LAST UPDATED: 29 SEPTEMBER 2022

CORONAVIRUS UPDATE 80

What we know about new COVID-19 Variants of Concern

THE LATEST ON THE GLOBAL SITUATION & OMICRON BA.4/5

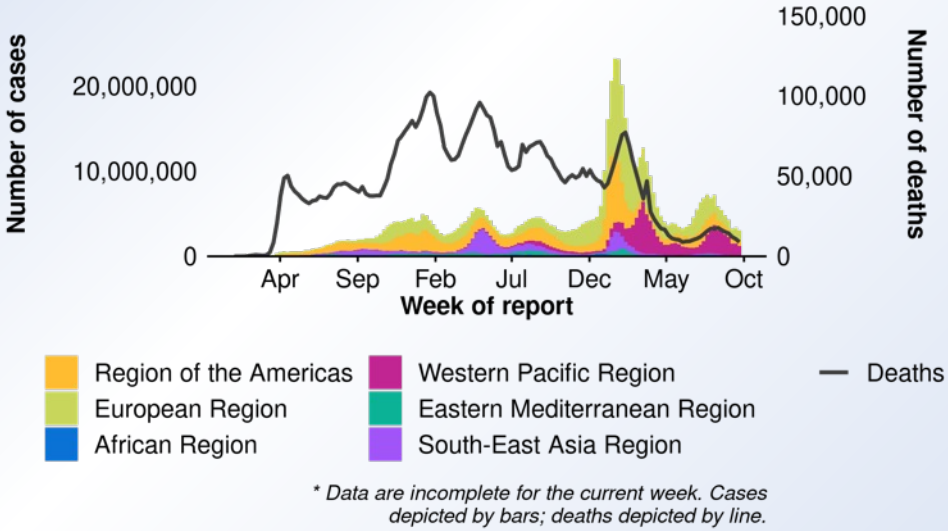
World Health Organization | EPI·WiN | infodemic MANAGEMENT

