WHO Update on COVID-19

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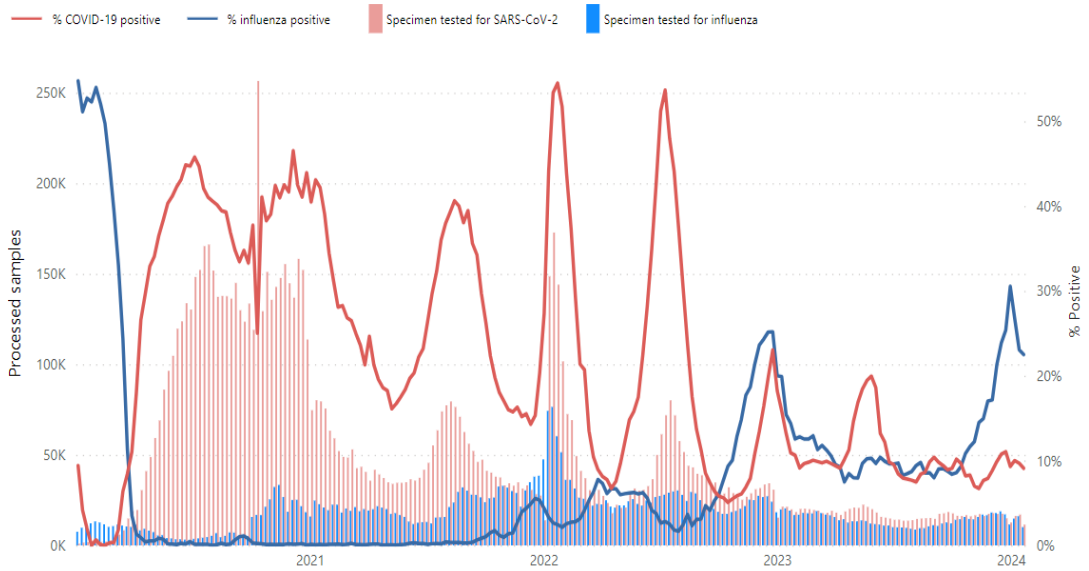
SARS-CoV-2, influenza, and RSV are co-circulating widely, continued vigilance and concerted action are needed



Data source: FluNet (www.who.int/toolkits/flunet). Global Influenza Surveillance and Response System (GISRS). Data as of 21 January 2023, generated on 31 January 2023.

- **SARS-CoV-2 positivity from sentinel surveillance is around 9%**
  - Decreasing trend in EUR (~20%) and EMR (~10%)
  - Increasing trend in AMR (15%) and SEAR (9%)
  - Stable for AFR and WPR around or below 6%,
  - **Non-sentinel positivity was around 35% globally**
- Since 1st of January (3 weeks), over 400K new COVID-19 cases (n = 69) and 7.8K new deaths (n = 43) reported
- Over 171K new hospitalizations (n = 35) and 2.1K ICU admissions (n = 26) for the 18 Dec-14 Jan period, a 28% and 3% increase from the previous 28-day period, respectively
- **Data must be interpreted with caution** – rates of testing and data reporting have decreased substantially
- **Influenza detections have increased** since mid-October driven by the temperate Northern hemisphere, Europe, Central Asia and North America (23 countries above ILI baseline in EUR).
- **RSV activity** (not visualized) **has been stabilized or decreased** in North America and in Europe while remained elevated in Central America. Generally low and decreasing in elsewhere.

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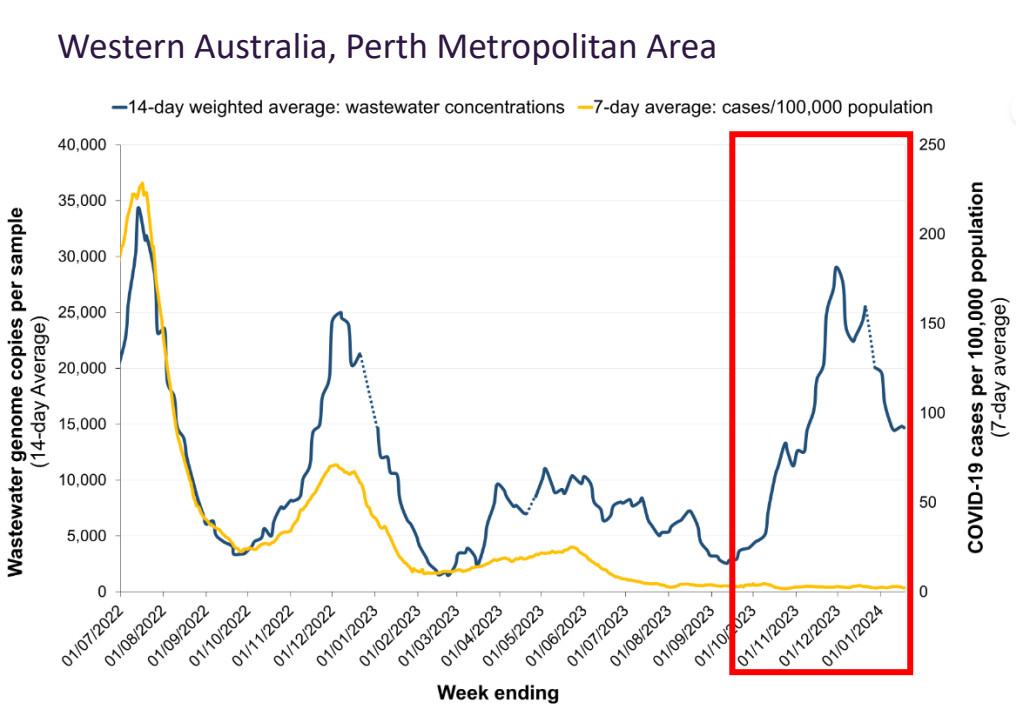
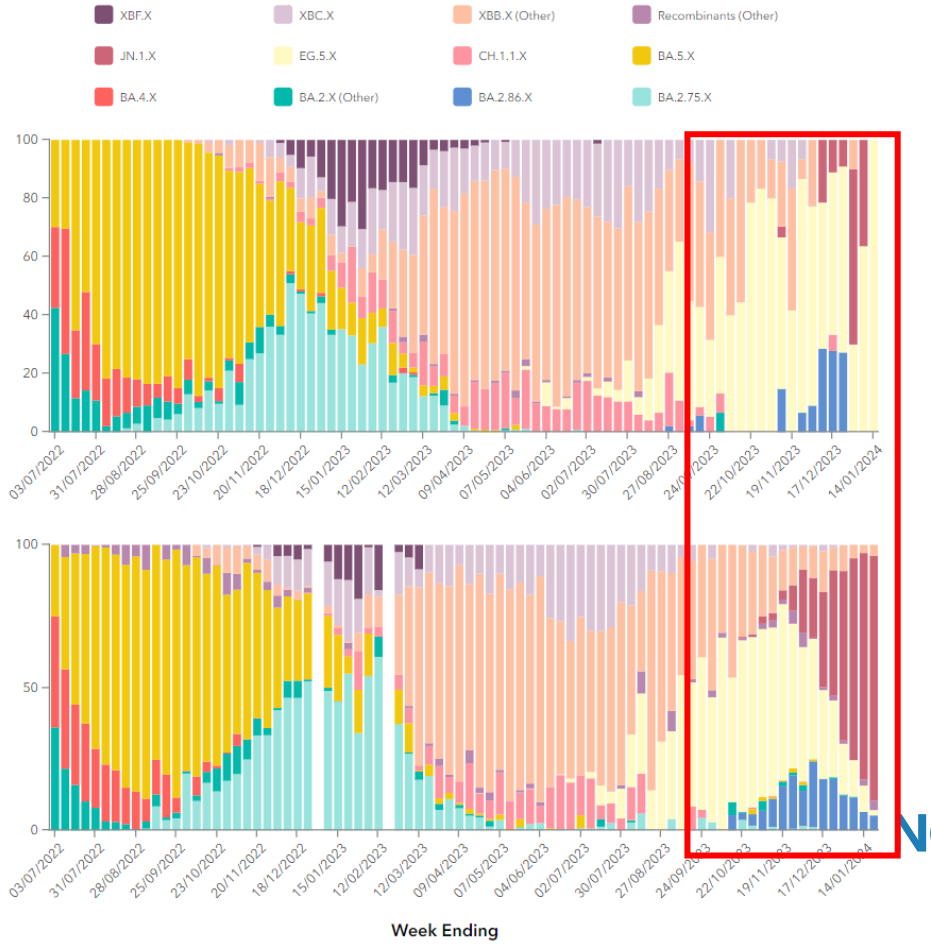
Wastewater surveillance remains important as early warning and circulation of SARS-CoV-2

