

News in focus



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The Omicron variant is causing hospitalizations in many nations.

HOW SEVERE ARE OMICRON INFECTIONS?

As cases spread and countries plan their responses, researchers await crucial data on the severity of the disease caused by the coronavirus variant.

By Heidi Ledford

It has been four weeks since the announcement that a mutation-laden coronavirus variant had been discovered in southern Africa. Since then, dozens of countries around the world have reported Omicron cases – including a worrying number of infections in people who have either been vaccinated or experienced previous SARS-CoV-2 infections.

But as political leaders and public-health officials try to chart a course through oncoming Omicron surges, they must do so without a firm answer to a key question: how

severe will those Omicron infections be?

So far, the data are scarce and incomplete. “There is inevitably a lag between infection and hospitalization,” says infectious-disease epidemiologist Mark Woolhouse at the University of Edinburgh, UK. “In the meantime, policy decisions have to be made and that’s not straightforward.”

Hospitalization rate

Early results suggest a glimmer of hope. Reports from South Africa have consistently noted that the rate of hospitalization as a result of Omicron infections is lower than that for infections caused by the Delta variant, which

is currently responsible for most SARS-CoV-2 infections globally. On 14 December, the South African private health insurer Discovery Health in Johannesburg announced that hospitalization risk has been 29% lower among people infected with Omicron, than among people infected with a previous variant.

This has fuelled suggestions that Omicron causes milder disease than previous variants. But researchers say it is too early to be sure, and key methodological details of that study have not yet been published. Such details are crucial when interpreting data on disease severity, which can be confounded by factors such as hospital capacity, the age and overall health

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of those initially infected, and the extent of previous exposure to coronavirus.

But the results from Discovery Health are in keeping with other studies in the country, says Waasila Jassat, a clinician and public-health specialist at the National Institute for Communicable Diseases in Johannesburg. “The picture is very consistent.”

It will take time for a similarly consistent picture to emerge from countries that currently have fewer Omicron infections. On 13 December, Denmark released data showing that hospitalization rates for people infected with Omicron seemed to be on a par with those for people infected with other variants. But this comparison was based on only about 3,400 cases of Omicron infection and 37 hospitalizations.

Similarly, a 16 December report from Imperial College London (see go.nature.com/3mm2cmu) found no evidence of diminished hospitalizations from Omicron infections compared with Delta infections in England, although this was again based on relatively few cases. Overall, the numbers are still too small to allow firm conclusions about the severity of disease caused by Omicron, says Troels Lillebæk, an infectious-disease specialist at the University of Copenhagen.

And a rapidly spreading variant could dangerously strain health-care systems, even if the risk of severe disease or death is relatively low for any individual. “A small fraction of a very large number is still a large number,” says Woolhouse. “So the population-level threat is very real.”

South Africa’s optimistic data might not be a sign that Omicron itself is more benign than previous variants. More than 70% of the population in regions heavily infected with Omicron have had previous exposure to SARS-CoV-2, and about 40% have received at least one dose of a COVID-19 vaccine, says Jassat. This makes it difficult to disentangle the effects of pre-existing immunity from inherent properties of the variant itself.

Vaccine protection

Laboratory studies have suggested that Omicron might be able to evade some immunity induced by COVID-19 vaccines, and early data from the UK Health Security Agency suggest that the vaccines are not as protective against Omicron infections as they have been against other variants, although the number of cases studied was too small for researchers to be sure about how much protection has decreased.

Even so, vaccines could continue to protect many recipients from severe disease and death from COVID-19. In addition to antibodies, the immune system in previously infected and vaccinated people deploys cells called T cells that can recognize fragments of viral proteins and destroy infected cells, potentially limiting

the scope of an infection.

Researchers have mapped Omicron’s panoply of mutations onto the menu of SARS-CoV-2 protein fragments recognized by T cells following natural infection and vaccination, and found no mutations in most of

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these fragments. In the case of vaccination, more than 70% of the fragments are fully intact, according to immunologist Alessandro Sette at the La Jolla Institute for Immunology in California.

There is more work to be done – scientists are already conducting laboratory assays to determine how well T cells generated in response to vaccines and infection with

other variants react to Omicron, with results expected in the coming weeks. “I’m optimistic that the reactivity is going to be preserved, at least in part,” Sette says. “How much of it will be preserved remains to be seen.”

As those data emerge, researchers will be looking particularly at the effects of Omicron on children. Results from South Africa have suggested that hospitalization rates for children infected with Omicron are higher than were seen in previous waves. But researchers again caution that this does not necessarily mean that children are more vulnerable to Omicron than they were to Delta or other variants. Jassat notes that children have lower rates of previous coronavirus infection and vaccination than adults, meaning that their levels of pre-existing immunity are not as high.

Higher rates of hospitalization in children during the early stages of an outbreak could also reflect more hospital capacity, affording the luxury of keeping in for observation a child who might otherwise be sent home, she adds.

EVIDENCE OF RACISM FOUND AT PRESTIGIOUS LONDON UNIVERSITY

London School of Hygiene & Tropical Medicine pledges to revise diversity policies following review.

By Linda Nordling

Evidence of racism and inequality at the London School of Hygiene & Tropical Medicine (LSHTM) – a prestigious 120-year-old research university – has been reported in an independent review commissioned by the institution last year.



The LSHTM has vowed to tackle racism.

The LSHTM says it is “determined to do better” after the review found that staff members of colour remain under-represented and face barriers to career advancement.

The 70-page report, published on 13 December, notes that “stakeholders” perceive that the LSHTM itself has not addressed and acknowledged the ways in which it has benefited from and perpetuated European colonialism. Staff and students also told its authors that they don’t trust that complaints about racist behaviour will be dealt with fairly or sensitively.

The findings are “difficult to confront”, said LSHTM director Liam Smeeth in a statement. “We deeply regret this and apologise sincerely to everyone affected.”

“So many global-health institutions have either looked away or been lukewarm in response to growing calls to address inequities and injustices in their operations,” says Şeyş Abimbólá, a global-health specialist based at the University of Sydney in Australia. On whether the review will result in meaningful change at the LSHTM, he adds: “We’ll have to wait and see.”

The LSHTM commissioned the review in 2020, after the Black Lives Matter movement