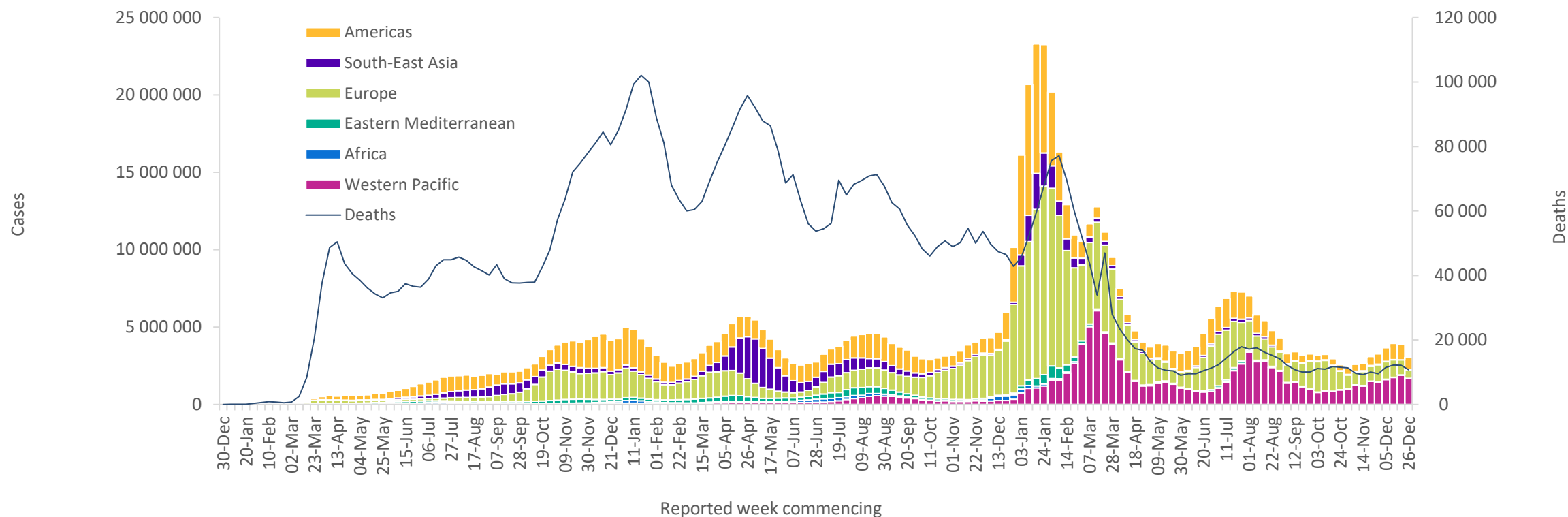# COVID-19
Global epidemiological situation

5 January 2023

Global COVID-19 trends in reported cases and deaths
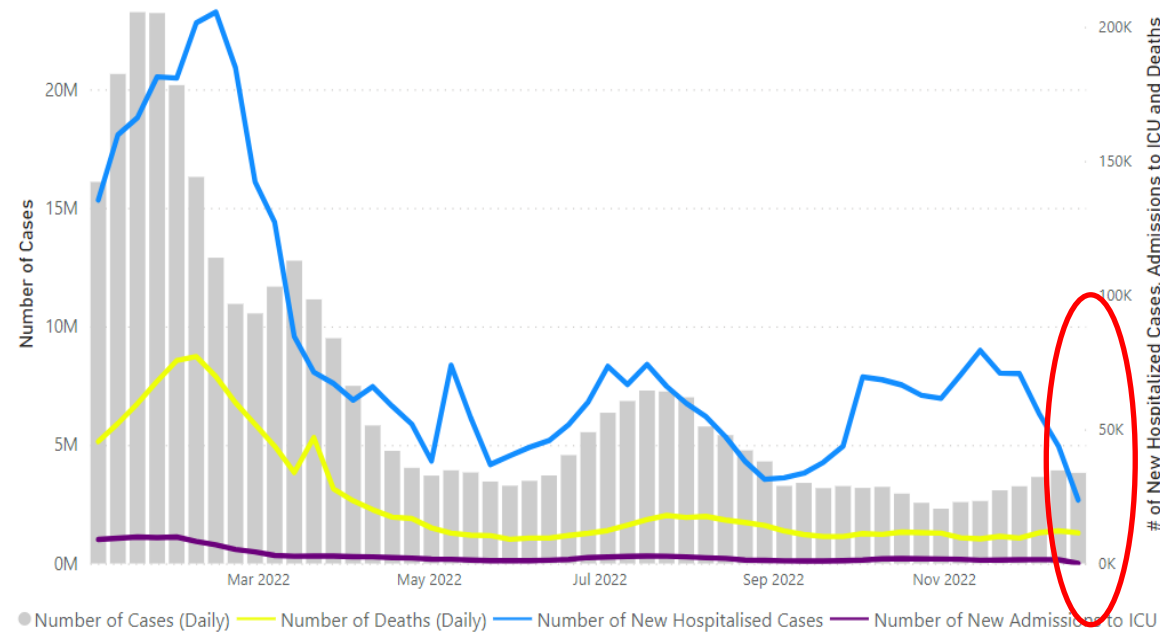
Cases reported to WHO as of 1 January 2023

