## COVID-19 Critical Intelligence Unit

### **Daily evidence digest**

24 December 2021

The daily evidence digest collates recently released reports and evidence – provision of these links does not imply endorsement nor recommendation.

# Molnupiravir, remdesivir, booster protection, neutralisation and severity of Omicron

#### Peer reviewed journals featured:

- · Randomised controlled trials of:
  - o Molnupiravir for oral treatment of COVID-19 in non-hospitalised patients here
  - o Early remdesivir to prevent progression to severe COVID-19 in outpatients here
- Observational studies on:
  - o COVID-19 vaccination effectiveness in the US Veterans Affairs healthcare system here
  - Two-dose Vaxzevria (AstraZeneca) vaccine protection against COVID-19 hospital admissions and deaths over time <a href="here">here</a>
  - Comirnaty (Pfizer) booster and COVID-19 mortality here
  - COVID-19 protection by Comirnaty (Pfizer) booster across age groups <u>here</u>
- Commentary on:
  - o Risk heterogeneity and the illusion of waning vaccine efficacy here
  - o The evolving COVID-19 pandemic in the Winter of Omicron here

#### Pre-peer review articles featured:

- Projected epidemiological consequences of the Omicron variant in England here
- Potential severity, mitigation, and control of Omicron waves depending on immunity status <u>here</u>
- Pseudotyped Omicron variant exhibits significant escape from neutralisation induced by a third booster dose of vaccination <a href="here">here</a>
- Neutralisation and stability of Omicron variant <u>here</u>
- Superior immunogenicity and effectiveness of the 3rd Comirnaty (Pfizer) vaccine dose here
- Breakthrough infections during periods of circulating Beta, Delta, and Omicron variants among healthcare workers in the Sisonke vaccine trial, South Africa <u>here</u>
- SARS-CoV-2 transmission dynamics in South Africa and epidemiological characteristics of the Omicron variant here
- A rapid rise in paediatric COVID-19 hospitalisations in the early stages of the Omicron wave,
  Tshwane District, South Africa here
- Increased risk of Omicron infection compared to Delta in vaccinated and previously infected people in the Netherlands here
- Early assessment of the clinical severity of the Omicron variant in South Africa here



- Omicron mutations enhance infectivity and reduce antibody neutralisation of SARS-CoV-2 virus-like particles <u>here</u>
- South African population immunity and severe COVID-19 with Omicron variant here
- mRNA vaccine effectiveness against Omicron or Delta variants after two-dose or booster here
- Rapid epidemic expansion of the Omicron variant in southern Africa here
- Diminished neutralisation responses to Omicron after mRNA or vector-based vaccinations here
- Protection from Comirnaty (Pfizer) booster and fresh 2-dose vaccines <u>here</u>
- Different booster regimens for preventing infection and adverse outcomes in Puerto Rico <u>here</u>
- Outpatient therapies for COVID-19 here

#### **Guidance and reports**

- The World Health Organization published:
  - o An updated Technical Brief on enhancing readiness for Omicron (B.1.1.529) here
  - o Guidance on mask use by health workers, in light of the Omicron variant of concern here
  - COVID-19 infection prevention and control guidance on mask use in community settings here
- The European Centre for Disease Prevention and Control published:
  - o Its weekly epidemiological update on Omicron variant of concern (VOC) here
  - A risk assessment on further emergence of Omicron variant <u>here</u>
- Imperial College published a report on hospitalisation risk for Omicron cases in England here

#### **News and blogs**

- How severe are Omicron infections? here
- Omicron overpowers key COVID-19 antibody treatments in early tests here
- How COVID-19 vaccines shaped 2021 in eight powerful charts here
- Vaccination doesn't eliminate Delta variant household transmission <u>here</u>
- Health leaders advise the public to reduce social contacts to keep NHS running here

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#### **Living Evidence Tables**

Living Evidence tables are up-to-date summaries of emerging evidence. Tables are available on <u>COVID-19 transmission</u>, SARS-CoV-2 <u>vaccines</u>, and <u>variants</u> of concern, <u>post-acute sequelae of COVID-19 (PASC)</u>, <u>surgery and COVID-19</u>, <u>rapid testing</u> and <u>risk mitigation strategies</u>.



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