SARS-CoV-2 wastewater levels spiked across the world during November and December 2023, reaching the highest observed peaks in 2023 for many countries. But trend of reported clinical cases and sequences from them did not follow the similar pattern, likely due to under testing and reporting.





Sequencing from clinical samples

Sequences from wastewater samples picked up the rise of JN.1 earlier.

Sequencing from wastewater samples

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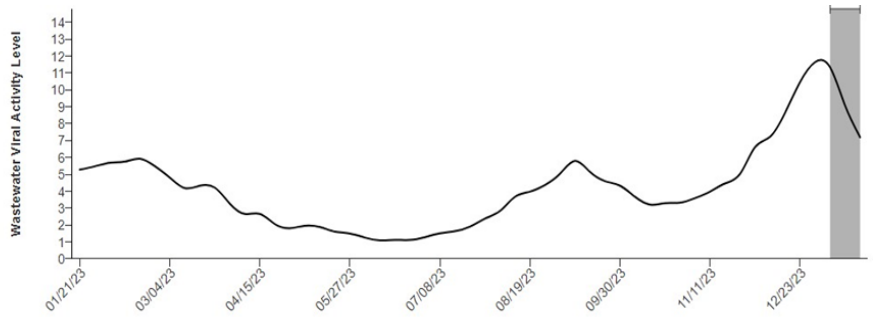
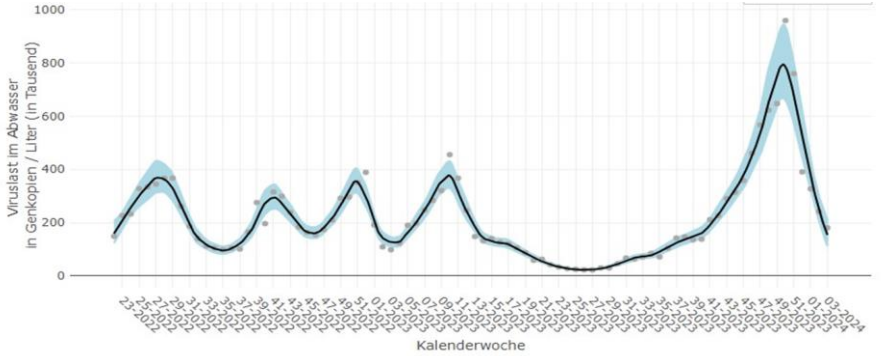
Example of wastewater surveillance trends

- SARS-CoV-2 wastewater levels spiked across the world during November and December 2023, reaching the highest observed peaks in 2023 for many countries.
- There has since been a general downward trend in these SARS-CoV-2 wastewater levels globally.

