 percent) nursing homes.**
- **About 30 percent of nursing homes had very few or no cases or deaths.**



Source: Mathematica's analysis of Connecticut DPH FLIS portal on individual resident data, as reported by nursing homes.
Note: Deaths include both confirmed and probable deaths attributable to COVID-19.

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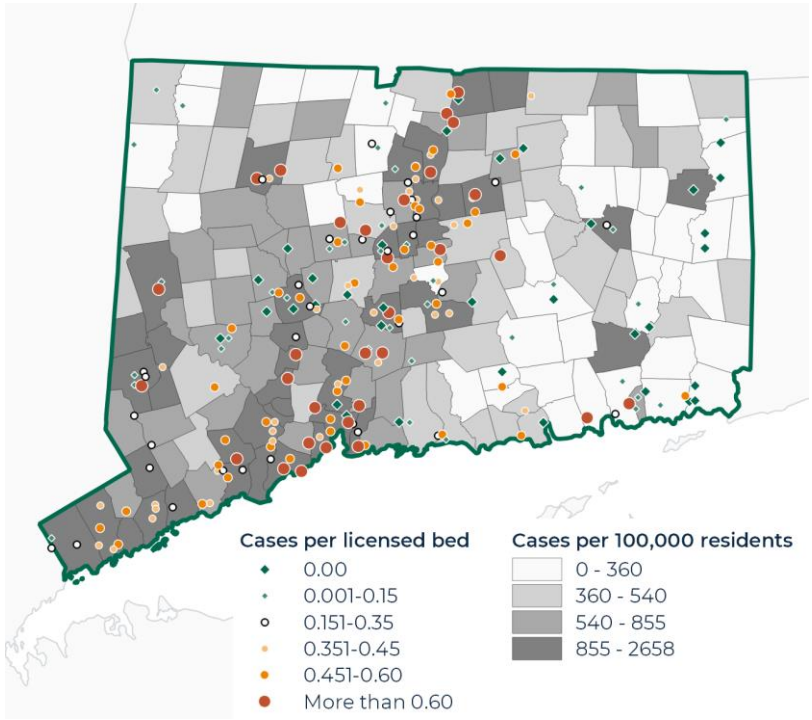
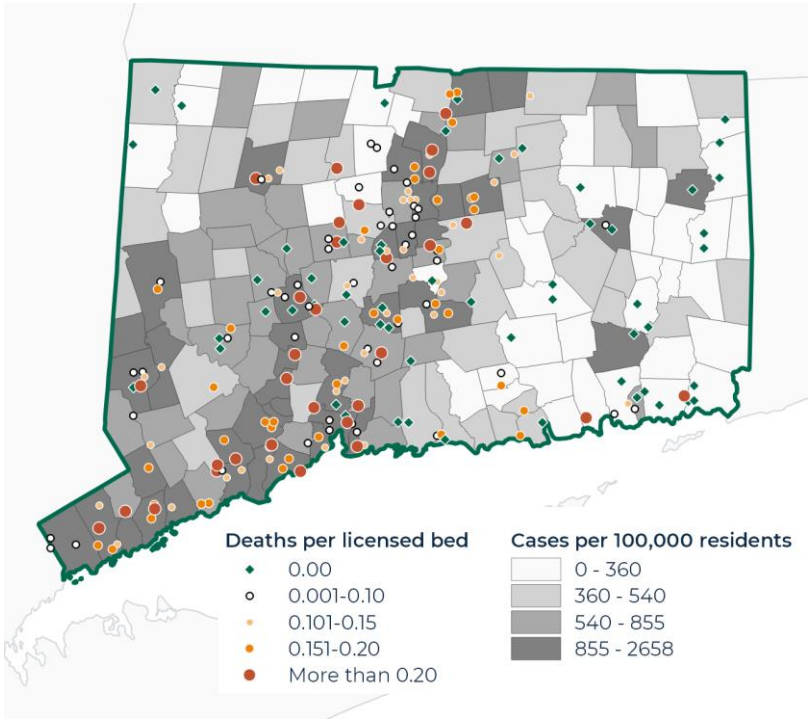
Prevalence of COVID-19 in the surrounding community was a major predictor of its effect on nursing homes

Nursing homes in towns with more cases per person in the community as a whole had more cases and deaths per licensed nursing home bed.





Sources: Mathematica's analysis of nursing-home reported data included in Connecticut's FLIS system and DPH Vital Records data.
Notes: The relationship was highly statistically significant for cases (p = 0.003) and deaths (p = 0.004). Deaths include both confirmed and probable deaths attributable to COVID-19. Cases in each town exclude all cases reported in nursing homes and assisted living facilities within that town.

