Research Brief

Patterns of SARS-CoV-2 seropositivity among essential workers in long-term care and retirement homes in Ontario, Canada: A descriptive cross-sectional study

Summary

We explored the prevalence of SARS-CoV-2, or COVID-19, antibodies among staff in long-term care (LTCH) and retirement homes (RH) in Ontario, Canada. We aimed to assess exposure to COVID-19 by analyzing antibody test results from a cohort of 603 essential workers from 72 LTCH/RH between May 2021 and October 2022. Seropositivity, defined as having a COVID-19 infection, was examined across socio-demographic, household, neighbourhood and occupational demographics. Racialized staff in LTCH/RH settings faced higher COVID-19 infection rates due to frontline roles, workplace inequities, and community transmission risks. These findings highlight the complex interplay between job conditions, neighborhood exposure, and systemic barriers affecting worker health

Implications

Our findings highlight the importance of reducing community transmission to lower the risk of COVID-19 outbreaks among LTCH and RH staff. Strategies like community-level vaccination, testing, and isolation support, especially in hotspots, should be implemented alongside prioritizing LTCH/RH workers. Policies should consider how community and workplace risks intersect, and not just focus on care homes in isolation. These implications are also applicable to other respiratory virus outbreaks, such as seasonal influenza.

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What is the current situation?

- Essential workers in long-term care and retirement homes (LTCH/RH) in Ontario have been at elevated risk for COVID-19 infection due to the nature of their work involving close, prolonged contact with exposed or infected residents during the early waves of the COVID-19 epidemic, limited data were available on the prevalence and pattern of infection among these staff, as well as after the vaccine roll-out.
- Understanding infection exposure among LTCH/RH workers is crucial to inform future preparedness and protective measures for this sector.

What did we do?

- We conducted an observational, cross-sectional study between May 2021 and October 2022 to measure COVID-19 antibodies in LTCH/RH workers in Ontario using dried blood spot samples.
- 603 participants provided a dried blood spot sample and completed a demographic questionnaire with self-reported demographic, occupational, and vaccination data, including their role, household information, and previous COVID-19 vaccinations and infections.
- To analyze for a past COVID-19 infection, we used a lab test with a set threshold that was designed to be accurate, especially in groups where many people might have been infected. Those whose antibody levels were above the threshold were considered to have had an infection at some point during the COVID-19 epidemic (seropositive). Those with antibody levels below the threshold were considered not to have never been infected (seronegative).

What were the results?

- The proportion of LTCH/RH staff with past COVID-19 infection increased from 24% in May to December 2021, to 44% in January to October 2022.
- Black and East/Southeast Asian staff experienced nearly twice the infection rate compared to White staff. Racialized staff face more exposure to COVID-19 due to frontline caregiving roles and also experience workplace discrimination, harassment, and fewer protections.
- Infection rates among staff are closely tied to the level of COVID-19 in the neighborhoods where they live, showing that community transmission strongly affects workplace risk.
- Higher infection rates were also seen among staff with paid sick leave, but there were no major differences in infection rates based on other household or job-related factors.

What does this mean for future pandemic planning?

- To protect LTCH/RH staff and prevent outbreaks, public health strategies need to address both community-level risks and workplace inequalities, especially in racialized and underserved communities.