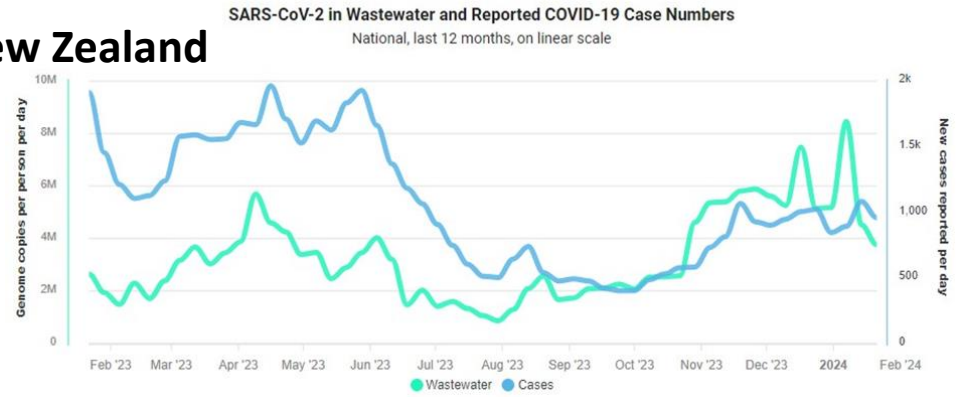
USA



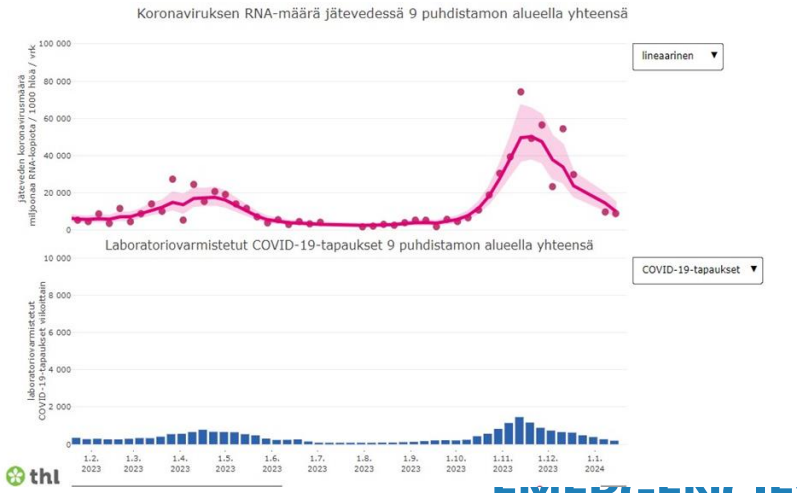
Germany



New Zealand



Finland



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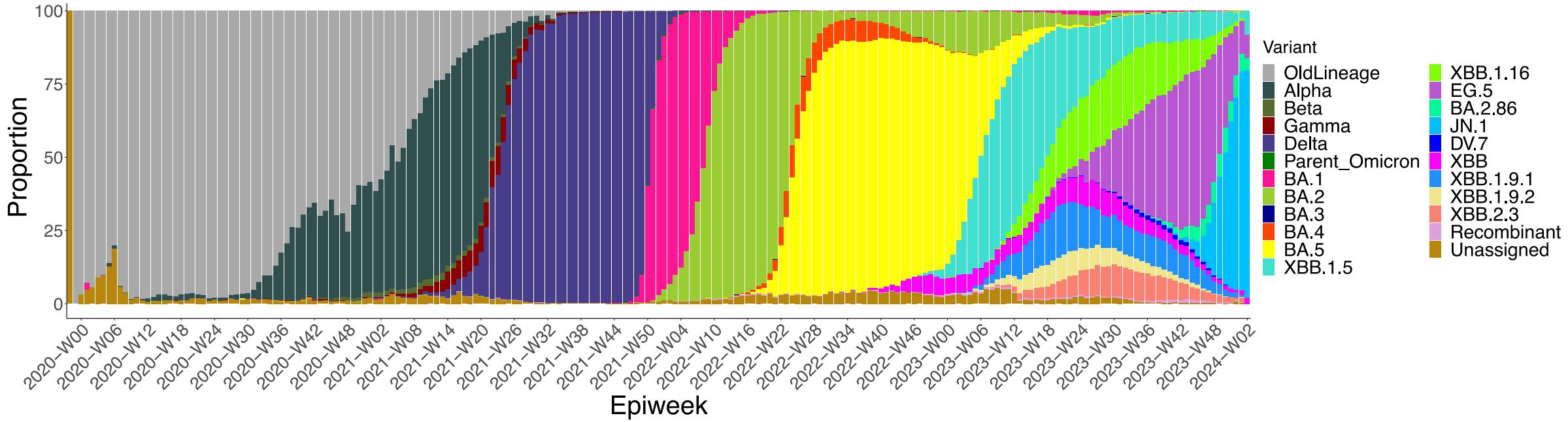
Evolution of SARS-CoV-2 Variants 2020-2024



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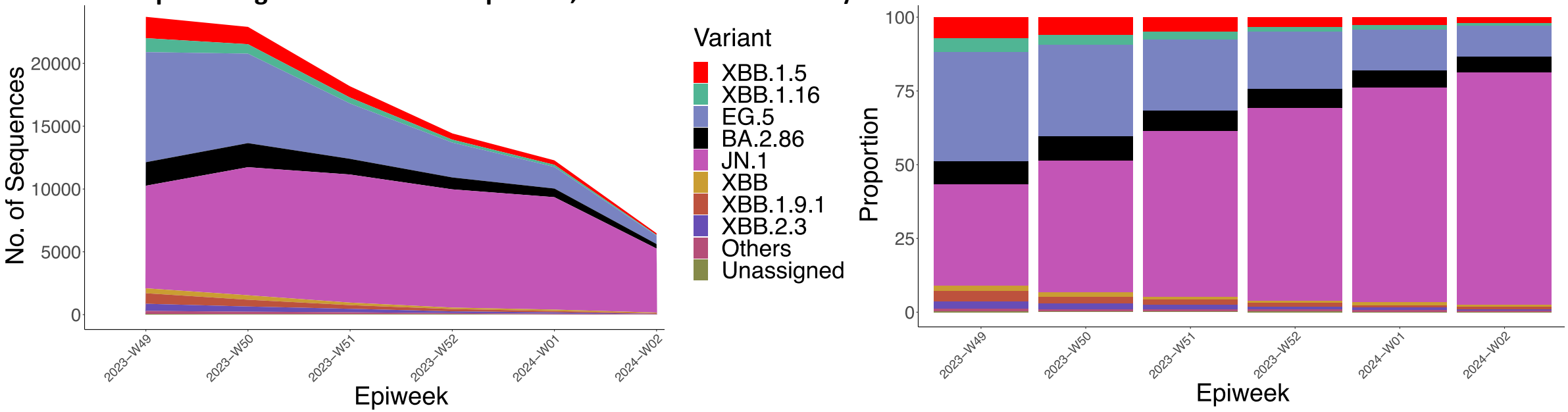
*Notes: Figures by WHO, data from GISAID, extracted on 20 December 2023. * Includes descendant lineages, except those individually specified elsewhere in the table. For example, XBB* does not include XBB.1.5, XBB.1.16, EG.5, XBB.1.9.1, XBB.1.9.2, and XBB.2.3*

JN.1 and its descendent lineages remain the most reported SARS-CoV-2 Variant of Interest, with a prevalence of 78.7% in week 2 of 2024

Number and percentage of SARS-CoV-2 sequences, 4 December to 14 January 2024



- **Five Variants of Interest (VOI) are circulating:** XBB.1.5; XBB.1.16; EG.5; BA.2.86; JN.1
  - EG.5, BA.2.86, XBB.1.5 and XBB.1.16 continue to show declining trends
- **Three Variants Under Monitoring (VUM) are circulating:** XBB; XBB.1.9.1; XBB.2.3: all declining

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*Notes: Figures by WHO, data from GISAID, extracted on 20 December 2023. * Includes descendant lineages, except those individually specified elsewhere in the table. For example, XBB* does not include XBB.1.5, XBB.1.16, EG.5, XBB.1.9.1, XBB.1.9.2, and XBB.2.3*