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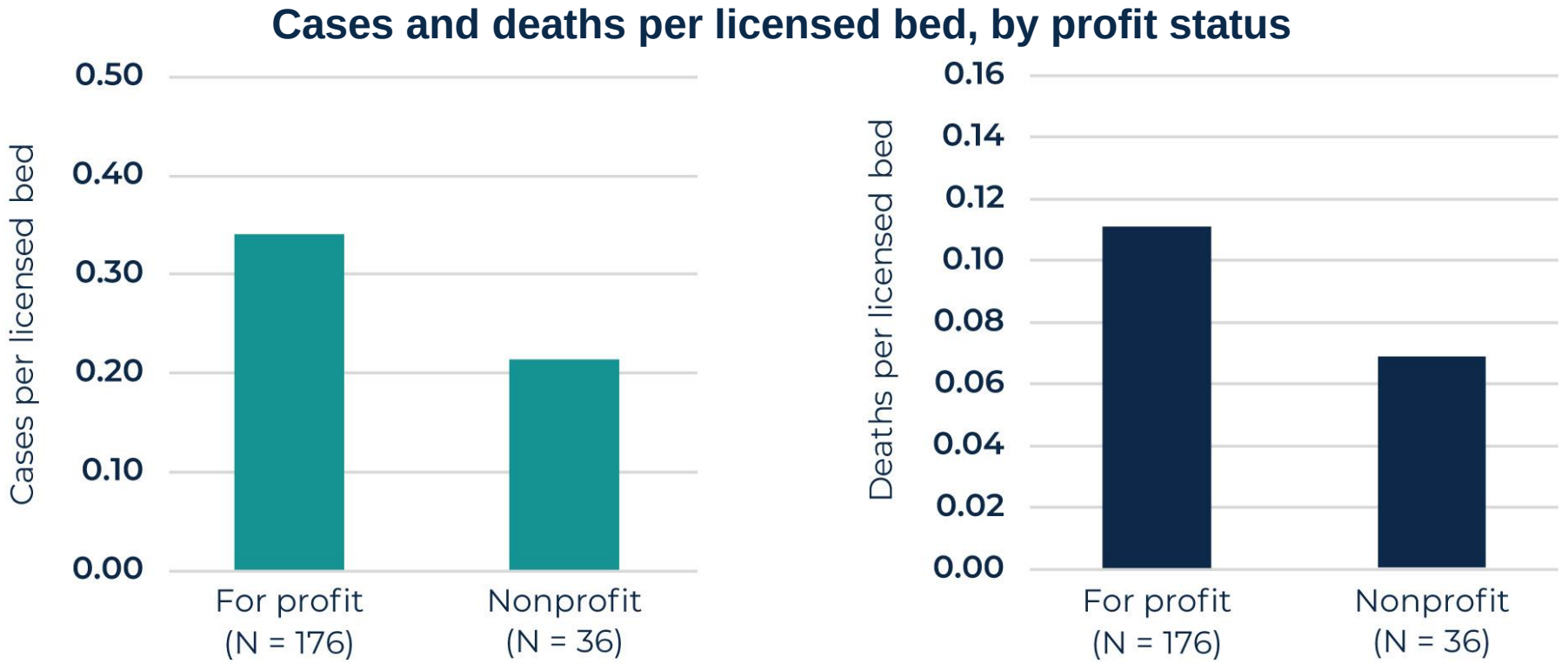
For-profit nursing homes had about 60 percent more cases and deaths per licensed bed than nonprofit nursing homes



Sources: Mathematica's analysis of nursing-home reported data included in CT's FLIS system and Nursing Home Compare data.
Notes: The difference was statistically significant for both cases (p = 0.002) and deaths (p = 0.012). Deaths include both confirmed and probable deaths attributable to COVID-19.

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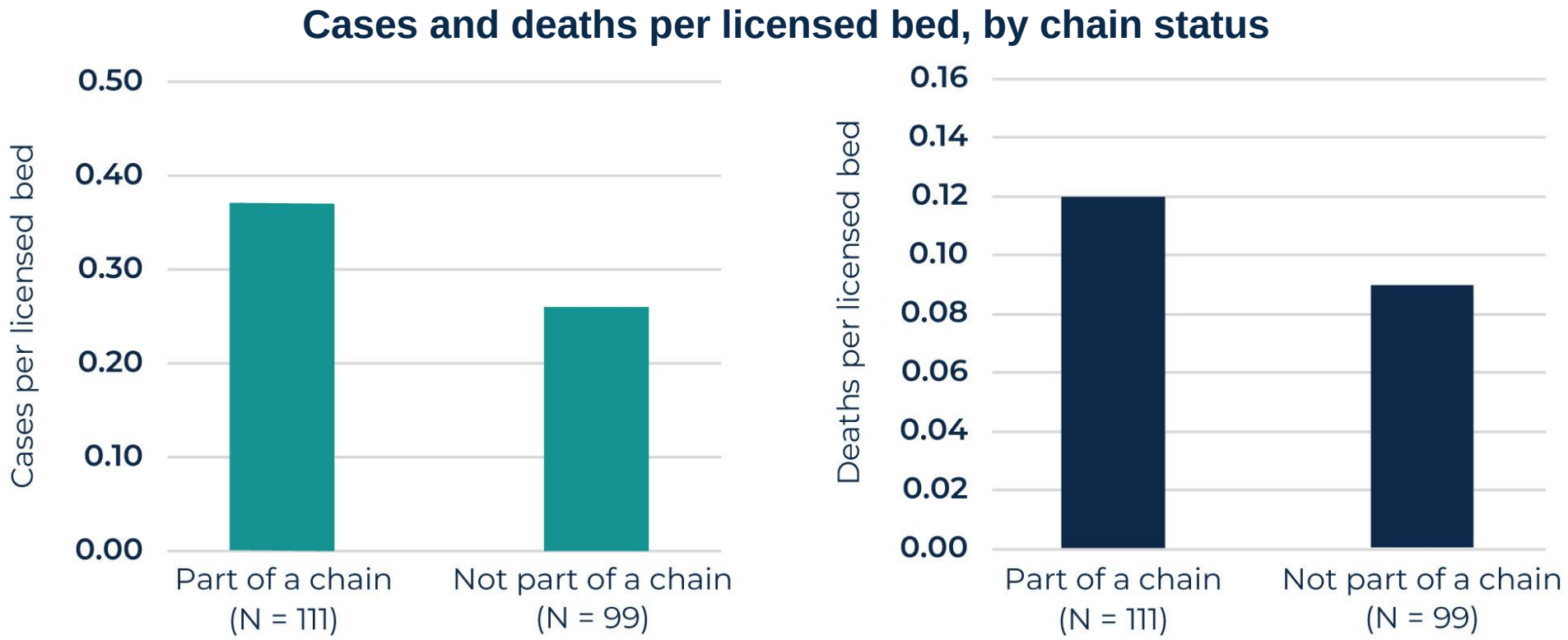
Nursing homes that were part of a chain had about 40 percent more cases and deaths than independently owned nursing homes