Current global situation

as of 25 September 2022

Confirmed cases: > 612 million

Deaths: > 6.5 million



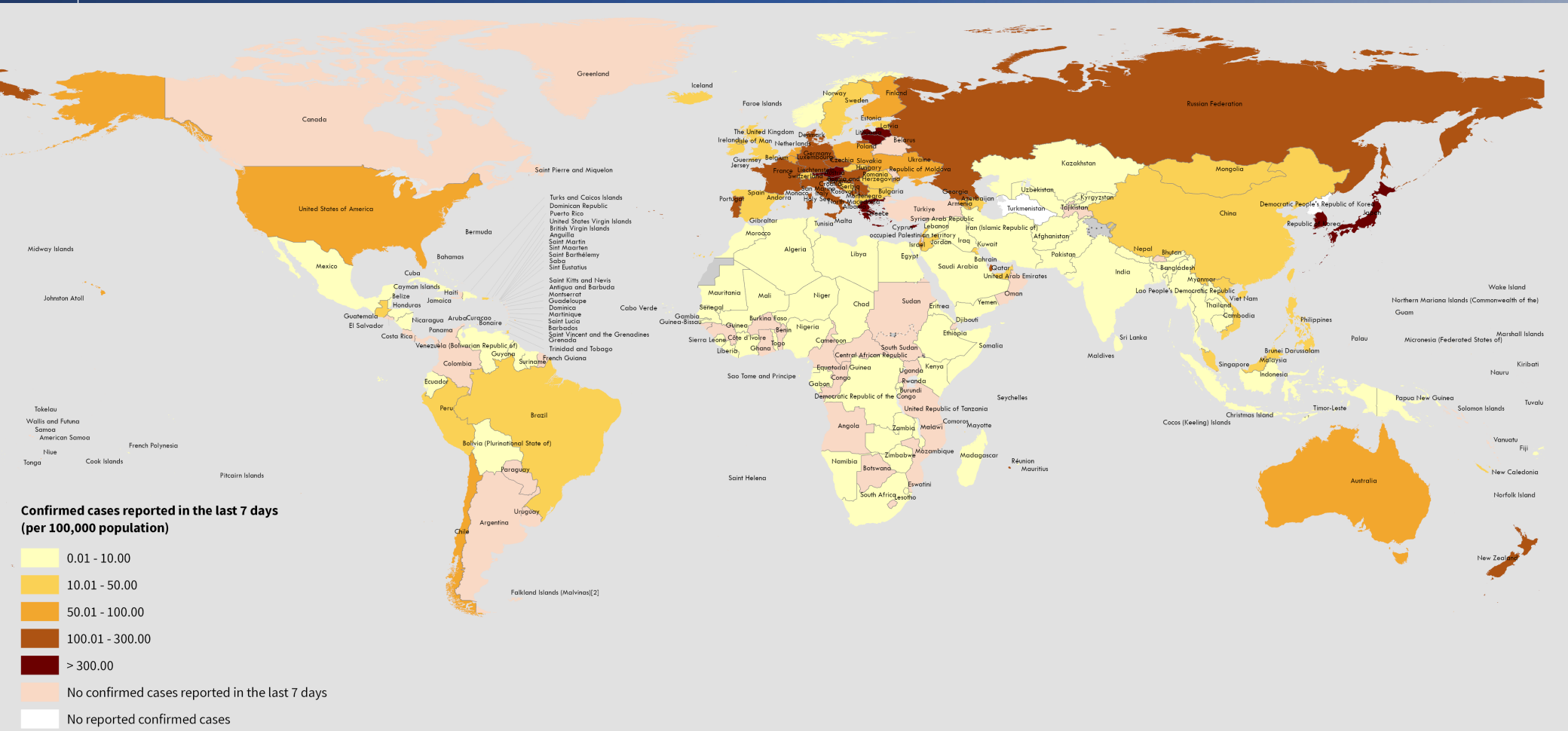
CHECK OUT THE LATEST GLOBAL SITUATION

WHO Coronavirus Disease (COVID-19) Dashboard

** Data are incomplete for the current week. Cases depicted by bars; deaths depicted by line*

COVID-19 cases reported in the last 7 days per 100,000 population

as of 25 September 2022



Data Source: *World Health Organization*
United Nations Population Division (Population prospect 2020)
Map Production: *WHO Health Emergencies Programme*

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COVID-19 deaths reported in the last 7 days per 100,000 population

as of 25 September 2022

Confirmed deaths reported in the last 7 days (per 100,000 population)

- 0.01 - 0.50
- 0.51 - 1.50
- 1.51 - 3.00
- 3.01 - 6.00
- > 6.00
- No confirmed deaths reported in the last 7 days
- No reported confirmed deaths

Data Source: *World Health Organization*
United Nations Population Division (Population prospect 2020)
Map Production: *WHO Health Emergencies Programme*

Not applicable

0 2,500 5,000 km

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The virus continues to circulate at a very intense level

The virus continues to evolve, and new variants are constantly emerging

- **Omicron** is currently the highest circulating Variant of Concern (VoC) and has many sub-variants
- Currently **the most dominant sub-variant is BA.5**, identified from 85% of available sequences