JN.1 Updated Public Health Risk Evaluation

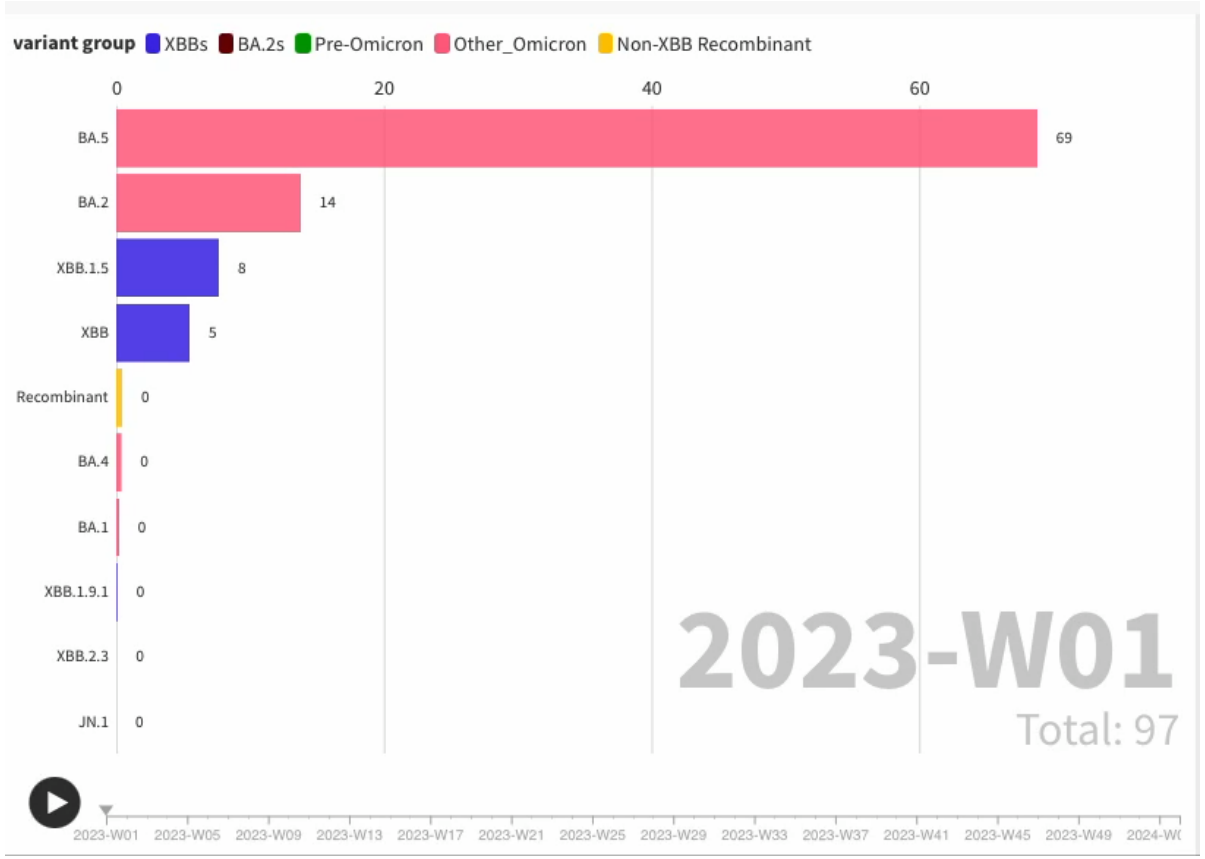
Framework: Indicators, Evidence and Assessments

	Rapid indicators: 0-4 weeks	Confidence in the assessment		
		LOW	MODERATE	HIGH
Growth advantage	Evidence of a growth advantage likely to lead to global predominance A. An increase in variant specific Rt B. Logistic growth (compared to currently circulating variant) (Nb variants with subnational-limited growth are not assessed)	All data derived from one country	At least two models; data from two countries not linked by close travel	At least two models and at least three countries in three regions, over more than two weeks
Immune escape	• Genomic (predictive) and structural biology assessment • Pseudovirus neutralization using vaccinee sera or pre-banked population serosurveys • Reinfection rate through a cohort study or surveillance system • Signals from outbreak investigations [Rapid VE is unlikely by 28 days so the rapid RA cannot reach high confidence].	One indicator (reinfection, neutralization or structural model)	Two indicators including neutralization data	[rapid VE]
Severity and clinical considerations	• Change in a rolling surveillance metric for severity synchronized with increase in variant e.g. • infection hospitalization ratio • indicators from sentinel hospital network (e.g. surveillance of severe acute respiratory infections) • comparison of admission trends with previous variants • change in the demographic profile of who is admitted to hospital • Change in clinical phenotype • Major tests/therapeutics issues	One metric, one country	Multiple metrics, one country OR same method in multiple countries	Multiple metrics, multiple countries in multiple regions
Risk assessment	Including overall view of threat in the wider context, confidence level in the assessment, and identification of urgent priority work.			

- JN.1 public health risk evaluated as **low**.
- Studies from Denmark and France report **no differences in hospitalization and disease severity between JN.1 and currently circulating variants**, while Singapore reported lower odds of hospitalization with JN.1.
- Pre-existing SARS-CoV-2 specific T-cells are predicted to cross-recognize the JN.1 variant.
- Current population immunity and **XBB-adapted vaccines expected to remain protective**.
- **One Rapid antigen test (Panbio by Abbott) for SARS-CoV-2 are reported to be still useful in detecting infections caused by JN.1 and other BA.2.86-derived variants.**
- WHO and TAG-VE continue to review available evidence on risks posed by SARS-CoV-2 variants.

Amidst continued SARS-CoV-2 circulation, the landscape of new variants remains fluid; more representative sequencing is needed

- **Variant circulation remains heterogenous across WHO regions**, within a region, and within a country
  - Globally, from 18 Dec 2023 to 14 Jan 2024, 55 027 SARS-CoV-2 sequences were shared through GISAID, 62% decrease from the previous 28-day.
- **SARS-CoV-2 reference lab network is transiting to the WHO Coronavirus Network (CoViNet)** with expanded focus, featuring:
  - Human, animal health and wastewater surveillance labs
  - Reference labs in all WHO regions supporting variant risk evaluations and integration with e-GISRS for sentinel surveillance at national level



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Data source: GISAID

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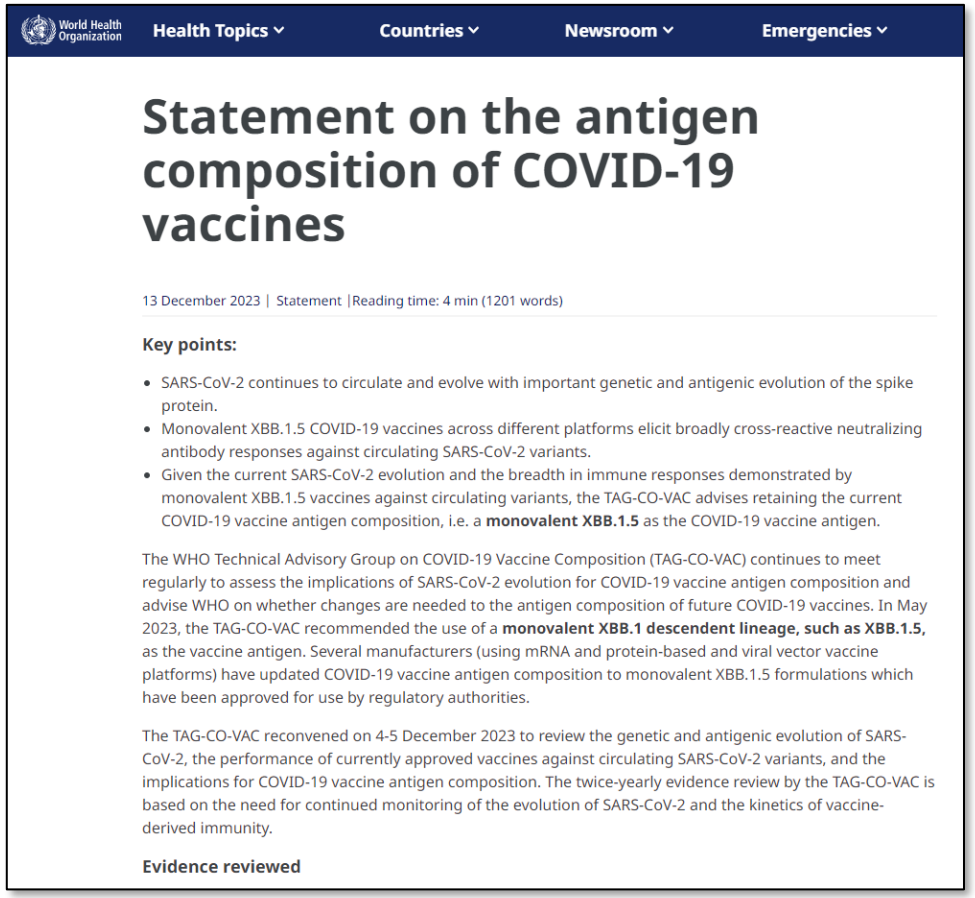
TAG-VE and TAG-CO-VAC continues to monitor virus evolution and the impact of variants on available vaccine products

