



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



JAMDA

journal homepage: www.jamda.com

Letter to the Editor

Research Needed: Better Quantitative Studies to Identify Causes of COVID-19 Nursing Home Disparities



To the Editor:

The Coronavirus Disease 2019 (COVID-19) pandemic has brought to light numerous societal inequities, revealing the impacts of multiple layers of disadvantage born most often by racial and ethnic minorities. The examination by *The New York Times* of COVID-19 data alerted us to inequities at play in nursing homes (NHs), where COVID-19 cases were more likely to be present in NHs serving higher proportions of residents who are African American (AA)/Black or Latinx.¹ This disparity was neither explained by facility size nor location.

These findings were not surprising, given prior research on NH disparities. Studies show that NHs serving higher proportions of older adults who are AA/Black or Latinx tend to deliver lower-quality care and perform worse under the new payment incentive model.²

Worse COVID-19 outcomes seen among minority-serving NHs are an example of the types of disparities that result from systemic racism. Patterns in lower quality of care experienced by NH residents who are AA/Black or Latinx often stem from receiving care in lower-quality NHs, as opposed to being cared for differently within the same NH. Many care differences are due to having unequal access to high-quality NHs. Thus, when COVID-19 hit, we would expect higher infection and mortality rates among minority-serving NHs.

Understanding Nursing Home Disparities: What We Need

Policy makers, advocates, and practitioners alike need a better understanding of how and why these disparities occur. Without this, efforts to remediate them may target the wrong levers and be ineffective. Research suggests there is something different about minority-serving NHs that leads to poorer outcomes. Although studies have pointed to a variety of potential factors, including payer composition and staffing levels, it is not fully understood how NH, resource, and environmental factors interact to produce consistent patterns of poor quality. Indeed, NH disparities have been referred to as a “ Gordian knot,” complex and difficult to disentangle.³ To develop a strong understanding, well-developed quantitative research is needed that is guided by theory and that uses a broad set of data points.

Theory Needs to Guide Analysis

Quantitative studies identifying disparities and exploring causal factors need to be rooted in conceptual theories of racism and disparities to guide the analytic methods.⁴ These theories help researchers identify necessary factors to include at the different levels of examination (ie, patient-level, NH-level, environment-level). Theory also should be used to help researchers understand the best way to use indicators of race and ethnicity in their models, as well as understand the difference between identifying disparities and uncovering factors that help explain the disparities.^{5,6} Likewise, because the causal process underlying disparities is often complex, variables typically treated as covariates in NH research studies need to be carefully considered in the context of disparities. Factors that lie in the causal pathway between race/ethnicity and the outcome should not be “controlled for” in the usual manner. In NH research, this may mean that factors like facility payer composition lie in the pathway between racial composition and quality. Researchers can look to a host of disparities analysis techniques to identify more appropriate approaches to adequately identify the occurrence of disparities and identify factors that explain the disparities.⁷ Absent the use of theory to guide understanding and analysis, studies may inadvertently mask the very disparities they are trying to identify.

Rich Data Sources Need to Be Explored

Quantitative studies need to extend beyond the usual sources of data to incorporate richer information on NHs, staff, and environments. Data may include infrastructure quality assessed through deficiency data, financial resources information, and available infection control data.^{8,9} Detailed information on infection prevention and control and emergency preparedness would be ideal to include, given that these factors may be related to a NH’s COVID-19 response. Although these data may not be available for a national study, there may be state-specific data that can be used to shed insight onto the impact of these factors. Likewise, data on NH staff turnover and presence of a full-time infection preventionist should be used where available. Data on organizational culture, such as the Agency for Healthcare Research and Quality’s data on safety culture should be considered, as well, with a focus on examining both frontline and manager perspectives.¹⁰ Finally, we know that COVID-19 transmission risk is higher in crowded spaces and densely populated communities. Given that many NH workers are lower-income and live in crowded housing within dense populations, incorporating community factors is also important. A quantitative study’s ability to identify factors that explain disparities, which can then be used to eliminate them, is dependent on which factors are examined. Comprehensive data sources help researchers paint a more accurate picture that can better inform policy and practice.

NH COVID-19 disparities reflect multiple layers of disadvantage and injustice that are just beginning to be understood. Conducting quantitative examinations of disparities that are guided by theories of racism and disparities and that incorporate novel data points will produce more robust results. These insights can be used by policy makers and advocates to identify modifiable levers and interventions to ensure that minority-serving NHs can deliver the high-quality care that their residents deserve.

Acknowledgments

I thank Jeffrey Sussman, PhD, and Sandra Lesikar, PhD, for providing helpful feedback on this paper.

References

1. Gebeloff R, Ivory D, Richtel M, et al. Covid-19 and nursing homes: A striking racial divide. *The New York Times*. Available at: <https://www.nytimes.com/article/coronavirus-nursing-homes-racial-disparity.html>. Accessed October 28, 2020.
2. Hefelee JG, Wang XJ, Lim E. Fewer bonuses, more penalties at skilled nursing facilities serving vulnerable populations. *Health Aff* 2019;38:1127–1131.
3. Smith DB, Feng Z, Fennel ML, et al. Separate and unequal: Racial segregation and disparities in quality across U.S. nursing homes. *Health Aff* 2007;26:1448–1458.
4. Hebert PL, Sisk JE, Howell EA. When does a difference become a disparity? Conceptualizing racial and ethnic disparities in health. *Health Aff* 2008;27:374–382.
5. VanderWeele TJ, Robinson WR. On the causal interpretation of race in regressions adjusting for confounding and mediating variables. *Epidemiology* 2014;25:473–484.
6. Kilbourne AM, Switzer G, Hyman K, et al. Advancing health disparities research within the health care system: A conceptual framework. *Am J Public Health* 2006;96:2113–2121.
7. Jeffries N, Zaslavsky AM, Diez Roux AV, et al. Methodological approaches to understanding causes of health disparities. *Am J Public Health* 2019;109(S1):S28–S33.
8. Centers for Medicare and Medicaid Services. Cost Reports | CMS. Available at: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/Cost-Reports>. Accessed November 7, 2020.
9. Long Term Care Community Coalition. US nursing home infection control & prevention citations: March 2020 – Nursing Home 411. Available at: <https://nursinghome411.org/nursing-home-infection-control-citations-march2020/>. Accessed November 7, 2020.
10. Agency for Healthcare Research and Quality. Culture of Safety | PSNet. Available at: <https://psnet.ahrq.gov/primer/culture-safety>. Accessed November 7, 2020.

Jennifer Gaudet Hefelee, PhD
Booz Allen Hamilton, McLean, VA, USA

The Gerontology Institute, UMass Boston, Boston, MA, USA
The Heller School for Social Policy and Management, Brandeis University, Waltham, MA, USA