Sources: Mathematica's analysis of nursing-home reported data included in Connecticut's FLIS system and LTC Focus data.
Notes: The difference was statistically significant for both cases (p = 0.001) and deaths (p = 0.005). Deaths include both confirmed and probable deaths attributable to COVID-19

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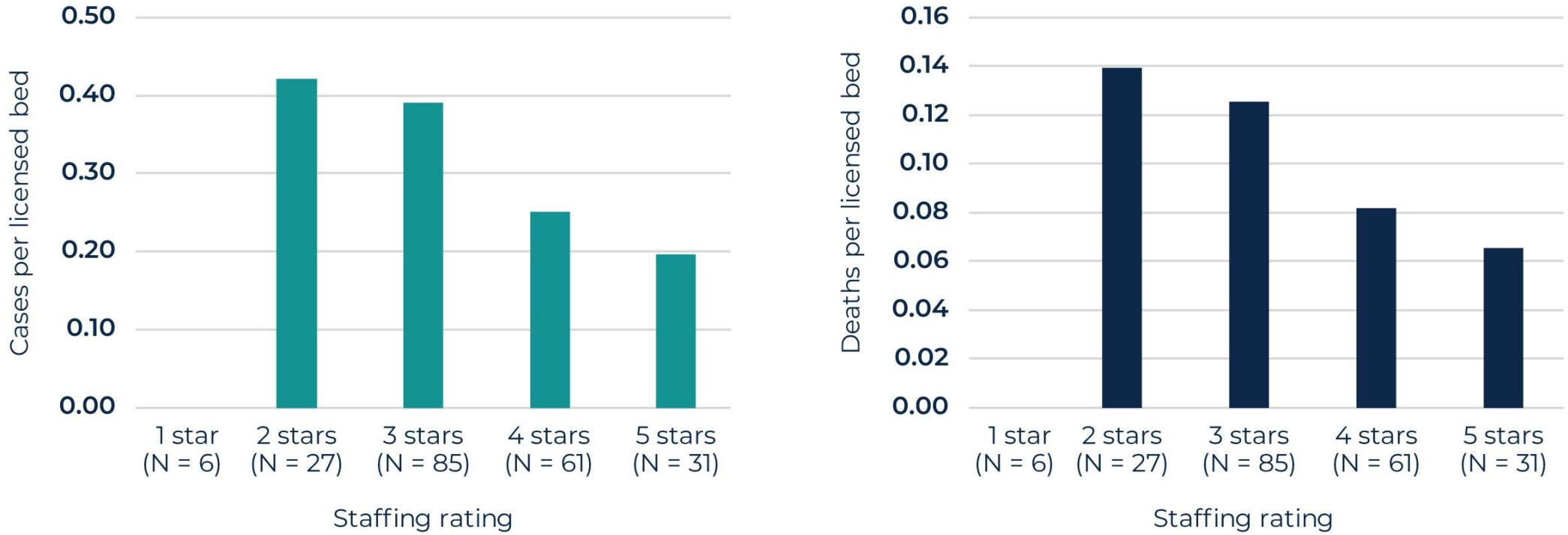
Nursing homes with higher staffing ratings had fewer COVID-19 cases and deaths

