

# COVID-19 toll in nursing homes linked to staffing levels and quality

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A new study shows that residents of long-term care facilities with lower nurse staffing levels, poorer quality scores, and higher concentrations of disadvantaged residents suffer from higher rates of confirmed COVID-19 cases and deaths.

"In nursing homes, quality and staffing are [important factors](#), and there

already exists system-wide disparities in which facilities with lower resources and higher concentrations of socio-economically disadvantaged residents have poorer health outcomes," said Yue Li, Ph.D., a professor in the University of Rochester Medical Center (URMC) Department of Public Health Sciences and lead author of the study which appears in the *Journal of the American Geriatrics Society*. "These same institutional disparities are now playing out during the [coronavirus](#) pandemic."

Residents of long-term care facilities have been shown to be highly vulnerable to respiratory disease outbreaks, such as influenza or other common human coronaviruses. Current evidence suggests that COVID-19 disproportionately impacts older adults and individuals with chronic health conditions. These factors are more concentrated in nursing homes where residents are characterized by advanced age, more frequent and complex chronic disease patterns, and highly impaired physical, cognitive, and immune system functions, putting these populations at greater risk for more severe COVID-19 infections.

This phenomenon first came to light in a skilled nursing facility in the Seattle area in February during the early stages of the pandemic, where more than half of the residents in the facility became infected and a third died. Since that time, 50,000 coronavirus-related deaths, approximately 40 percent of the total, have been linked to nursing homes across the U.S.

The new study examined nursing home level data published on the Connecticut Department of Health and Human Services website. At the time of the study, Connecticut was one of the few states that made this information publically available. This information was compared to data from the Center for Medicare & Medicaid Service's (CMS) Nursing Home Compare website, which tracks quality, staffing, and health outcomes for nursing homes nationwide.

Analyses of the data showed that long-term care facilities with higher concentrations of disadvantaged residents, including Medicaid residents and racial and ethnic minorities, lower nurse staffing levels, particularly registered nurses (RN), and lower scores on CMS five-star quality measures, had higher rates of confirmed COVID-19 cases and deaths. Higher nurse staffing ratios in particular was strongly associated with fewer cases and deaths.

"In most nursing homes, RNs are the linchpin for the assessment and provision of medical care, including early identification of and response to emergencies and life threatening situations," said Li. "Our findings of the strong negative association between RN staffing and the number of COVID-19 cases and deaths in nursing homes are consistent with research that has demonstrated that increased nursing levels are key to an institution's ability to respond to outbreaks of emerging infections."

Similar patterns in nursing homes have since been observed in other states, including California. In April, the federal Centers for Disease Control and Prevention (CDC) required all nursing homes to submit COVID-19 data. A preliminary analysis of the CDC data showed similar associations between nursing home quality and staffing and coronavirus infection rates and deaths.

The authors suggest that the findings should be used to recalibrate the nation's efforts to control infection rates in nursing homes. Efforts to date have concentrated in facilities located in areas with high infection rates. The authors contend that, going forward, regulators and state nursing home inspectors should also target homes with lower RN staffing levels and quality ratings.

Provided by University of Rochester Medical Center

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