- **New cases: > 3 Million**
- **New deaths: > 10 000**

- **Cumulative cases: > 656 Million**
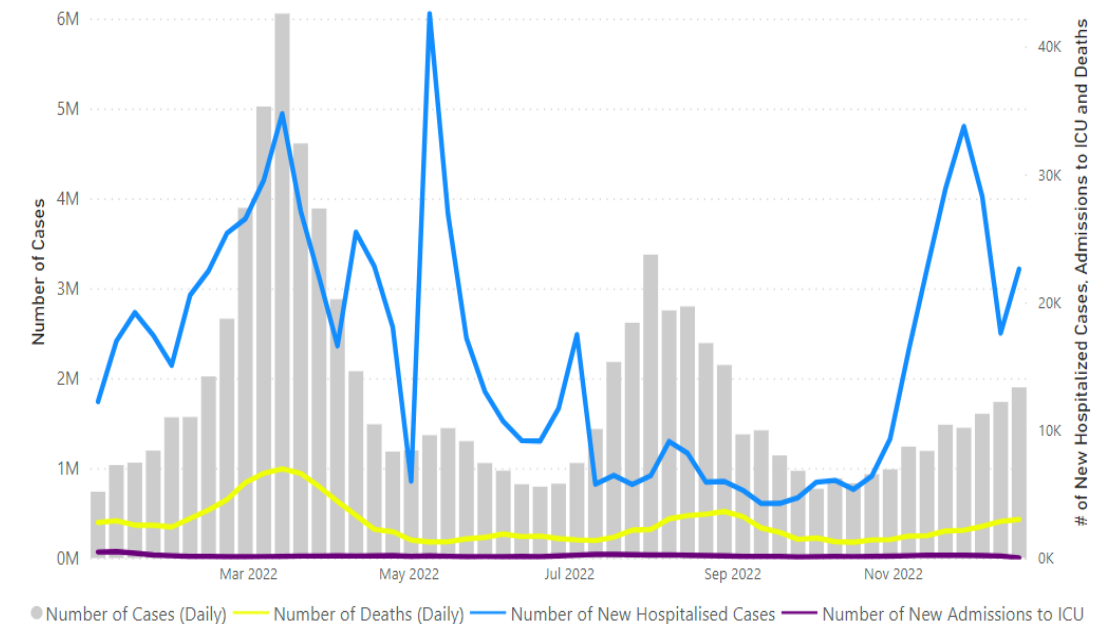- **Cumulative deaths: > 6.6 Million**

Trends of COVID-19 hospitalizations

Global new hospitalizations from 1 Jan to 25 Dec 2022

106 countries reported new hospitalization at least once globally in 2022.

Western Pacific Regional new hospitalizations from 1 Jan to 25 Dec 2022

6 countries reported new hospitalization at least once from the region in 2022.

28-day change in new cases and deaths by WHO region

5 Dec 2022 to 1 Jan 2023 compared to 7 Nov to 4 Dec

WHO Region	New cases in last 28 days (%)	Change in new cases in last 28 days	Cumulative cases (%)	New deaths in last 28 days (%)	Change in new deaths in last 28 days	Cumulative deaths (%)
Western Pacific	6 912 050 (48%)	29%	106 781 875 (16%)	11 594 (25%)	49%	296 540 (4%)
Europe	3 773 609 (26%)	-1%	269 940 463 (41%)	15 263 (33%)	1%	2 157 684 (32%)
Americas	3 721 828 (26%)	74%	186 265 607 (28%)	18 270 (39%)	35%	2 891 057 (43%)
South-East Asia	58 908 (0%)	-69%	60 738 097 (9%)	1 122 (2%)	-30%	803 229 (12%)
Africa	28 797 (0%)	-38%	9 448 439 (1%)	168 (0%)	2%	175 140 (3%)
Eastern Mediterranean	22 613 (0%)	-38%	23 222 798 (4%)	164 (0%)	-9%	349 089 (5%)
Global	**14 517 805 (100%)**	**25%**	**656 398 043 (100%)**	**46 581 (100%)**	**21%**	**6 672 752 (100%)**

COVID-19 situation in selected PAHO country: United States

Cases and deaths, Jan 2022 to 3 Jan 2023 [1]