Cases and deaths per licensed bed, by staffing rating



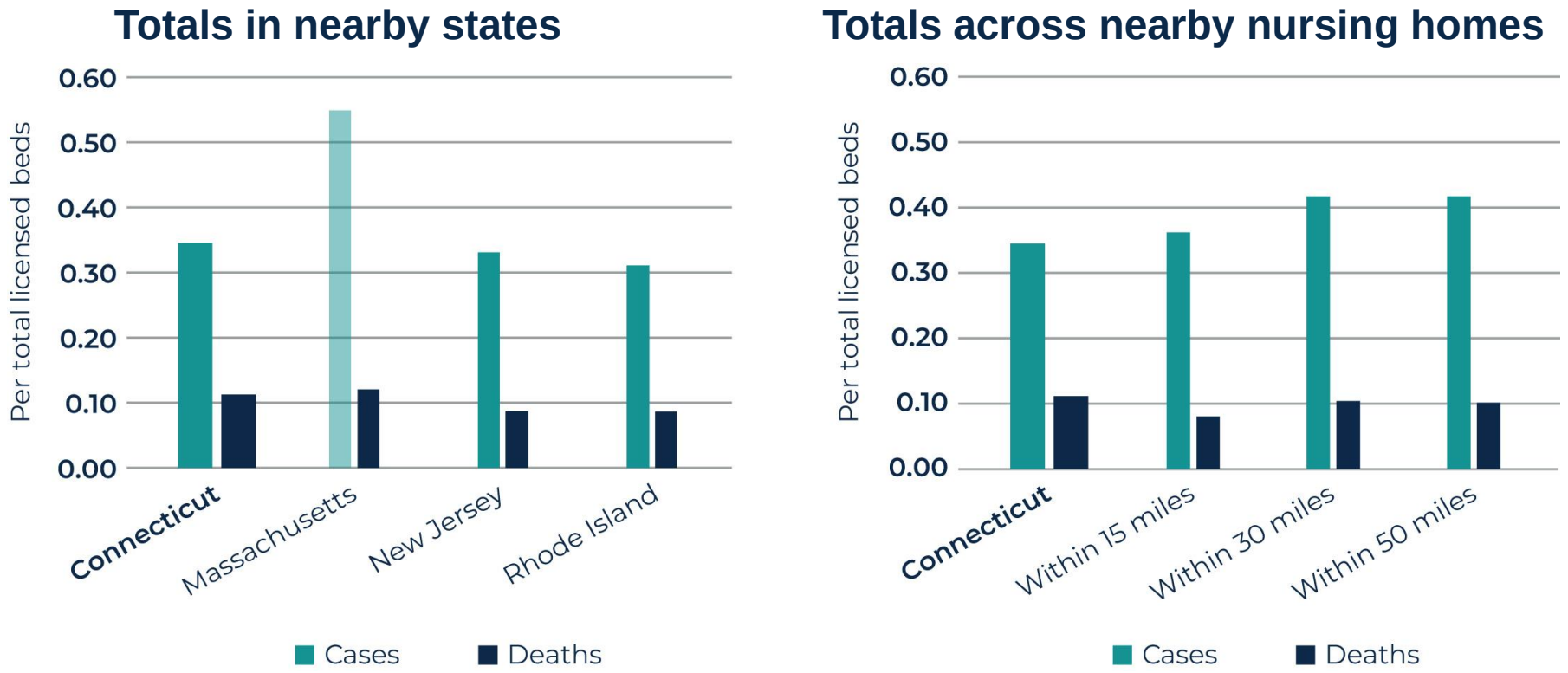
Sources: Mathematica's analysis of nursing-home reported data included in Connecticut's FLIS system and Nursing Home Compare data.
Notes: We compared nursing homes that had a 4- or 5-star staffing rating with those that had a 1-, -2, or 3-star staffing rating and found a statistically significant relationships for cases ($p < 0.001$) and deaths ($p < 0.001$). Deaths include both confirmed and probable deaths attributable to COVID-19. Outcomes for categories with fewer than 10 nursing homes are omitted.

Data available for individual nursing homes, by state

	Connecticut and comparison states (see next three slides)				Other Northeastern states							
	CT	MA	NJ	RI	DE	DC	ME	MD	NH	NY	PA	VT
Cases by nursing home	■	■*	■	■*	No	■	No	■	No	No	■	No
Deaths by nursing home	■	■	■	■	No	■	No	■	No	■*	■	No
Staff case counts by nursing home	■ (after 06/17)	■	■	No	No	■	No	■	No	No	■	No

Notes: Cases in Massachusetts are reported only in ranges of 0; 1 to 10; 11 to 30; and greater than 30, combining staff and resident cases. Rhode Island only reports cases in discrete ranges of 5 cases (for example, 41 to 45). New York death data only includes deaths that occurred in the nursing home.

Total nursing home cases and deaths per licensed bed did not vary much across nearby states



Sources: Mathematica's analysis of state-reported data by individual nursing home matched to Nursing Home Compare data.
Notes: Cases in Massachusetts nursing homes are reported in ranges. We used the number of deaths to impute the number of cases, resulting in total cases that approximately matched the total nursing home cases reported across the state. See appendix for details. Rhode Island and New Jersey do not report information on nursing homes that had zero cases or deaths; the licensed nursing homes not included in the state's data are assumed to have zero cases and zero deaths. Our analysis of nearby nursing homes excludes New York because of data reliability concerns. However, it includes the imputed case counts for nursing homes in Massachusetts..

