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Omicron infection milder in nursing home residents



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Nursing home staff and administrators are exhausted, overwhelmed, and ready for a break. Many have wondered if we will continue to see the devastation and tragedy of the early COVID-19 waves in nursing homes as each new variant emerges. A prospective cohort study published in *The Lancet Healthy Longevity* by Maria Krutikov and colleagues¹ suggests that this might not be the case. The Article describes differences in hospital admissions and death during the delta versus omicron waves in nursing home residents enrolled in the VIVALDI cohort (ISRCTN 14447421) and suggests less risk of severe outcomes with the omicron variant.

The study sample included a cohort of 2264 residents of skilled nursing facilities (median age 84.5 years, IQR 77.9–90.0) who were diagnosed with SARS-CoV-2 between Sept 1, 2021, and Feb 1, 2022, of whom 253 (11.2%) had a previous infection and 1468 (64.8%) had received a booster vaccination. The primary outcome was hospital admission within 14 days following a positive SARS-CoV-2 test, and the secondary outcome was mortality in the 28 days following a positive test. The authors found a 36% reduction in the adjusted risk of hospital admission (adjusted hazard ratio [aHR] 0.64, 95% CI 0.41–1.00; $p=0.051$) and a 32% reduction in the adjusted risk of mortality (aHR 0.68, 0.44–1.04; $p=0.076$) in the period when the omicron variant was dominant compared with the period before the emergence of omicron. The models assessed included age, sex, past infection, primary vaccination type, and time from booster vaccination.

The analytic approach largely relied on the date of the first report of omicron in the UK (Dec 13, 2021), to distinguish between the omicron and delta predominant periods. A sub-analysis of 937 residents with confirmed variant identification based on S-gene and lineage data showed similar results to the entire cohort. Notably, the authors found a significant reduction in hospital admission and death in residents with previous infection or a booster dose received longer than a week before infection; however, outcomes were not significantly different in those who had received two doses of either the Pfizer or AstraZeneca vaccine (and who had not received a booster dose) compared with those who were unvaccinated. Although this was not a dedicated efficacy study, these outcomes allude to the

importance of booster vaccinations, particularly in the vulnerable long-term care population.

Although differences in vaccination coverage affected outcomes in the two waves, there were also changes in therapy for COVID-19 over the course of the study period, which is not thoroughly discussed in the manuscript. Between Sept 1, 2021, and Feb 1, 2022, monoclonal antibodies as well as other oral preventative medications were becoming more widely distributed in nursing homes. Furthermore, follow-up for the residents infected during the omicron period was much shorter than the delta variant cohort, with 414 of 1864 residents in the omicron cohort without the full 28-day follow-up for mortality, which might have biased results to lower mortality reports during the omicron wave.

Before the study by Krutikov and colleagues,¹ published research on differences in the severity of the omicron variant was limited to community-dwelling adults aged 65 years and older,²⁻⁵ which did not adequately address what to expect in the frail long-term care population, many of whom are most at risk for severe outcomes from COVID-19. This study provides some optimistic results for nursing home residents who are particularly vulnerable to COVID-19. Despite some evidence that the omicron variant might be less severe than previous variants in nursing home residents, the evidence still suggests that remaining up to date with vaccination will be a key preventative measure in this population.

Although these results are positive for nursing home residents, they might only partially alleviate the burdens faced by nursing home staff and administrators. As the dominant SARS-CoV-2 variant changed from delta to omicron, the rate of both hospital admissions (10.5% vs 4.5%) and deaths (12.8% vs 5.3%) among residents decreased. Unfortunately, the relative transmissibility of omicron means that the absolute number of residents affected nearly doubled. During the 103 days included in the delta predominant period, COVID-19 infections led to the hospital admission of 42 residents and deaths of 51 residents. During the much shorter omicron predominant period (51 days), COVID-19 infections led to the hospital admissions of 84 residents and deaths of 99 residents. Unfortunately, these numbers do not yet portend a decrease in the

burden of caring for nursing home residents. In addition to continued primary prevention with vaccines, widespread availability of effective antiviral medications and monoclonal antibodies might bring much needed respite for exhausted and overworked nursing home staff and administrators.

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