- **SARS-CoV-2 continues to evolve important genetic and antigenic changes of the spike protein.**
- Monovalent XBB.1.5 COVID-19 vaccines across different platforms elicit broadly cross-reactive neutralizing antibody responses against circulating SARS-CoV-2 variants.
- Given the current SARS-CoV-2 evolution and the breadth in immune responses demonstrated by monovalent XBB.1.5 vaccines against circulating variants, the **TAG-CO-VAC advises retaining the current COVID-19 vaccine antigen composition**, i.e. a monovalent XBB.1.5 as the COVID-19 vaccine antigen.



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Statement on the antigen composition of COVID-19 vaccines

13 December 2023 | Statement |Reading time: 4 min (1201 words)

Key points:

- SARS-CoV-2 continues to circulate and evolve with important genetic and antigenic evolution of the spike protein.
- Monovalent XBB.1.5 COVID-19 vaccines across different platforms elicit broadly cross-reactive neutralizing antibody responses against circulating SARS-CoV-2 variants.
- Given the current SARS-CoV-2 evolution and the breadth in immune responses demonstrated by monovalent XBB.1.5 vaccines against circulating variants, the TAG-CO-VAC advises retaining the current COVID-19 vaccine antigen composition, i.e. a **monovalent XBB.1.5** as the COVID-19 vaccine antigen.

The WHO Technical Advisory Group on COVID-19 Vaccine Composition (TAG-CO-VAC) continues to meet regularly to assess the implications of SARS-CoV-2 evolution for COVID-19 vaccine antigen composition and advise WHO on whether changes are needed to the antigen composition of future COVID-19 vaccines. In May 2023, the TAG-CO-VAC recommended the use of a **monovalent XBB.1 descendent lineage, such as XBB.1.5,** as the vaccine antigen. Several manufacturers (using mRNA and protein-based and viral vector vaccine platforms) have updated COVID-19 vaccine antigen composition to monovalent XBB.1.5 formulations which have been approved for use by regulatory authorities.

The TAG-CO-VAC reconvened on 4-5 December 2023 to review the genetic and antigenic evolution of SARS-CoV-2, the performance of currently approved vaccines against circulating SARS-CoV-2 variants, and the implications for COVID-19 vaccine antigen composition. The twice-yearly evidence review by the TAG-CO-VAC is based on the need for continued monitoring of the evolution of SARS-CoV-2 and the kinetics of vaccine-derived immunity.

Evidence reviewed

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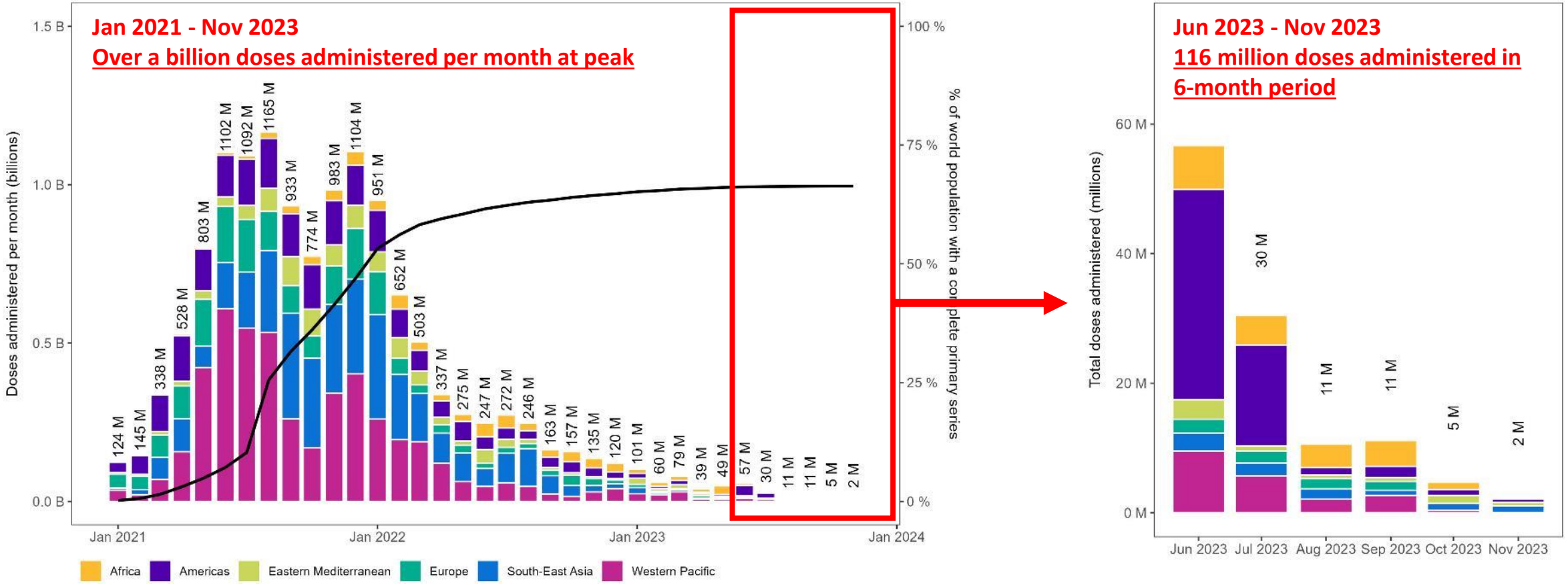
Uptake has declined substantially since its peak in late 2021 – 116 million doses were administered during the Jun – Nov 2023 period



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Data source: WHO COVID-19 vaccination reporting system

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Given declining demand, strengthened efforts are needed to turn available vaccines into vaccinations, focusing on revaccination and closing equity gaps

COVID-19 vaccine uptake in older adults

Income group	Primary series coverage	Booster coverage
1) LIC	39 %	4 %
2) LMIC	78 %	28 %
3) UMIC	86 %	65 %
4) HIC	92 %	82 %
Total	**83 %**	**55 %**

COVID-19 vaccine uptake in healthcare workers

Income group	Primary series coverage	Booster coverage
1) LIC	65 %	8 %
2) LMIC	89 %	68 %
3) UMIC	92 %	25 %
4) HIC	89 %	15 %
Total	**89 %**	**30 %**

