GUIDELINES AND RESEARCH UPDATES

World Health Organization India

TECHNICAL DOCUMENTS:

D1. Enhancing Readiness for Omicron (B.1.1.529): Technical Brief and Priority Actions for Member States (WHO, 23 December 2021) **[**LINK**]**

- This document is an updated version published on 17 December 2021 on readiness for Omicron and priority actions for Member States.

D2. WHO recommendations on mask use by health workers, in light of the Omicron variant of concern: WHO interim guidelines, 22 December 2021 (WHO, 22 December 2021) **[**LINK**]**

- This document provides updated interim recommendations on the use of masks by health workers providing care to patients with suspected or confirmed COVID-19, in light of the rapid spread of the Omicron variant of concern of SARS-CoV-2.

D3. An implementation guide for the management of COVID-19 on board cargo ships and fishing vessels (WHO, 23 December 2021) **[**LINK**]**

- This is an implementation guide for the management of COVID-19 on board cargo ships and fishing vessels (interim guidance, 23 December 2021)

D4. Infection prevention and control (IPC) in health-care facilities in the event of a surge or resurgence in cases of COVID-19 (WHO, 17 December 2021) **[**LINK**]**

- This document is a prioritization toolkit providing a set of action steps to follow in the event of an impending surge in cases of COVID-19 in health-care facilities. The document provides a framework for action steps to be followed within 2-4 weeks of identification of a surge or resurgence of cases, and is accompanied by references to existing WHO resources to assist with managing each step.

D5. Interim recommendations for heterologous COVID-19 vaccine schedules (WHO, 16 December 2021) **[**LINK**]**

- This interim guidance pertains to heterologous primary and heterologous boosting schedules of Covid-19 vaccines. It focuses on heterologous schedules combining multiple vaccine platforms (e.g. a vectored vaccine followed by an mRNA vaccine).

D6. Impact of COVID-19 on human resources for health and policy response: the case of Plurinational State of Bolivia, Chile, Colombia, Ecuador and Peru (WHO, 17 December 2021) **[**LINK**]**

- This paper looks at the impact of COVID-19 on the health, occupational safety and working conditions of the health workforce (HWF) and on the strategies and mechanisms used by these countries to increase, maintain and protect human resources for health (HRH), in terms of their availability, training, protection, welfare, remuneration and financing.

D7. Assessment of the further emergence of the SARS-CoV-2 Omicron VOC in the context of the ongoing Delta VOC transmission (European Centre for Disease Prevention and Control, 15 December 2021) **[**LINK**]**

- This Rapid Risk Assessment guidance extends the assessment on the circulation of the Delta VOC and projections for spread of the Omicron VOC. The updated forecasts developed for this risk assessment are informed by the latest evidence on Omicron VOC epidemiology, transmissibility, severity, and immune escape.

JOURNAL ARTICLES

J1. Considerable escape of SARS-CoV-2 Omicron to antibody neutralization (Nature, 23 December 2021) **[**LINK**]**

- The authors isolated an infectious Omicron virus in Belgium, from a traveller returning from Egypt and examined its sensitivity to 9 monoclonal antibodies (mAbs) clinically approved or in development and to antibodies present in 115 sera from COVID-19 vaccine recipients or convalescent individuals. Authors found that Omicron was totally or partially resistant to neutralization by all mAbs tested. They conclude that Omicron escapes most therapeutic monoclonal antibodies and to a large extent vaccine-elicited antibody. Omicron remains however neutralized by antibodies generated by a booster vaccine dose.

J2. Characterization of the novel SARS-CoV-2 Omicron (B.1.1.529) Variant of Concern and its global perspective (Journal of Medical Virology, 14 December 2021) [LINK]

- This study characterizes understanding of the current global prevalence and mutational hotspots of the Omicron variant in comparison with the Delta variant of SARS-CoV-2. The study concludes that due to continuous variation in the spike glycoprotein structures, the use of coronavirus specific attachment inhibitors may not be the current choice of therapy for emerging SARS-CoV-2 VOCs.

J3. Omicron SARS-CoV-2 variant: Unique features and their impact on pre-existing antibodies (Journal of Autoimmunity, 13 December 2021) **[**LINK**]**

- This study presents the analyses of mutation distribution, the evolutionary relationship of Omicron with previous variants, and probable structural impact of mutations on antibody binding. The analyses show the presence of 46 high prevalence mutations specific to Omicron. Twenty-three of these are localized

within the spike (S) protein and the rest localized to the other 3 structural proteins of the virus, the envelope (E), membrane (M), and nucleocapsid (N).

J4. Effectiveness of mRNA-1273 against delta, mu, and other emerging variants of SARS-CoV-2: test negative case-control study (BMJ, 15 December 2021) [LINK]

- The study evaluated the effectiveness of the mRNA-1273 vaccine against SARS-CoV-2 variants and assess its effectiveness against the delta variant by time since vaccination. Findings highlight that two doses of mRNA-1273 were highly effective against all SARS-CoV-2 variants, especially against hospital admission with covid-19. However, vaccine effectiveness against infection with the delta variant moderately declined with increasing time since vaccination.

J5. Molnupiravir for Oral Treatment of Covid-19 in Nonhospitalized Patients J6. (NEJM, 16 December 2021) [LINK]

- This is a phase 3, double-blind, randomized, placebo-controlled trial to evaluate the efficacy and safety of treatment with molnupiravir started within 5 days after the onset of signs or symptoms in non-hospitalized, unvaccinated adults with mild-to-moderate, laboratory-confirmed Covid-19 and at least one risk factor for severe Covid-19 illness. The authors conclude that Early treatment with molnupiravir reduced the risk of hospitalization or death in at-risk, unvaccinated adults with Covid-19.

J6. PCR performance in the SARS-CoV-2 Omicron variant of concern (Swiss Medical Weekly, 10 December 2021) [LINK]

- This is a review if current PCR assays commonly used to detect SARS-CoV-2 still work for the Omicron variant and if specific PCR features, e.g. S-gene dropout can be used to identify potential Omicron samples. The findings outline that new Omicron VOC poses a detection challenge for diagnostic laboratories. At the moment there is uncertainty in the diagnostic performance of the available PCR assays and further solicits that laboratories should share RNA extracts from positive cases to rapidly assess the performance of the available systems

J7. Epidemiological characterization of the first 785 SARS-CoV-2 Omicron variant cases in Denmark, December 2021 (Eurosurveillance, 16 December 2021) [LINK]

- This surveillance-based communication described characteristics of Omicron cases in Denmark. Analysis revealed that most cases were fully (76%) or booster-vaccinated (7.1%); 34 (4.3%) had a previous SARS-CoV-2 infection. 76% reported symptoms and 91% were infected in Denmark.