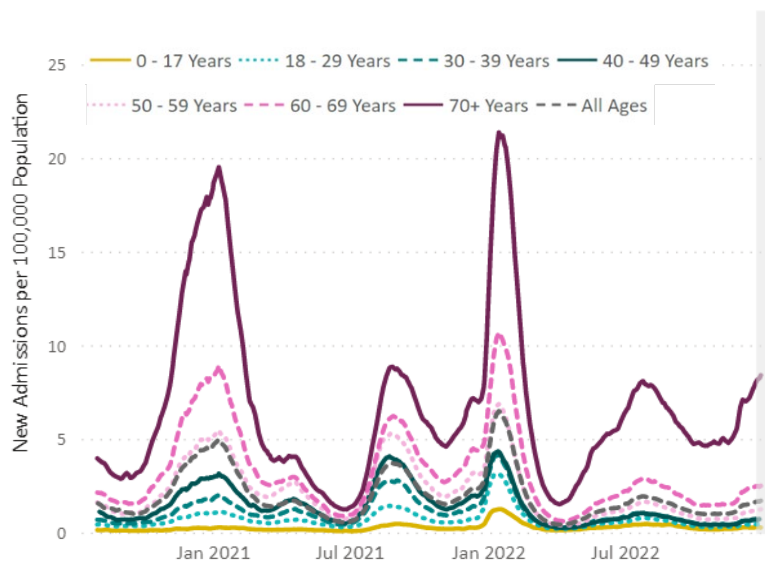Legend: Cases per 100K pop | Deaths per 9M pop
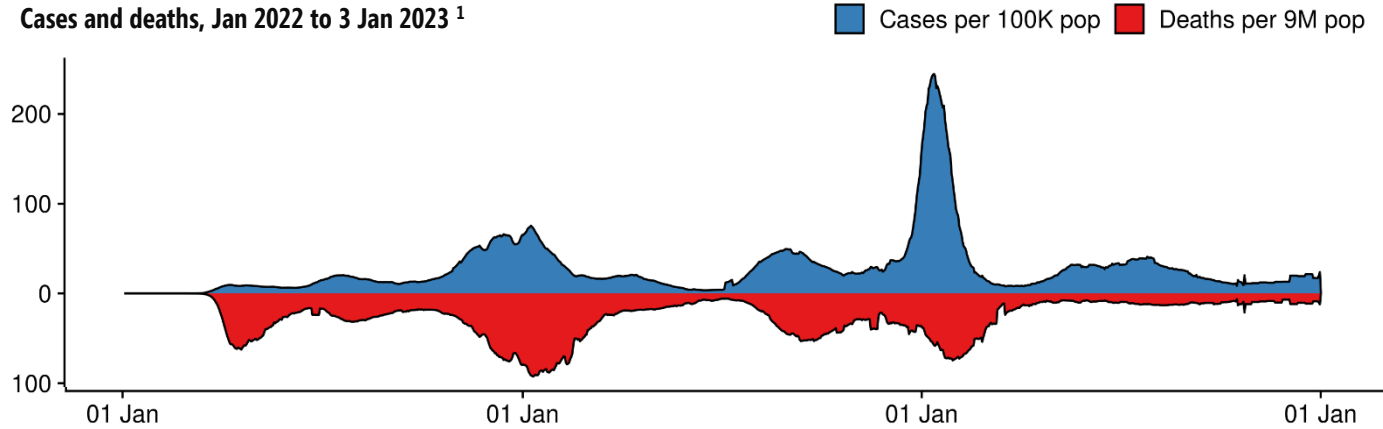
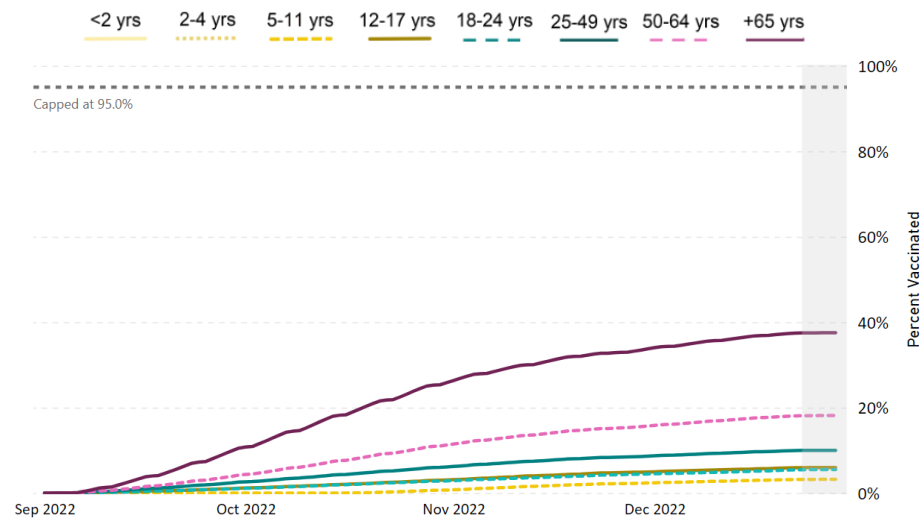## Key indicators, 26 Dec 2022 to 1 Jan 2023