- Under latest WHO recommendations, **one COVID-19 vaccine dose is recommended for those who have never received any COVID-19 vaccine** (except for inactivated vaccines), especially in groups at high risk of severe illness – **this may contribute to increasing uptake**
  - Periodic revaccination recommended for select risk groups, interval corresponding to an individual's level of risk
- Limited data suggest monovalent Omicron XBB vaccines do provide modestly enhanced protection; but **WHO EUL- / PQ-vaccine products, including those based on the ancestral virus, maintain reasonably high vaccine effectiveness against severe disease and death**
  - **Vaccination should not be postponed in anticipation of Omicron XBB vaccines, if they are not readily available.**
- **COVID-19 and influenza vaccines are recommended for the same adult high-risk groups**. Where available, getting both vaccines is recommended.
- Important disparities in the COVID-19 vaccine rollout remain; LICs continue to lag behind other income groups

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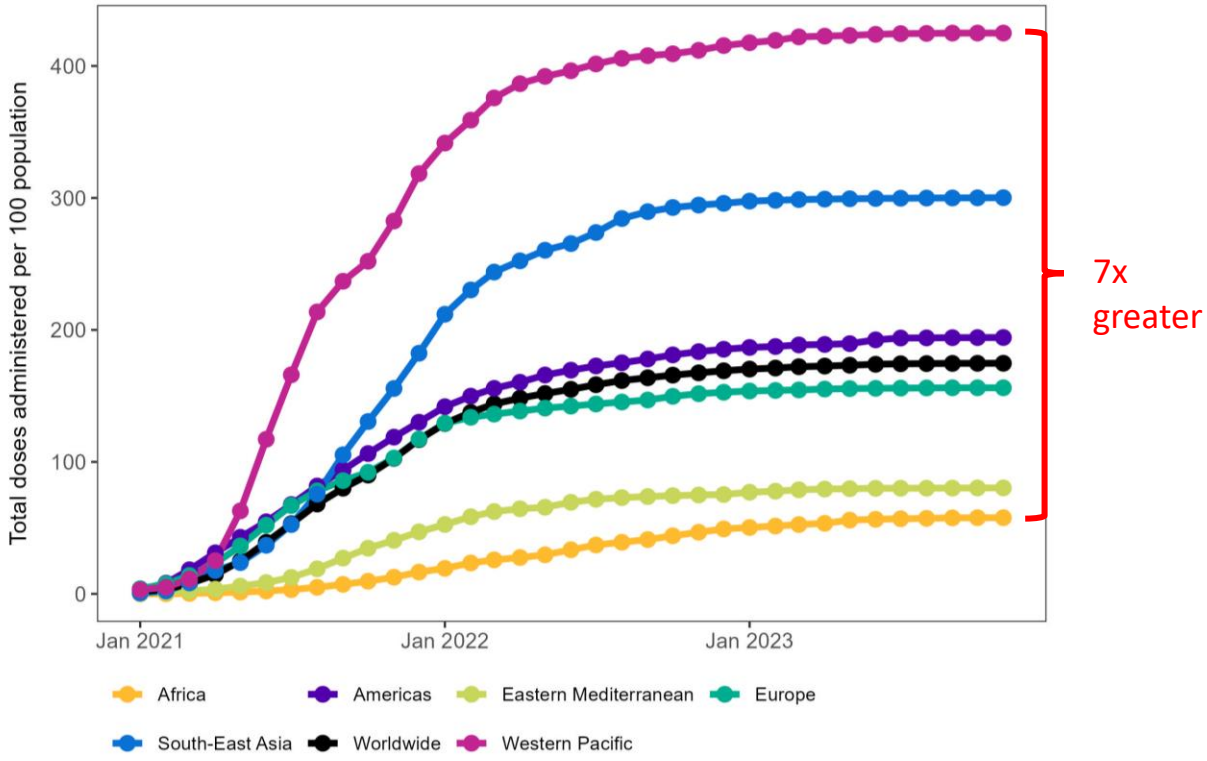
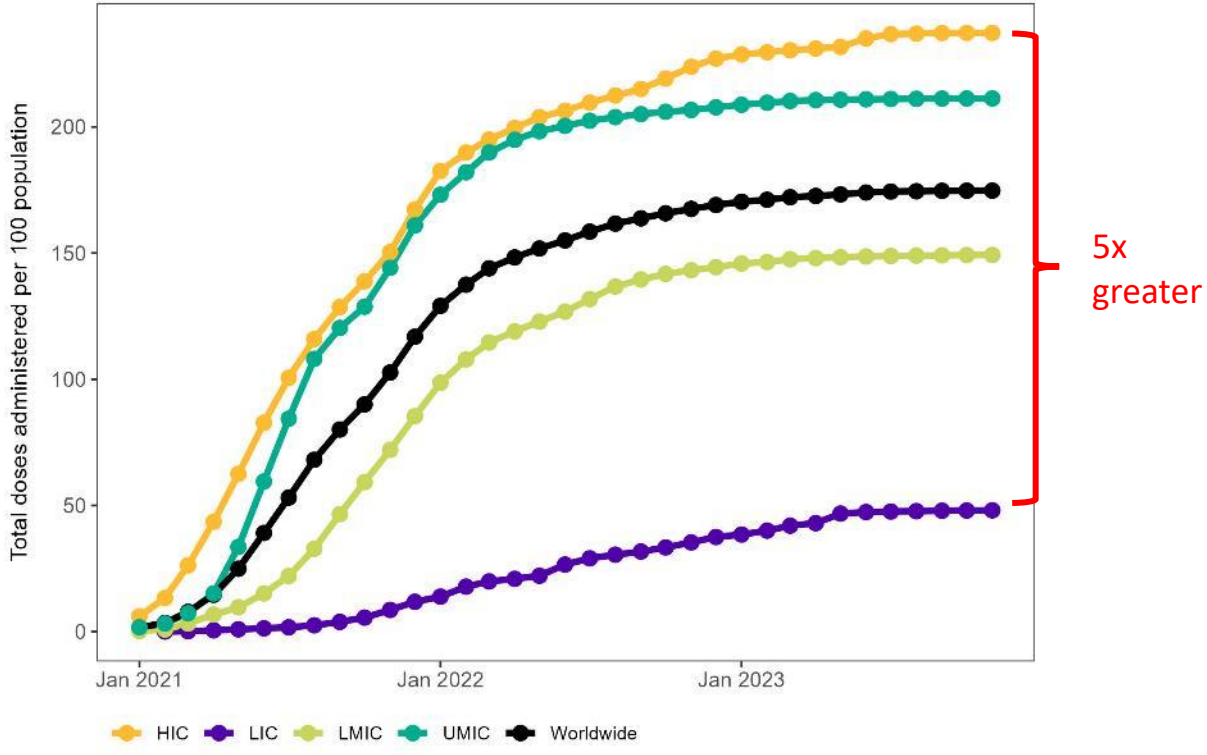
Data source: WHO COVID-19 vaccination reporting system

Important disparities between income groups and regions, established early in the rollout, remain

COVID-19 vaccine doses administered per 100 population, cumulative, by WHO region



COVID-19 vaccine doses administered per 100 population, cumulative, by income group



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Data source: WHO COVID-19 vaccination reporting system

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Post COVID-19 condition

Incidence after acute COVID-19

Meta-analysis of data of 1.2 million individuals with symptomatic SARS-CoV-2 infection in 2020 and 2021 (22 countries, 54 studies)