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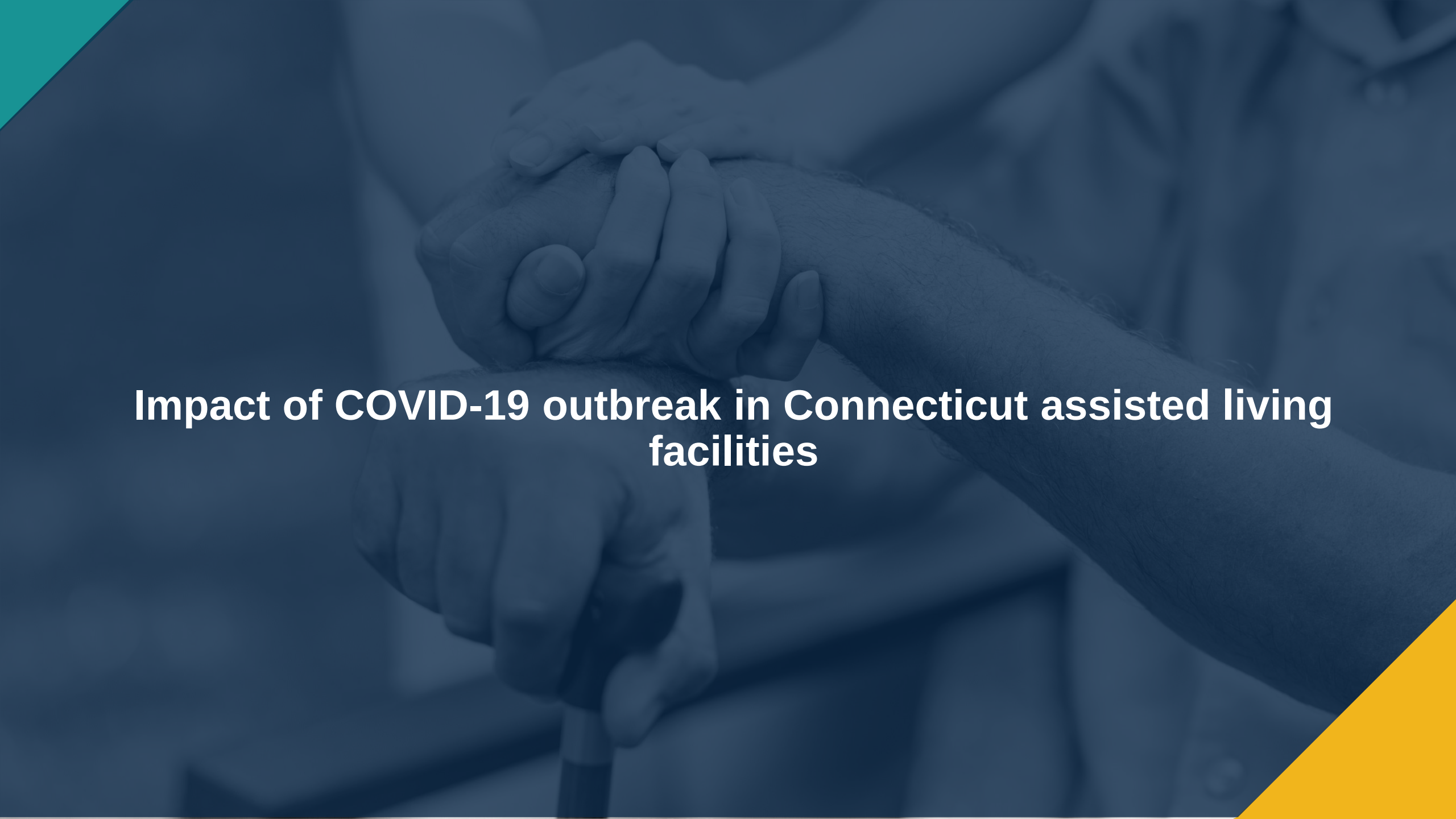
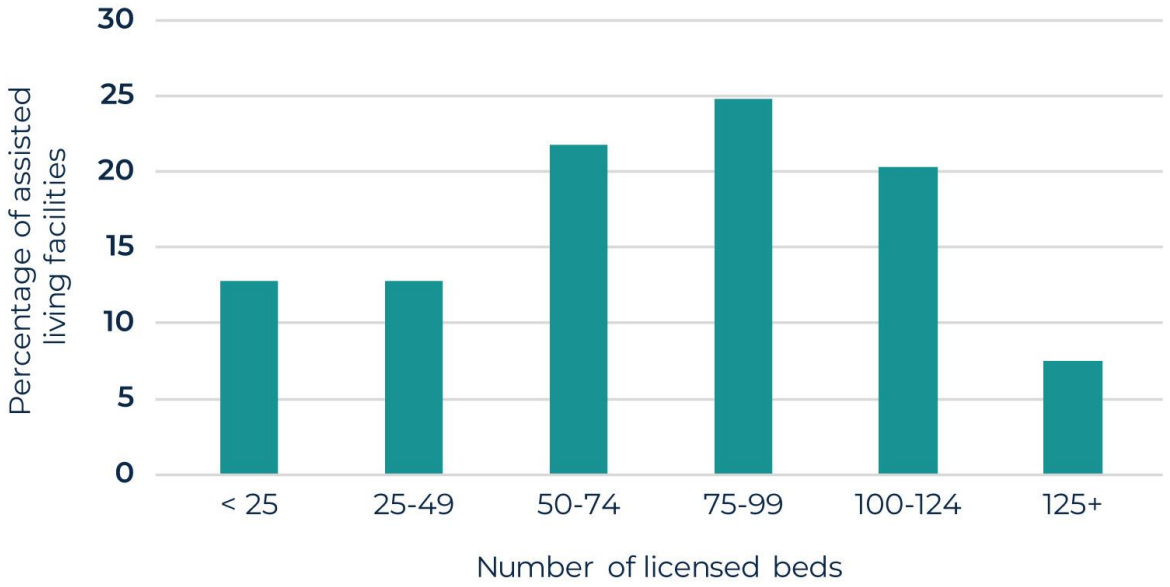