- 7-day average of new hospital admissions: 5,545 (+0.1% vs previous week)
- Overall booster coverage: 15%
- Booster coverage in people aged ≥65 years: 38%

Circulating SARS-CoV-2 variants 29 Sep to 31 Dec 2022 [4]

Hospital admissions per 100 000, Jan 2022 to Jan 2023 [2]

COVID-19 bivalent booster coverage by age group [3]
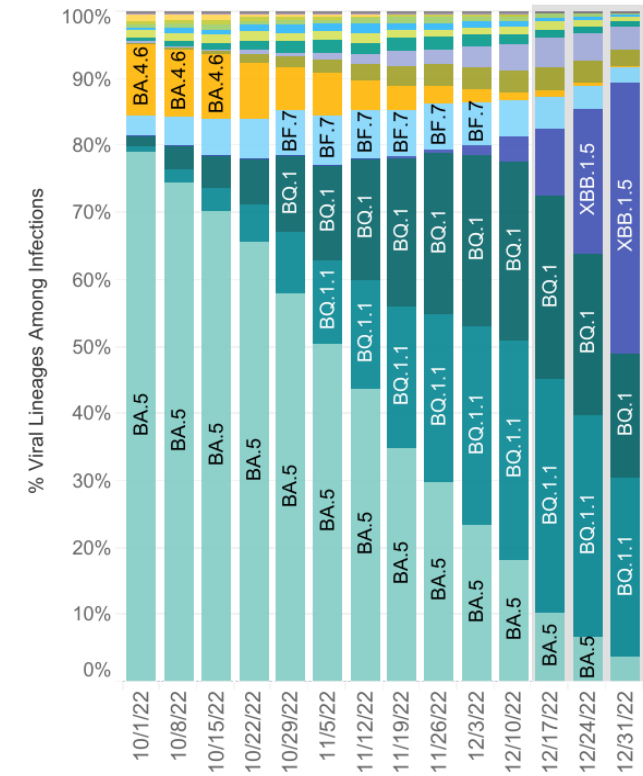
COVID-19 situation in selected PAHO country: Brazil

Cases and deaths, Jan 2020 to 12 December 2022 [3]

■ Cases per 100K pop ■ Deaths per 10M pop
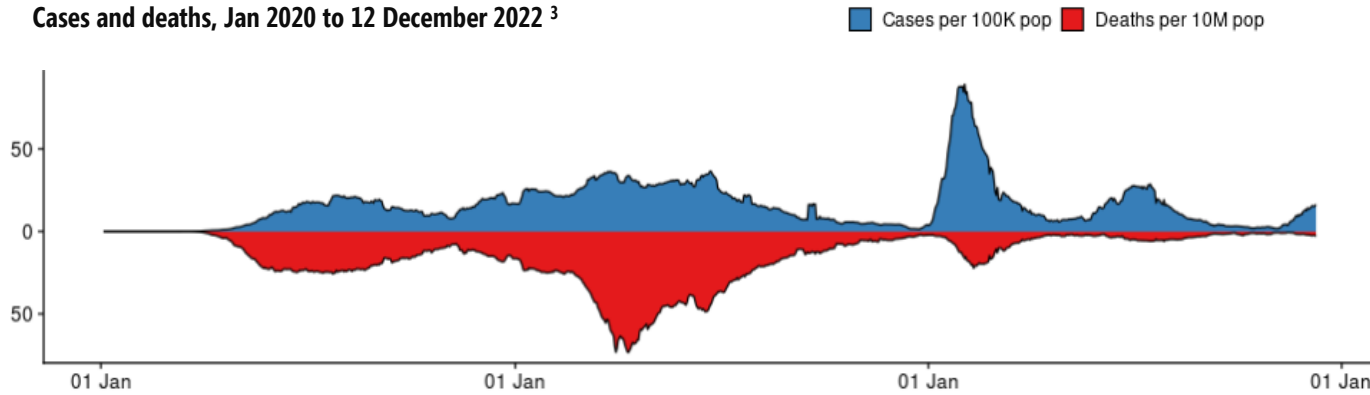
Hospital admissions, Jan to Dec 2022 [4]

Hospital Admission: ■ All ■ Hypoxaemia (SaO2 < 95%)
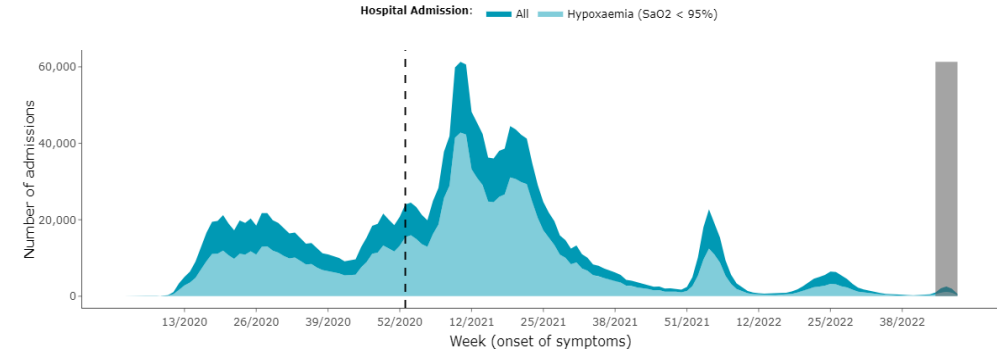
Epidemiology

- Recent elections led to mass gatherings / rallies, which may have contributed to the increase in cases.
- Relaxation of PHSM measures.