- Therefore, pre-Omicron studies
- **6.2% (95% CI 2.4% - 13.3%) developed PCC**
- Three symptom clusters:
  - Persistent fatigue
  - Cognitive problems
  - Respiratory problems
- Mean symptom duration:
  - 9 months in those hospitalized for COVID-19 infection
  - 4 months in non-hospitalized individuals
  - 15.1% had persistent symptoms at 12 months

WHO actions for post COVID-19 condition

- **Post COVID-19 guideline – proposal being evaluated by WHO Guideline Review Committee**
- **Collaboration on evidence synthesis**
  - With the WHO Collaborating Centre for Infectious Diseases, Research Methods and Recommendations
  - Organisation under 6 streams, prioritization of key questions
- **Evaluation of evidence of metformin for prevention, amongst others, as part of WHO COVID-19 therapeutic guideline**
- **Global Long Covid Webinar Series**
  - With the WHO Collaborating Centre for Digital Learning in Health Emergencies, and Project ECHO
  - Monthly update for clinicians
- **Research meetings monthly**

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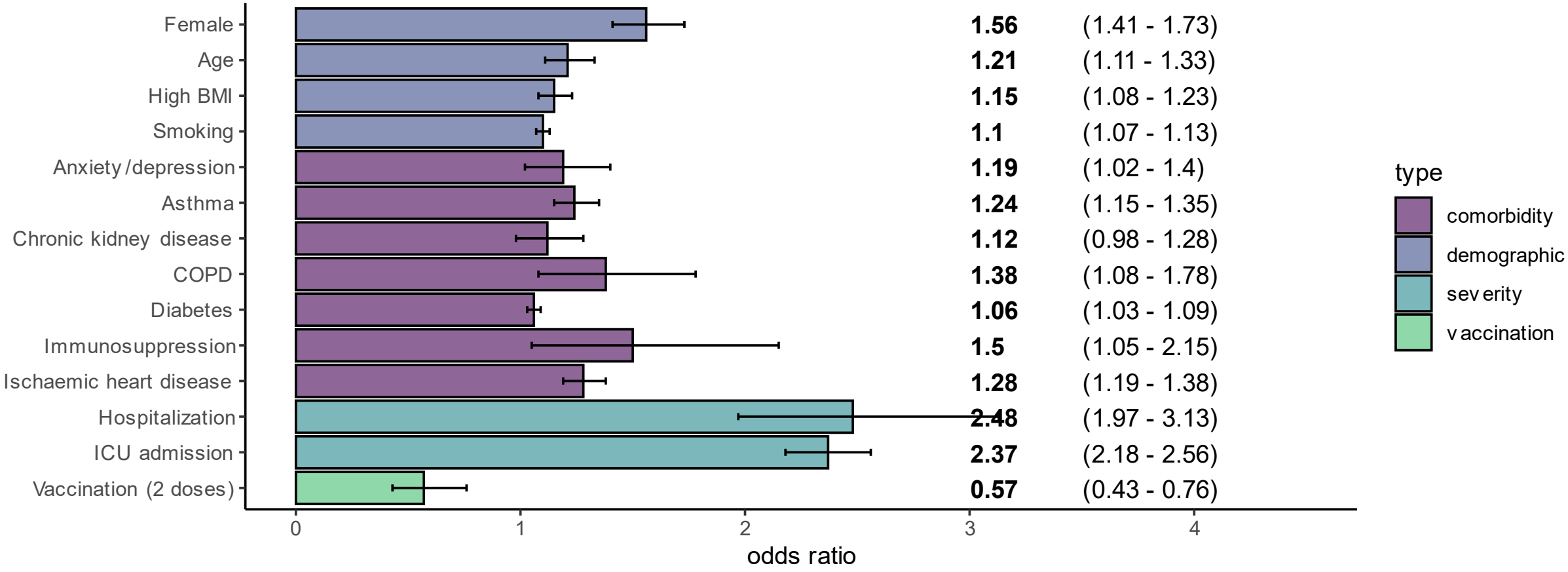
JAMA. 2022;328(16):1604-1615. doi:10.1001/jama.2022.18931