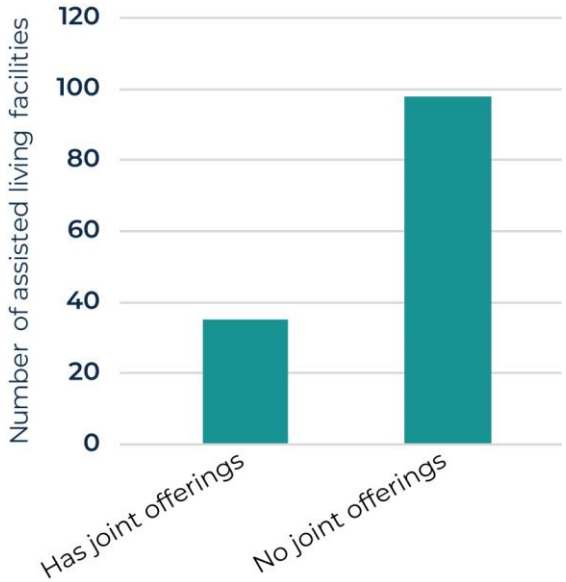
Impact of COVID-19 outbreak in Connecticut assisted living facilities

Characteristics of Connecticut assisted living facilities

Distribution of assisted living facilities by size



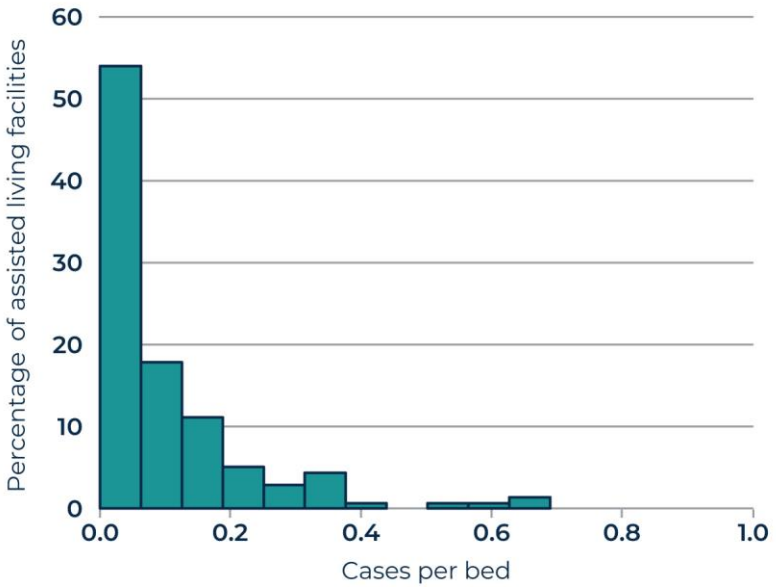
Distribution of assisted living facilities by joint offerings



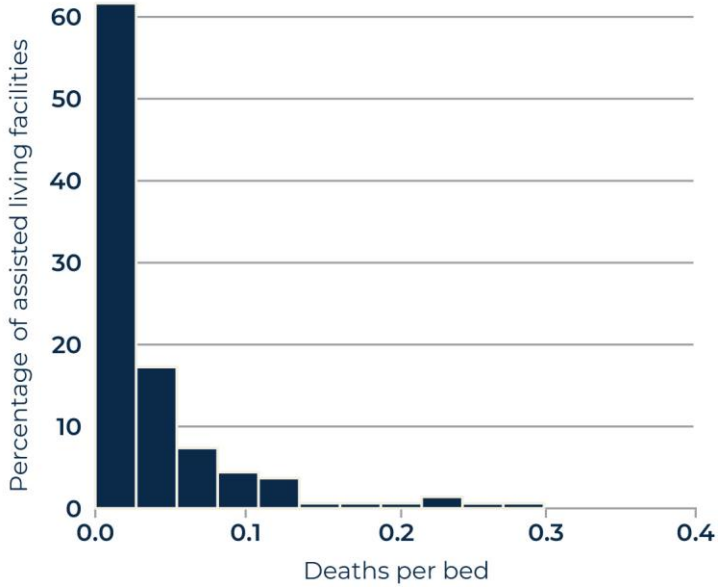
Source: Mathematica's analysis of Connecticut DPH FLIS portal on individual resident data as reported by assisted living facilities.
Notes: This includes 133 assisted living facilities in Connecticut that reported COVID-19 cases or deaths. Joint offerings include those that also have a nursing home, senior independent living, or residential care facility at the same location as reported by assisted living facilities to DPH.

Many assisted living facilities saw COVID-19 outbreaks, though it was less severe than in nursing homes

Cases in assisted living



Deaths in assisted living



- **Only 3 percent of assisted living facilities had more than 50 percent of residents contract COVID-19, and only 3 percent had more than 20 percent of residents die.**
- **37 percent of assisted living facilities had zero cases and deaths.**

Source: Mathematica's analysis of Connecticut's DPH FLIS portal on individual resident data as reported by assisted living facilities.
Note: Deaths include both confirmed and probable deaths attributable to COVID-19.