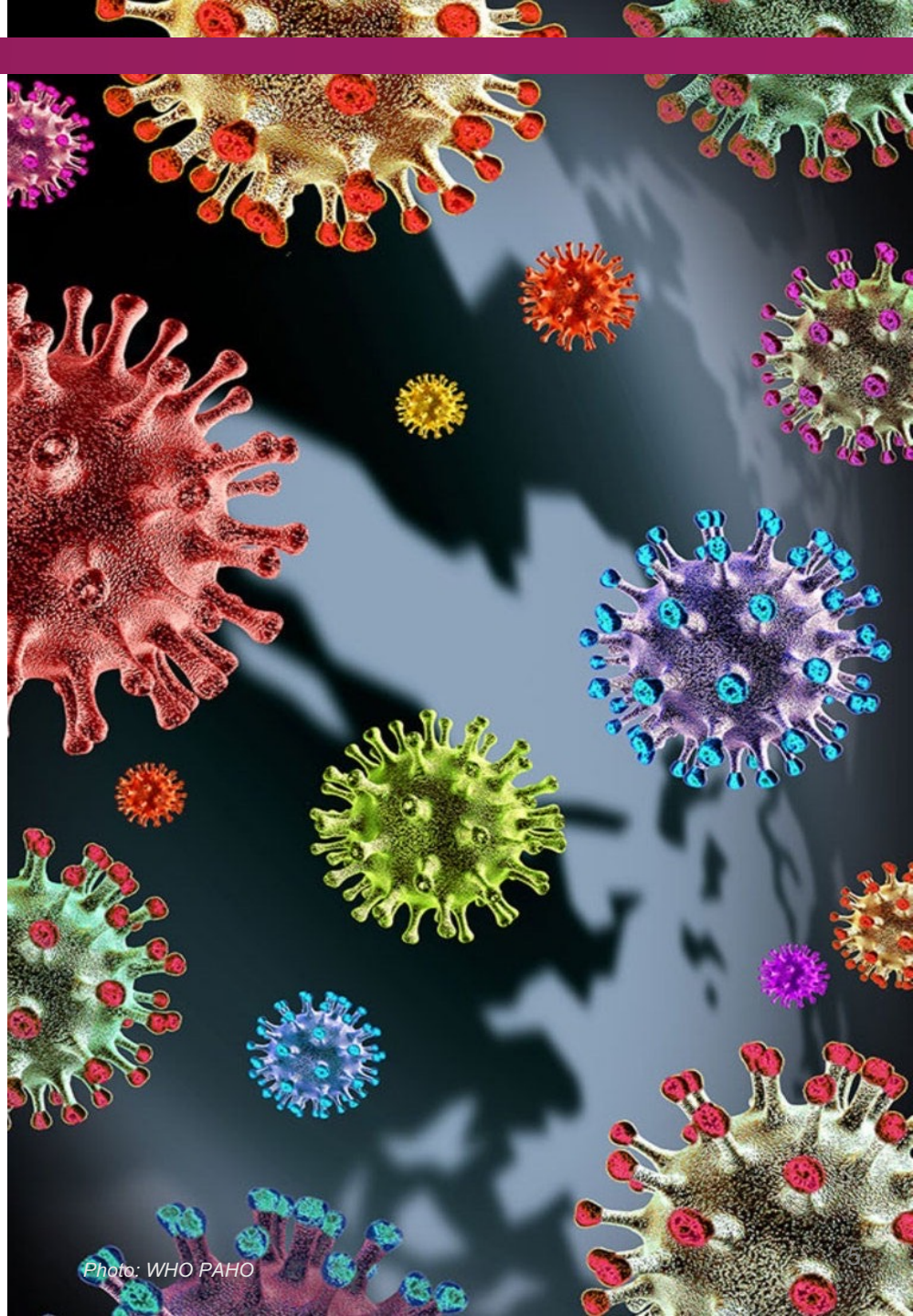

Photo: WHO PAHO

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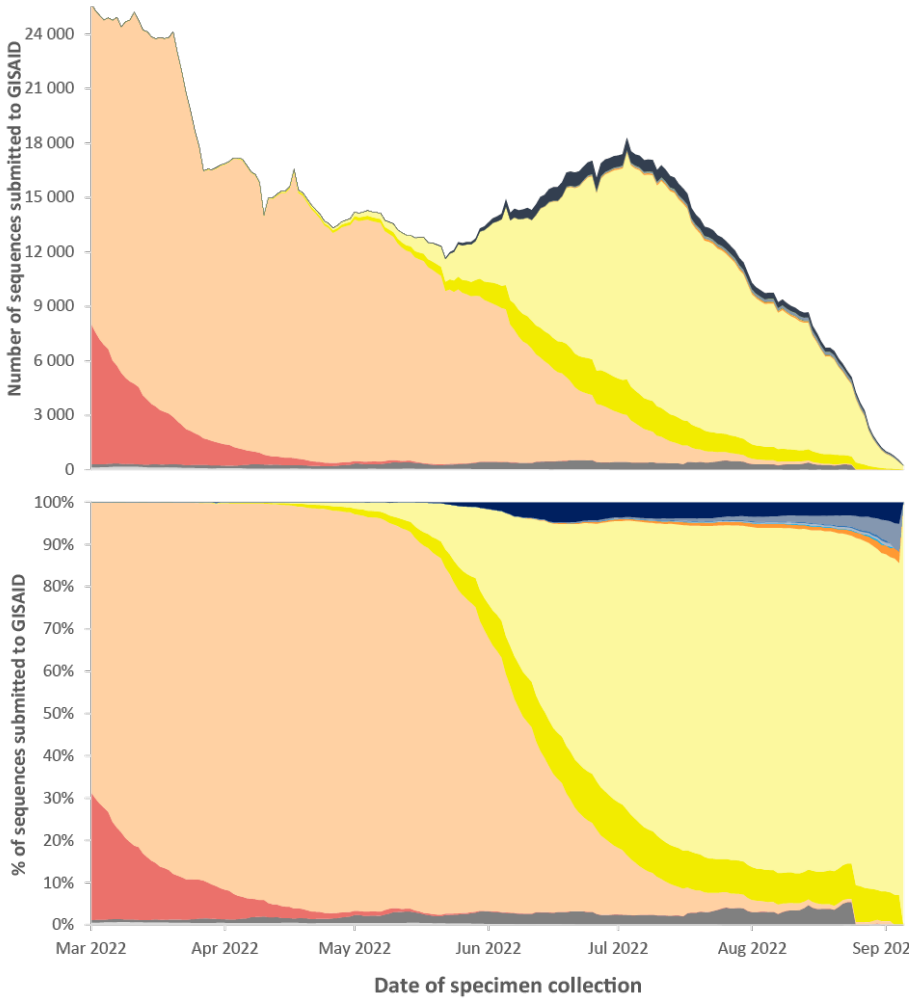
Global prevalence of emerging variants

as of 5 September 2022

- As of 4 September 2022, descendent lineages of **BA.5 show the highest global prevalence of 76.6%**, followed by BA.4. with 7.5% prevalence.
- Global prevalence of BA.2.75 is low but has been rising over the last weeks.



https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---21-september-2022

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Why Variants of Concern matter for public health

The more the virus circulates, the more the virus will evolve

- Emerging variants may affect
  - **transmissibility**
  - **severity**
  - **ability to evade the immune response**
- Changes in the virus's characteristics can have an impact on public health interventions such as the effectiveness of diagnostics, vaccines and treatments