Vaccination (12 Dec 2022)

- Primary vacc. coverage: 82%
- Booster coverage: 70%

Cases per million pop by variants, May to Dec 2022 [1]
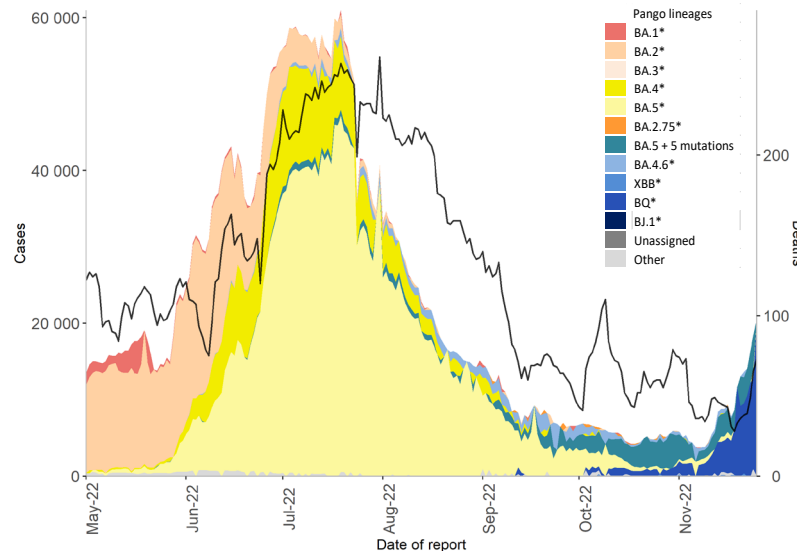
Vaccination coverage, Jan 2021 to Dec 2022 [2]

At least one dose (Current projection) Fully vaccinated (Current projection)

Sources
[1] Analysis based on sequencing data downloaded from GISAID
[2] IHME
[3] WHO Shiny App
[4] WHO Shiny App

COVID-19 situation in selected EURO country: France

Cases and deaths, Jan 2020 to 3 Jan 2023 [1]

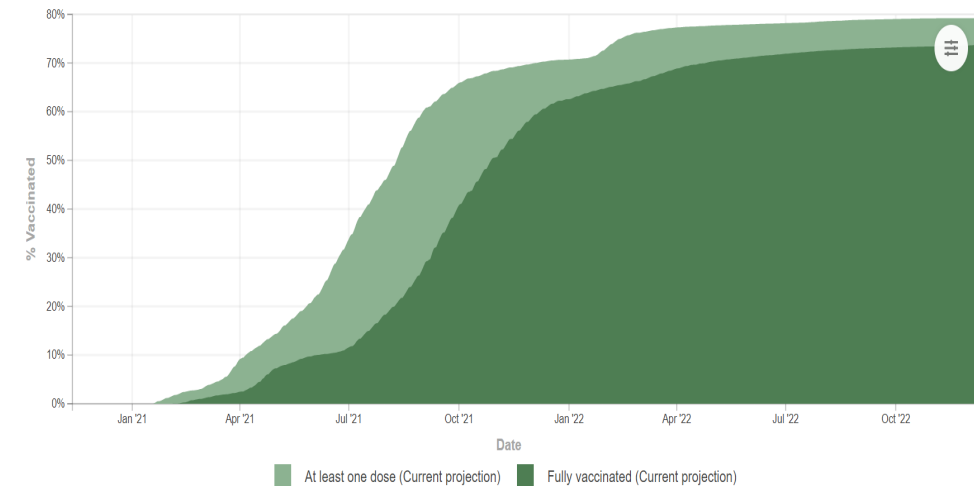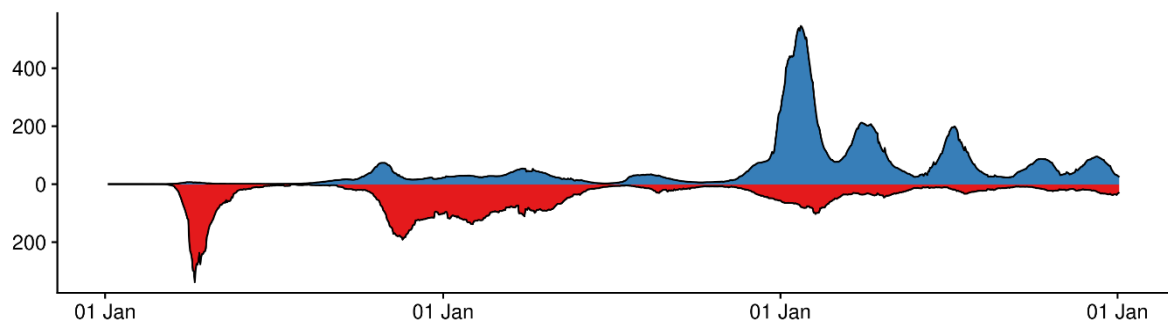Cases per 100K pop ■ Deaths per 20M pop ■