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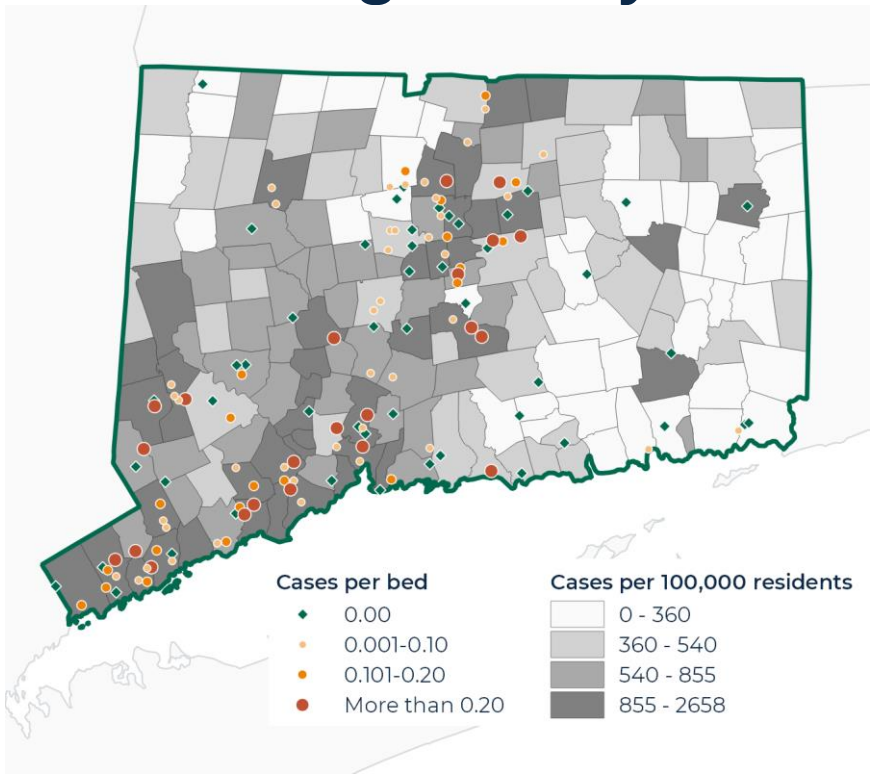
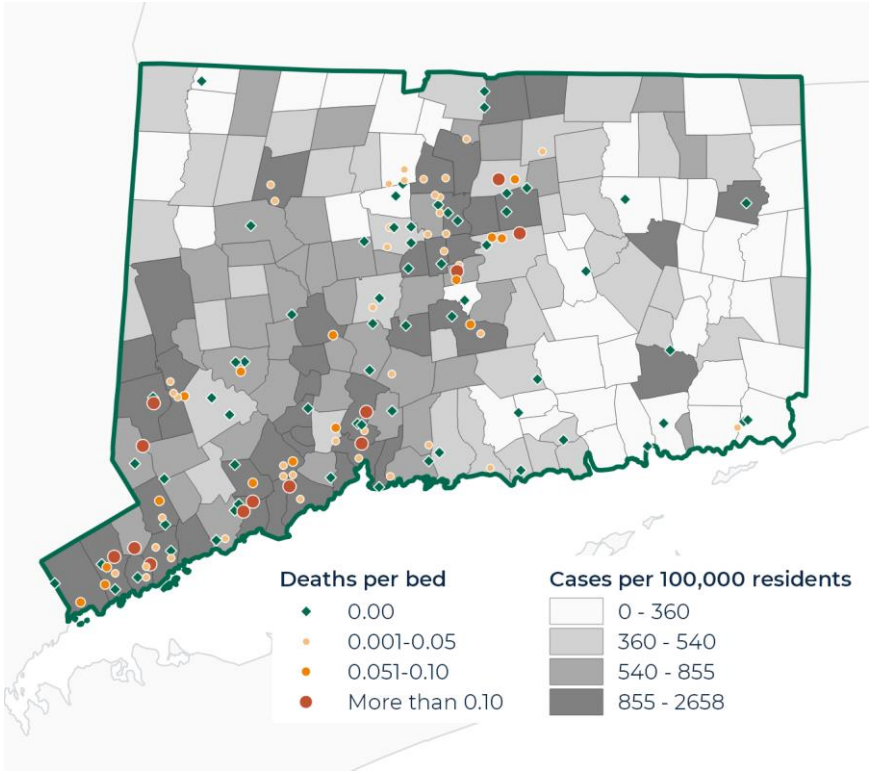
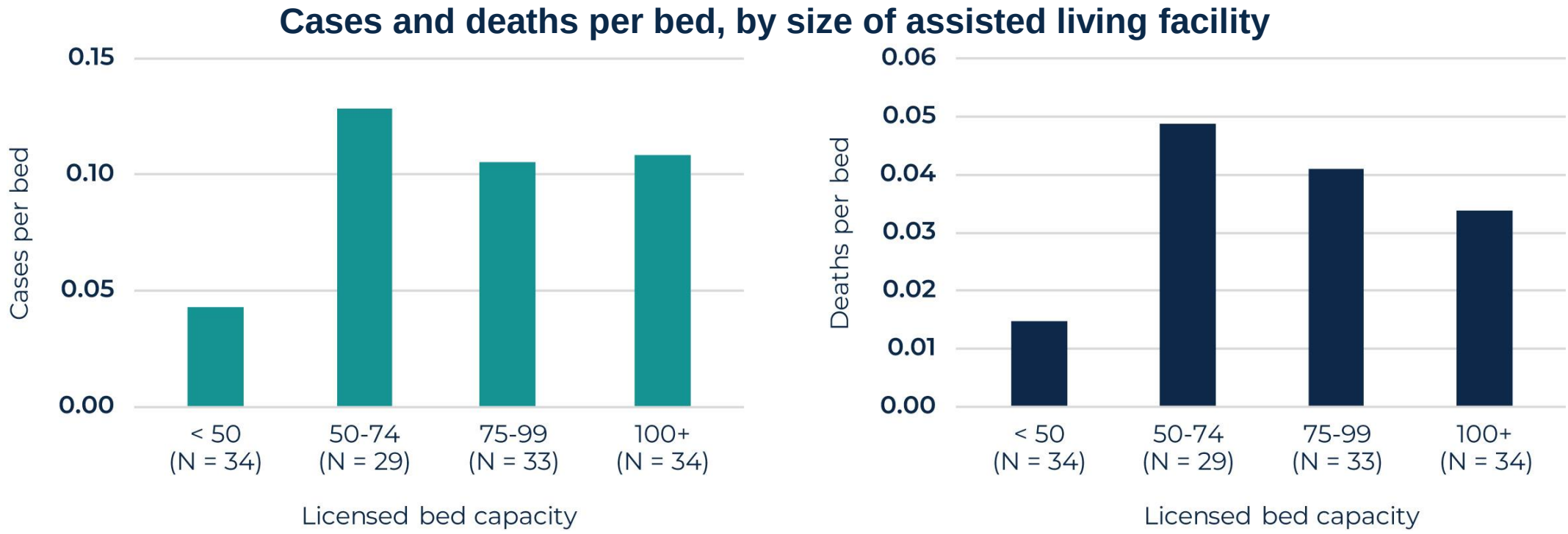
As in nursing homes, prevalence of COVID-19 in the surrounding community was an important predictor of assisted living facility cases and deaths