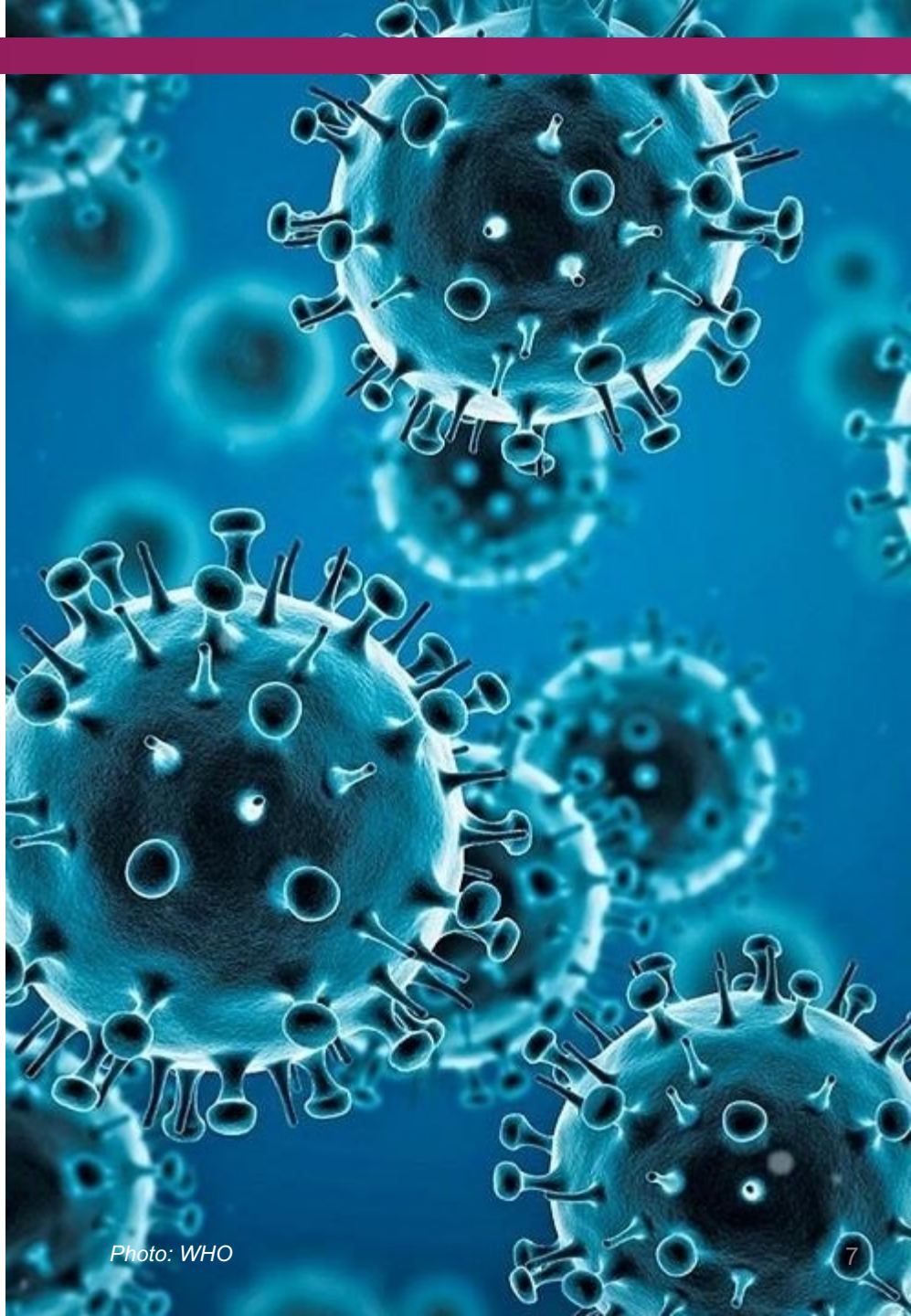

Photo: WHO

What we know about BA.5 transmissibility

BA.5 is more transmissible than other Omicron sub-variants

- Mutations in BA.4 and BA.5 subvariant spike protein make it easier for them to infect people
- Omicron sub-variants are likely to partially evade the immunity built due to vaccines (vaccine breakthrough) or by prior SARS-CoV-2 infections

Photo: WHO PAHO

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What we know about BA.5 severity

While more transmissible than other Omicron subvariants, BA.5 does not appear to be causing a more severe form of COVID-19

- However, people over 60 years and immunocompromised, especially without the full course of COVID-19 vaccination, are still at a higher risk of having severe disease, being hospitalized and even death
- Currently available vaccines appear to have reduced effect to prevent the infection, but they **do** protect against serious COVID-19 illness and complications that can lead to death.

Photo by Mat Napo on Unsplash

A three-pronged global approach to monitor and assess SARS-CoV-2 variants

WHO has established a strong, multidisciplinary mechanism of external experts for evidence-based decision making on SARS-CoV-2 and its variants

Fig. Three-pronged global approach

Technical Advisory Group on SARS-CoV-2 Virus Evolution (TAG-VE)

- Determines which variants warrant further investigations
- Assesses whether variants alter
  - transmission or disease characteristics or
  - impact vaccines, therapeutics, diagnostics or
  - effectiveness of public health and social measures

Technical Advisory Group on COVID-19 Vaccine Composition (TAG-CO-VAC)

- Assesses the impact of variants of concern on current COVID-19 vaccines
- **Determines whether changes to vaccine composition are needed**

R&D blueprint for epidemics

- COVID-19 Vaccines Research Expert Group

Strategic Advisory Group of Experts on Immunization (SAGE)

- **Advises on vaccine use and implementation**

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The role of TAG-CO-VAC & SAGE

To respond to COVID-19 virus emerging variants, TAG CO-VAC and SAGE scientific advisory groups are discussing whether COVID-19 vaccines need to be updated

Technical Advisory Group on COVID-19 Vaccine Composition (TAG-CO-VAC)

Ensures COVID-19 vaccines continue to safely provide WHO-recommended levels of protection against VOCs by:

- Reviewing and interpretating available evidence on how VOCs impact the efficacy and effectiveness of COVID-19 vaccines
- **Issues timely recommendations on potential modifications to vaccine composition**

Strategic Advisory Group of Experts on Immunization (SAGE)

Advises WHO on:

- overall global vaccination policies and strategies
- issues guidance and strategies on the programmatic use of authorized COVID-19 vaccines.
- **provides recommendations on the use of vaccines against COVID-19 and revise/update recommendations as new data emerges**

TAG-CO-VAC current recommendations on COVID-19 vaccines

The primary goals of COVID-19 vaccination using currently licensed vaccines continue to be to reduce hospitalization, severe disease and death, and to protect health systems.

- The use of currently licensed vaccines based on the index virus (i.e. the virus that was identified from the first cases of COVID-19 in December 2019) confers high levels of protection against severe disease outcomes for all variants, including Omicron with a booster dose.
- SARS-CoV-2 virus evolution and emergence of the new variants is continuing and it's trajectory of remains uncertain, and the genetic and antigenic characteristics of future variants cannot yet be predicted.
- Given the uncertainties of further evolution, it may be prudent to pursue an additional objective of COVID-19 vaccination of achieving broader immunity against circulating and emerging variants while retaining protection against severe disease and death.
- Available data indicate that the inclusion of Omicron, as the most antigenically distinct SARS-CoV-2 Variant of Concern, in an updated vaccine composition may be beneficial if administered as a booster dose to those who have already received a COVID-19 vaccination primary series.

https://www.who.int/news/item/17-06-2022-interim-statement-on--the-composition-of-current-COVID-19-vaccines
June 17, 2022

SAGE current recommendations on COVID-19 vaccines

Current COVID-19 vaccines, which are based on the ancestral strain of the SARS-CoV-2 virus, continue to exhibit strong protection against severe disease and death across all virus variants seen to date

- However, the emergence of variants of concerns has resulted in a rapid decline of the protection against symptomatic illness. There is therefore a need to assess whether variant-updated COVID-19 vaccines, especially to Omicron, would improve vaccine performance.
- Variant-updated vaccines are under clinical development and will in due course be assessed by regulatory authorities. Once these vaccines have received WHO emergency use authorization or approval by a stringent national regulatory authority, they will be considered by SAGE for policy recommendations.
- The full public health benefit of variant-updated vaccines and their value proposition over current vaccines can only be quantified once vaccine effectiveness data have been obtained.

https://www.who.int/news/item/17-06-2022-interim-statement-on-decision-making-considerations-for-the-use-of-variant-updated-covid-19-vaccines
June 17, 2022

Bi-valent vaccines status at present

The new bi-valent vaccines contain the original virus plus parts of Omicron sub variants (BA.1 or BA.4/5)

- The bivalent vaccines have been authorized by US Food and Drug Administration (FDA) and UK medicines regulator but **currently are not granted Emergency Use Listing (EUL) by WHO**
- Updated vaccines showed to have higher antibody response against Omicron
- Those vaccines are only being considered for use for booster doses
- The effectiveness of these new vaccines on preventing the infection by Omicron variants is still uncertain

Photo: Johns Hopkins Bloomberg School of Public Health

In summary

- The increase in cases continues to be partly driven by the circulation of the BA.5 descendent lineages against the background of possible waning immunity and/or low coverage of booster doses among vulnerable groups
- The COVID-19 vaccines are updated with Omicron variants to prevent new infections