Vaccination rates for over-60s Dec 2020 to Dec 2022 [2]

— Cumulative uptake of at least one vaccine dose — Cumulative uptake of the primary course — Cumulative uptake of a first booster — Cumulative uptake of a second booster
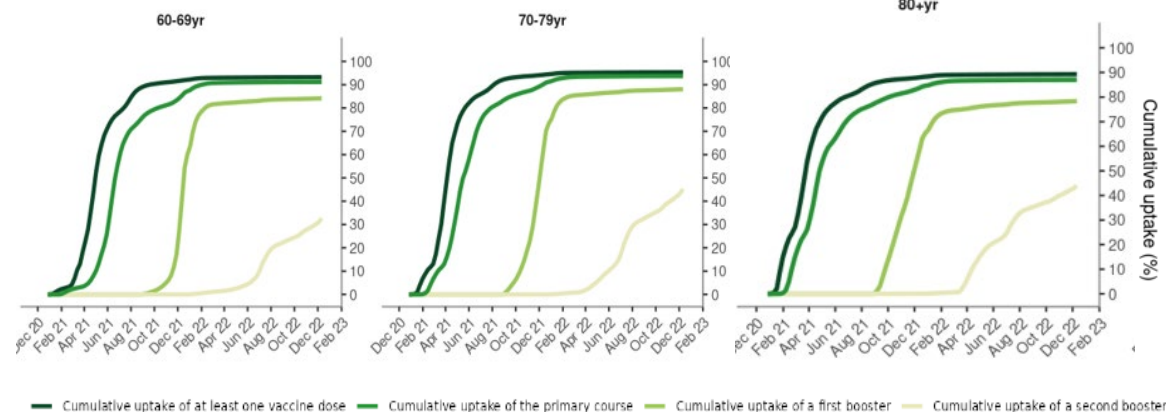
New hospitalizations per 100 000, Mar 2020 – 22 Dec 2022 [2]
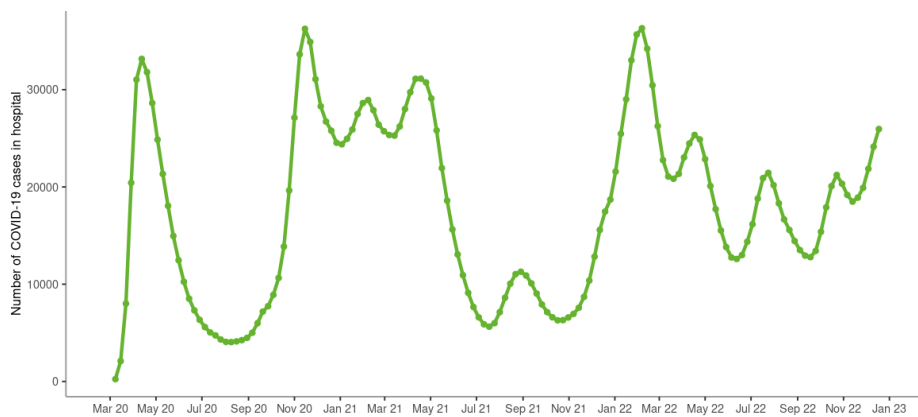
SARS-CoV-2 prevalence by variants, Oct to Dec 2022 [4]

Other ■ BQ.1.1 ■ BF.7 ■ BQ.1.1.18 ■ BA.5.2 ■ BQ.1 ■ BA.5.1 ■ BQ.1.1.4 ■ BA.5.2.1 ▨ No data
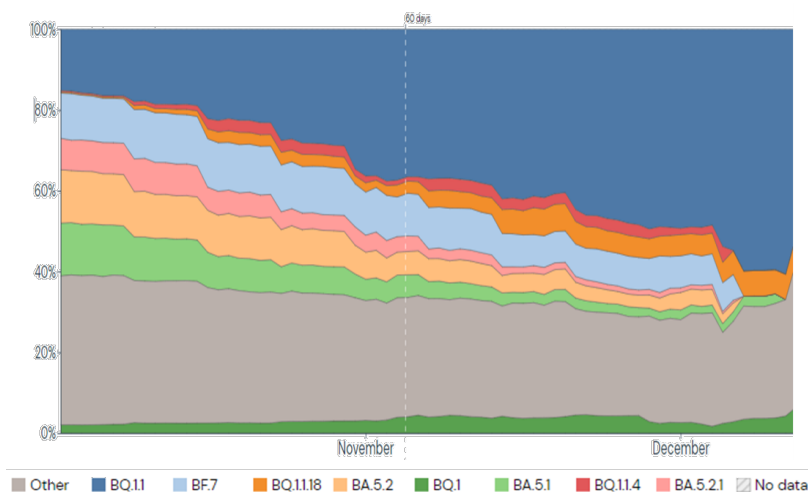
Additional information
- New weekly cases: 144,024 (-50% vs previous week)
- New weekly deaths: 846 (+13% vs previous week)
- BQ.1.1 is currently dominant (43%)