High risk groups for PCC

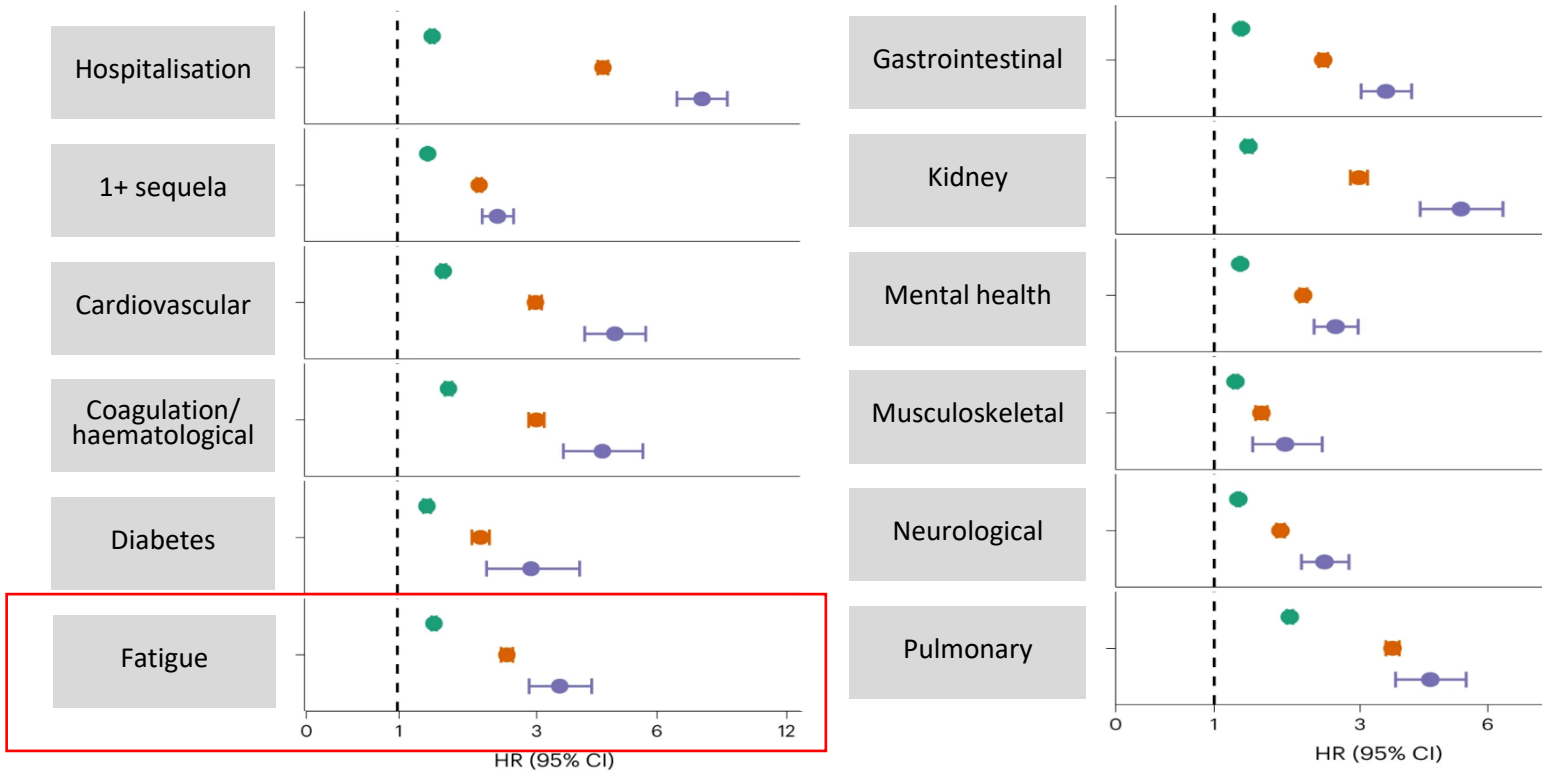


Systematic review (Tsampasian et al. 2023), 41 studies, n= 860,783 adults

Repeated infections - complications

- Risk and burden of sequelae in people
  - with SARS-CoV2 reinfection (n = 40,947)

  vs. no reinfection (n = 443,588) at 6 months
- Data from US Veterans database
  - 85% male
  - 22% black
  - 40% vaccination
- Multiple adjustments for confounding
- **Outcomes incrementally worse as infection recurs in the same individual**



No specific data for post COVID-19 condition, but some symptoms, especially fatigue are important proxies for PCC

Bowe, B., Xie, Y. & Al-Aly, Z. Acute and post-acute sequelae associated with SARS-CoV-2 reinfection. Nat Med 28, 2398–2405 (2022). https://doi.org/10.1038/s41591-022-02051-3

What can we do about all of this?

We can prevent infections

We can prevent spread

We can prevent severe disease

We can prevent Post COVID-19 Condition

We can prevent deaths

Access the latest COVID-19 SPRP here

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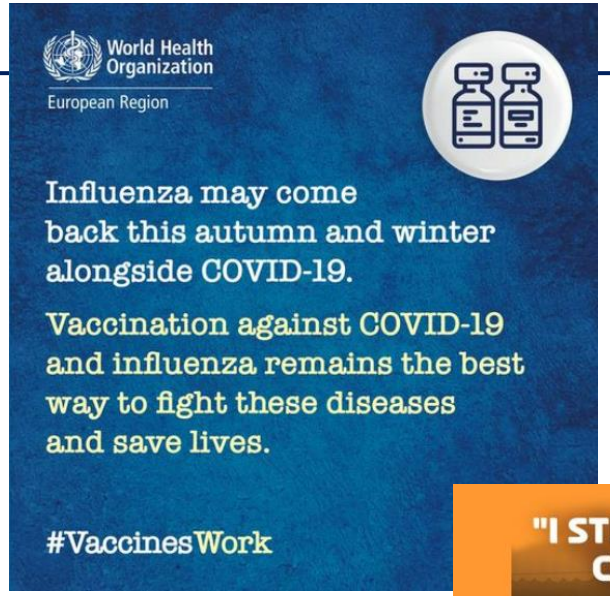
Remember COVID-19 is still around

- **Know your risks, Lower your risks**:
  - If you are sick, stay at home
  - Wear a mask in crowded and poorly ventilated places
  - Clean your hands regularly
  - Cover your cough and sneeze
  - Check your vaccine status for COVID-19 and flu
  - Keep a distance as feasible
- **Preventive measures work** for COVID-19 and for other respiratory viruses like flu
- **If you are at risk or an older adul**t, **revaccination** against COVID-19 may be needed 6-12 months after your most recent dose. COVID-19 vaccines are safe and effective.
- The best way to prevent long COVID is to take the preventive measures that protect you and others from COVID-19 and other respiratory viruses.



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The world faces continued challenges in controlling the drivers of COVID-19 transmission and its impact

Drivers of continued impact of COVID-19
Persisting disparities in vaccination coverage, especially of boosters and in risk groups, in particular in low-income countries
Reduced immunity due to waning immunity and low demand for boosters/re-vaccination
Lack of access to lifesaving tools including oxygen, antivirals and other therapeutics
Lack of diagnostics or late diagnosis and delayed entry into the clinical care pathway
Emergence of variants that can evade diagnosis and/or have reduced efficacy of live-saving tools
Poorly defined and/or resourced care pathways for post-COVID-19 condition
Insufficient capacity, limited infrastructure, limited resources and/ or flexibility to scale up during surges of COVID-19, especially in the context of burdens from other infectious diseases such as influenza, RSV and others

To control COVID-19 transmission and limit its impact, we make the following key recommendations to all member states

- **Continue work towards ensuring equitable access to safe, effective and quality-assured medical countermeasures for COVID-19 and other respiratory pathogens (influenza, RSV), including diagnostics, therapeutics, and vaccines**
- **Strengthen efforts to implement and increase demand for available safe and effective vaccines against COVID-19, influenza, and RSV** in indicated population groups as per the recommendations of WHO SAGE
- **Reinforce collaborative surveillance for COVID-19 and other respiratory diseases**, in order to provide a basis for situational awareness and risk assessment and the detection of significant changes in virus characteristics, virus spread, disease severity and population immunity
    - Continue reporting COVID-19 data, particularly mortality data, morbidity data, SARS-CoV-2 genetic sequences with meta-data, and vaccine effectiveness data to WHO, or in open sources
- **Continue to deliver optimal clinical care through clear pathways for COVID-19 and other respiratory pathogens**, appropriately integrated into all levels of health services, including access to proven treatments and measures to protect health workers and caregivers as appropriate
- **Continue to implement RCCE evidence-based and actionable interventions co-developed with communities and vulnerable groups** which are aligned to their needs and support their protection

Refer to the 09 Aug 2023 Standing recommendations for COVID-19 for more on measures to be taken by Member States for long-term COVID-19 control

WHO Key Messages

- Though we are not crisis and not seeing levels of impact anywhere near the peak of the pandemic in 2021, 2022, and early 2023, **COVID-19 is still a global threat**.
- Weekly reported number of deaths now consistently below 4000 since mid-May 2023, reported from on average 50 countries. The number of countries sharing death data remain low and as such **the true number of deaths is still unknown**.
- Limited reporting of hospitalization data and reporting delays make it difficult to draw strong conclusions from trends in hospitalizations and **COVID-19 isn't the only pathogen circulating stressing health care systems**.
- The virus continues to evolve, and we do not yet have seasonal/predictable temporal patterns. **Declining and unrepresentative surveillance and sequencing is making it more difficult to rapidly assess known and detect new variants/recombinants**.
- While surveillance and reporting reduced, **the virus is infecting/reinfecting**, it's killing, its causing suffering from acute disease, PCC and **we don't know the longer-term impacts on different organ systems from repeat infections**.
- Despite reduced demand and continued lack of access to life saving tools, **current countermeasures are working well** for detection (diagnostics), treatment and vaccination but risk of emergence of new variants could come from anywhere with such intense circulation globally.
- **Strengthening surveillance and sequencing remains critical at this stage of the pandemic**.

Thank you

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