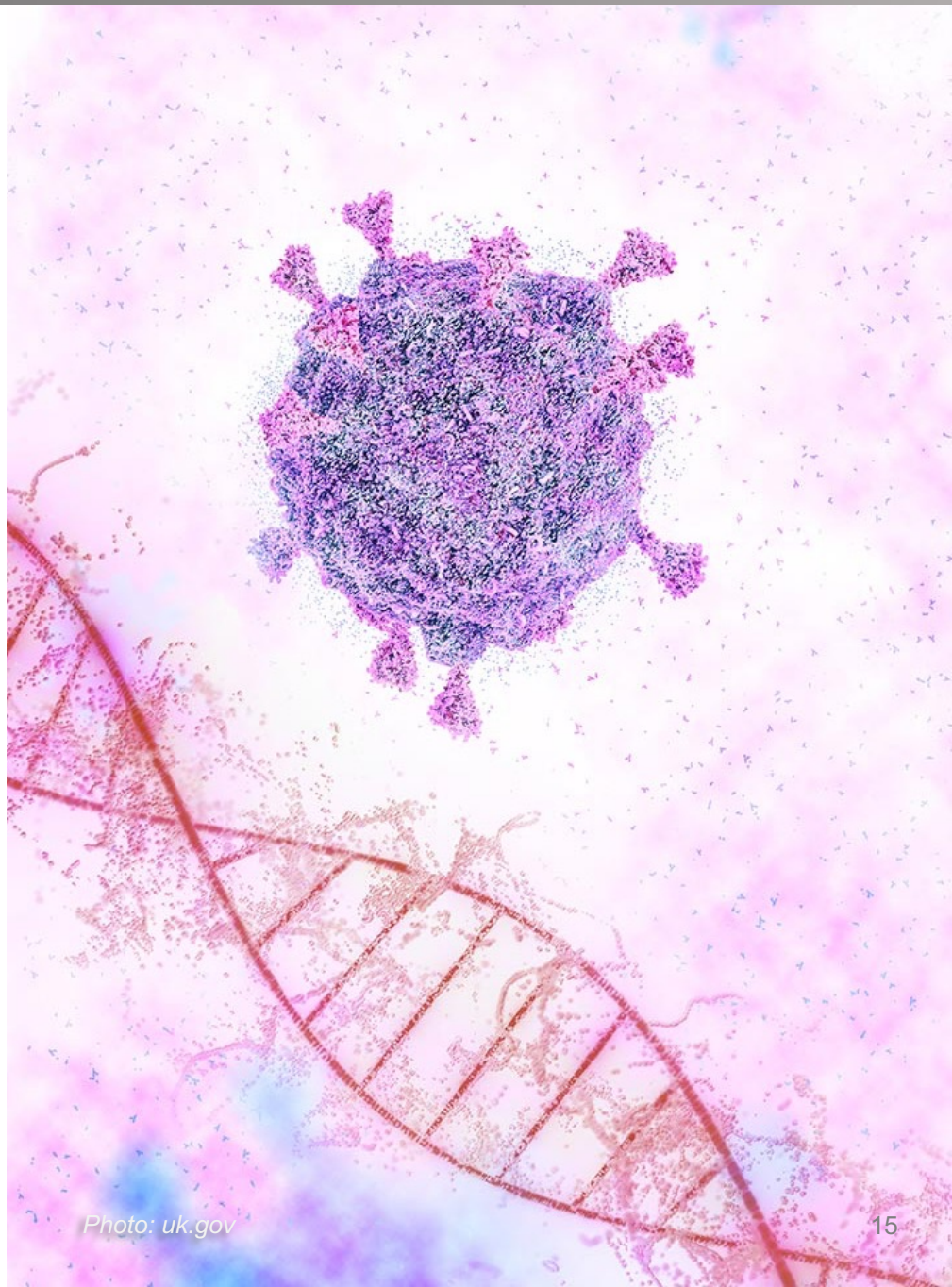

Photo: uk.gov

Additional resources

COVID-19: variants

https://www.who.int/westernpacific/emergencies/covid-19/information/covid-19-variants

Technical Advisory Group on COVID-19 Vaccine Composition

https://www.who.int/groups/technical-advisory-group-on-covid-19-vaccine-composition

Tracking SARS-CoV-2 variants

https://www.who.int/activities/tracking-SARS-CoV-2-variants

WHO Coronavirus (COVID-19) Dashboard

https://covid19.who.int/

Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health

https://www.who.int/publications/i/item/9789240018440

Weekly epidemiological update on COVID-19 - 21 September 2022

https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---21-september-2022

Technical Advisory Group on SARS-CoV-2 Virus Evolution

https://www.who.int/groups/technical-advisory-group-on-sars-cov-2-virus-evolution

COVID-19 policy briefs

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-policy-briefs

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