Vaccination coverage, 1 Jan 2023
- Primary series: 82%
- Booster: 72%

Sources
[1] WHO Shiny app
[2] ECDC
[3] ECDC
[4] Outbreak.info

COVID-19 situation in selected WPRO country: Japan

Cases and deaths, Jan 2020 to 3 Jan 2022 [1]

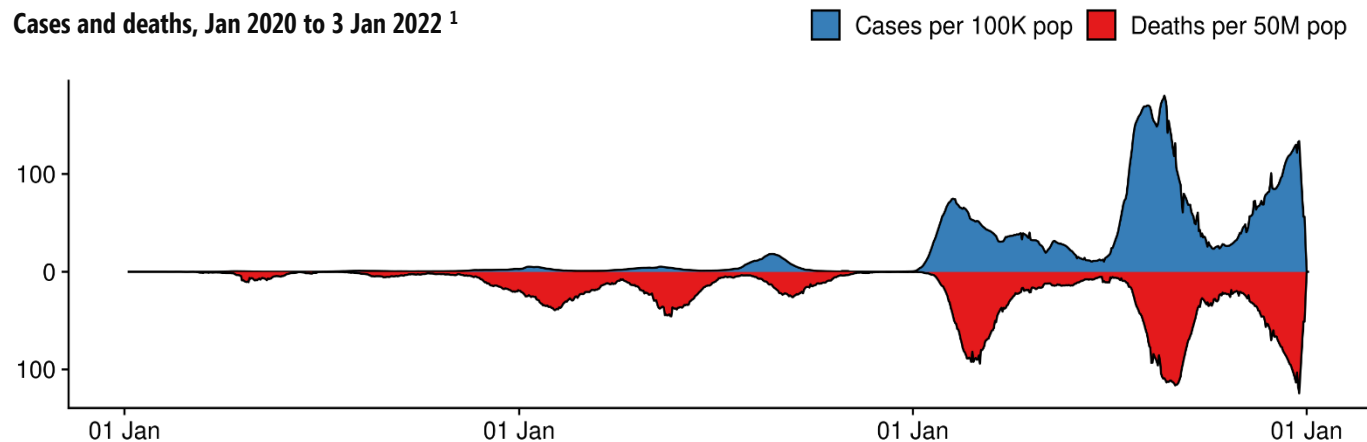Legend: ■ Cases per 100K pop   ■ Deaths per 50M pop

Epidemiology, as of 23 Dec 2022

- Increase in the number of new confirmed cases and deaths for 10 and 7 consecutive weeks, respectively.
- Increasing trend in the number of COVID-19 hospitalizations.
- > 1 million new confirmed cases per week for two consecutive weeks

Vaccination coverage, 3 Jan 2023

- Primary series: 82%

COVID-19 hospitalizations, 1 Jan 2022 to 1 Jan 2023

Estimated cases by variants, Dec 2021 to 25 Dec 2022 [3]

Legend:
- Others
- Delta(B.1.617.2/AY.29)
- Omicron(BA.1)
- Omicron(BA.2)
- Omicron(BA.2.12.1)
- Omicron(BA.2.75)
- Omicron(BA.4)
- Omicron(BA.5)
- Omicron(BQ.1)
- Omicron(XBB)
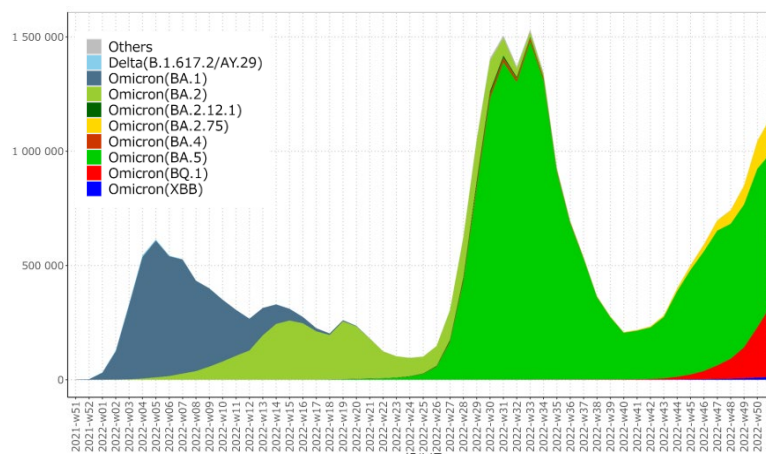
COVID-19 vacc. coverage, Dec 2020 to Dec 2022 [4]

