

Study finds racial disparities in COVID-19 deaths in nursing homes

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Nursing homes with the largest proportions of non-White residents experience 3.3 times more COVID-19 deaths than do nursing homes with the largest proportions of White residents, according to a new study

from the University of Chicago. The paper, published in *JAMA Network Open*, suggests that these differences are likely due to nursing home size and the level of coronavirus spread in the local community, reinforcing the inseparability of long-term care facilities from society at large when it comes to bringing the COVID-19 pandemic to heel.

Since the start of the pandemic, between 35% and 40% of COVID-19 deaths have been associated with long-term care facilities. Senior author R. Tamara Konetzka, Ph.D., the Louis Block Professor of Public Health Sciences and the College at UChicago, wanted to bring her 25 years of experience studying nursing homes to ask why these facilities were experiencing such devastation from the coronavirus and if it was possible to predict which nursing homes were at highest risk.

Konetzka and her collaborator, Rebecca Gorges, Ph.D., a postdoc in the Department of Public Health Sciences, pulled together [data sets](#) from national sources, compiling information from over 13,000 nursing homes, to identify predictors of COVID-19 outcomes in nursing homes. The data represented COVID-19 outcomes during the first waves of the pandemic, beginning between January 1 and May 24 and ending September 23, 2020. "Very early on, we saw some striking relationships with the racial composition of a nursing home, where nursing homes serving more Black and brown residents seem to have more COVID cases and deaths," said Dr. Konetzka.

Nursing homes with the highest percentages of non-White residents had more than three times as many COVID-19 cases and deaths than nursing homes with the highest percentages of White residents. More than 60% of nursing homes with the highest percentages of non-White residents reported at least one COVID-19 death, with an average of 5.6 deaths, compared to only 20% of nursing homes with the highest percentages of White residents reporting at least one death, with an average of 1.7 deaths.

"There were theories floating around that maybe Black and brown residents are just sicker or are in low-quality homes, but we wanted to dig beneath these really alarming statistics and analyze why these outcomes were happening," said Konetzka.

To identify why these racial disparities between nursing homes existed, the investigators compared a number of characteristics of nursing homes to their COVID-19 outcomes, including: overall patient health, facility size, chain membership, ownership type, number of nursing hours, coronavirus spread in the [local community](#), and facility star rating. After controlling for these factors, only two explained the difference in COVID-19 outcomes by race: nursing home size, and COVID-19 rates in the surrounding community.

"It's not about the underlying health of the residents or even the quality of the nursing homes by star rating," said Konetzka. "One factor is just the size of these facilities." Nursing homes with higher percentages of non-White residents tend to be larger than nursing homes with higher percentages of White residents. Large facilities are more likely to experience worse coronavirus outbreaks since their sheer size allows more opportunities for an outbreak to be seeded.

"The other important reason why we see these racial differences is the prevalence of the virus in the surrounding community," said Konetzka. "Black and non-White people in general tend to live in neighborhoods that have a high prevalence of the virus and even the staff who work in these facilities are more likely to live in these neighborhoods. It's about location and size, more than anything else."

These findings were not initially obvious to the investigators. At first, it seemed as if the disparities in COVID-19 outcomes might be explained by Black individuals being more likely to reside in lower quality nursing homes and entering these facilities in worse health than their White

counterparts. However, neither of these explanations could account for the differences in COVID-19 outcomes, as it seems that the entire system was unprepared to weather the pandemic.

"I think it was surprising to everyone that low quality of nursing home care wasn't at the root of this. In fact, a few years prior to the pandemic, a lot was made of the fact that the majority of nursing homes had regulatory deficiencies in their infection control procedures. But it turns out even being cited by Medicare or Medicaid isn't predictive. The whole sector was just unable to deal with a crisis of this magnitude," said Konetzka.

According to her, the fundamental facts of how the coronavirus transmits and how nursing homes operate led to this system-wide failure. "The coronavirus can be spread asymptotically and is airborne. Large nursing homes can have several residents per room and staff must go room to room to give care. COVID-19 is a perfect storm where it doesn't matter if a nursing home is high- or low-quality; all patients are at risk."

This research is part of a larger ongoing project by Konetzka to study the effects of COVID-19 on nursing homes. Her early work in the spring led to her testifying before the Senate Special Committee on Aging on why nursing homes were suffering from poor COVID-19 outcomes and how to improve the ability of the facilities to deal with the coronavirus. "This was really rewarding as an academic, because we do rigorous research about fundamental behaviors and this was an opportunity to directly influence policy and make a difference in people's lives," said Konetzka. While she believes that her and others' research has begun to shape the narrative around nursing homes during the pandemic, Konetzka says there is still more to study.

"There's also still a lot to learn about what works in terms of both state policy and federal policy," said Konetzka. "Nursing homes are a grossly

underfunded area of our healthcare system, but they are still really connected to the rest of our system."

The paper's finding that the level of community spread accounted for some of the racial disparities underscores how intimately nursing homes are tied to the rest of society. "We can't just dissociate what's happening in nursing homes from the rest of the pandemic. Solving that problem is part of solving the entire pandemic."

Though there will be an end to the COVID-19 pandemic, Konetzka says the underlying issues in long-term care must still be addressed. "Getting old and needing long-term care is in all our futures. Selfishly, we should work towards a system that is safe and effective, and provides a high quality of life for people as they age. But, in the long run, if we want to prevent these nursing [home](#) deaths from happening again in the next pandemic, we have to seriously revisit the whole way we approach and fund long-term care."

More information: Rebecca J. Gorges et al, Factors Associated With Racial Differences in Deaths Among Nursing Home Residents With COVID-19 Infection in the US, *JAMA Network Open* (2021). [DOI: 10.1001/jamanetworkopen.2020.37431](https://doi.org/10.1001/jamanetworkopen.2020.37431)

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