Sources: Mathematica's analysis of assisted-living reported data included in Connecticut's FLIS system and DPH Vital Records data
Notes: The relationship was highly statistically significant for cases (p = 0.035) and deaths (p = 0.023). Deaths include both confirmed and probable deaths attributable to COVID-19. Cases in each town exclude all cases reported in nursing homes and assisted living facilities within that town.

Larger assisted living facilities had more COVID-19 cases and deaths per licensed bed



Sources: Mathematica's analysis of assisted-living reported data included in Connecticut's FLIS system and DPH Vital Records data.
Notes: The relationship is significant for both cases per bed (p = 0.018) and deaths per bed (p = 0.049). Deaths include both confirmed and probable deaths attributable to COVID-19. The size of the facility was missing for 28 assisted living facilities; in these instances, we used the current census as the size. Some facilities also might have reported their current census rather than the potential size as the size.

Interim recommendations to mitigate a second wave of COVID-19

Recommendations

Person-centered care

- Balance strict measures designed to limit the spread of the virus with the need to support the physical, emotional, and psychosocial needs of LTC residents.
- Resident care plans should reflect COVID-19-specific impacts on individual residents.
- Facilities should continually assess the appropriateness of any policy that restricts the movement of residents within their facility.
- The state should ensure continued support for the Money Follows the Person program.

Surveillance and outbreak response

- The Connecticut DPH should continue infection control focused surveys, targeting more frequent surveys in nursing homes with ongoing or increasing infections.
- DPH should ensure that all temporary survey staff, including National Guard personnel, complete basic and ongoing training to conduct surveys consistently and thoroughly, including training on infection control and prevention.
- All Facility Licensing and Investigation Section (FLIS) staff or other personnel conducting in-person surveys in nursing homes should be regularly tested for COVID-19 to ensure that surveyors do not become a source of possible resident or staff infection.
- The state should explore ways to reduce duplicate resources and case reporting to minimize burden on facilities and reduce the risk of data errors.

Recommendations *(continued)*

Screening and testing

- DPH should continuously revisit its guidance on testing LTC facility residents and staff as new information becomes available to ensure testing capacity remains ample.
- DPH should assess the Care Partners testing program to ensure that it is meeting its intended goals.
- As new testing technology receives Food and Drug Administration approval, the state should revisit its Medicaid reimbursement approaches to ensure they incentivize efficient use of resources.

Infection control in LTC facilities

- The state should continue its work with federal partners and private industry to procure and distribute PPE to LTC facilities as needed.
- The state should designate qualified staff or contractors who can provide technical assistance to LTC facilities regarding infection control guidelines.

Facility staffing and workforce availability

- Facilities should adopt staffing policies that can help limit potential exposure for staff and residents.
- The state should extend the temporary suspension of in-state licensure requirements through the end of the calendar year or for as long as the public health emergency is in effect.
- The state and industry should partner to develop and implement strategies to supplement and strengthen the LTC workforce.

Recommendations *(continued)*

Communications

- DPH should supplement its weekly calls with LTC facilities by providing written summaries following each call and archiving guidance in a central place (for example, via "blast faxes" or the Mutual Aid Plan website).
- DPH and individual facilities should make concerted efforts to allow for safe visits between residents and loved ones.
- Facilities should ensure that family members can obtain accurate and timely information on residents' health and well-being.

Emergency response

- State plans for a potential second wave should be developed in consultation with representatives from the LTC industry, residents, and family members.
- The state should begin planning now to scale up COVID-19 recovery facility (CRF) capacity as needed and deploy it quickly in response to the scope and severity of a second wave.
- The state should explore executing per diem contracts for staff extenders now to ensure resources are available for a timely response to a potential second wave.

Reimbursement mechanisms

- The state should continue to assess how it supports facilities with the cost of widespread resident and staff testing.
- The state should continue to assess options for enhanced Medicaid reimbursement to nursing homes.

Next steps

Next steps

- **Continued review of documentation of the state and LTC industry preparedness and response.**
- **Supplemental interviews to gather further perspectives to inform the final report.**
- **Analyze resident data in Connecticut nursing homes to determine whether resident characteristics were predictive of COVID-19 outcomes.**