Legend: — At least one dose   — Fully vaccinated
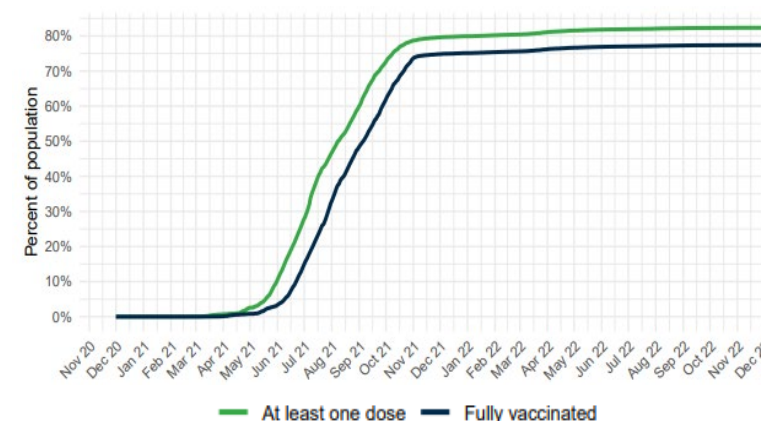
Sources
[1] WHO Shiny app
[2] https://www.mhlw.go.jp/stf/covid-19/kokunainohasseijoukyou_00006.html
[3] https://www.mhlw.go.jp/content/10900000/001032291.pdf
[4] IHME

COVID-19 situation in selected WPRO country: mainland China

New confirmed cases and severe cases, 1 March 2022 to 2 Jan 2023
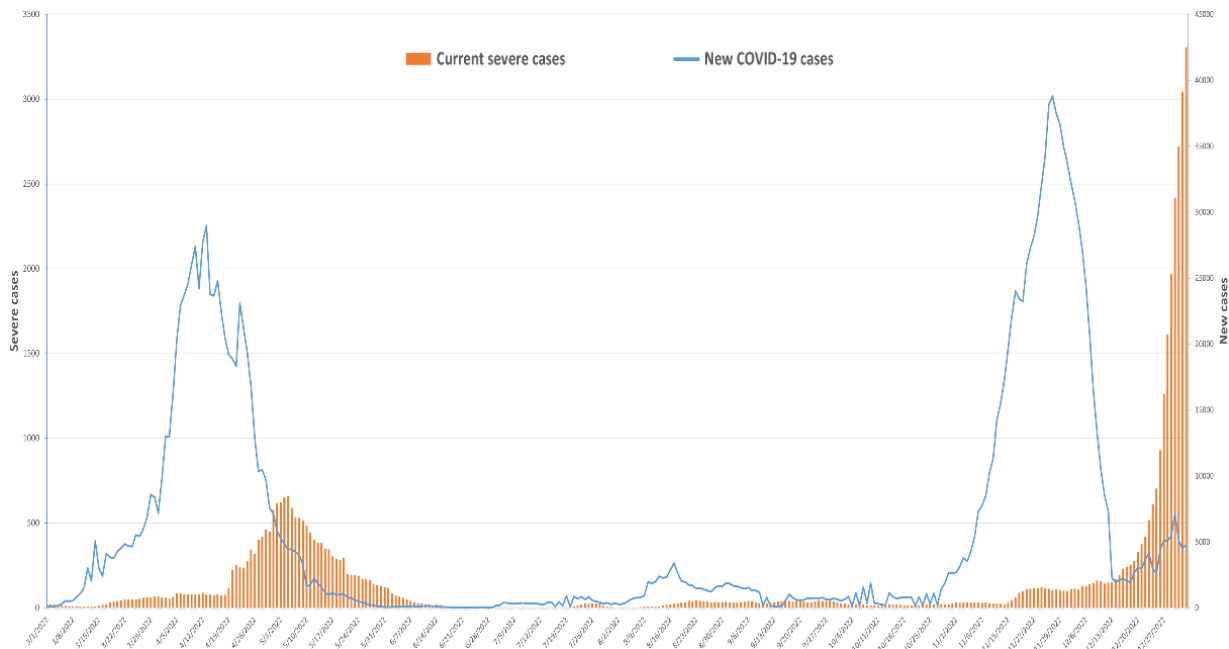
- Recent decrease in the number of new cases is likely due to the decrease in testing and nonreporting of asymptomatic infections since 14 Dec.[2]

Daily new domestic COVID-19 cases in mainland China
(as of 2 January 2023)
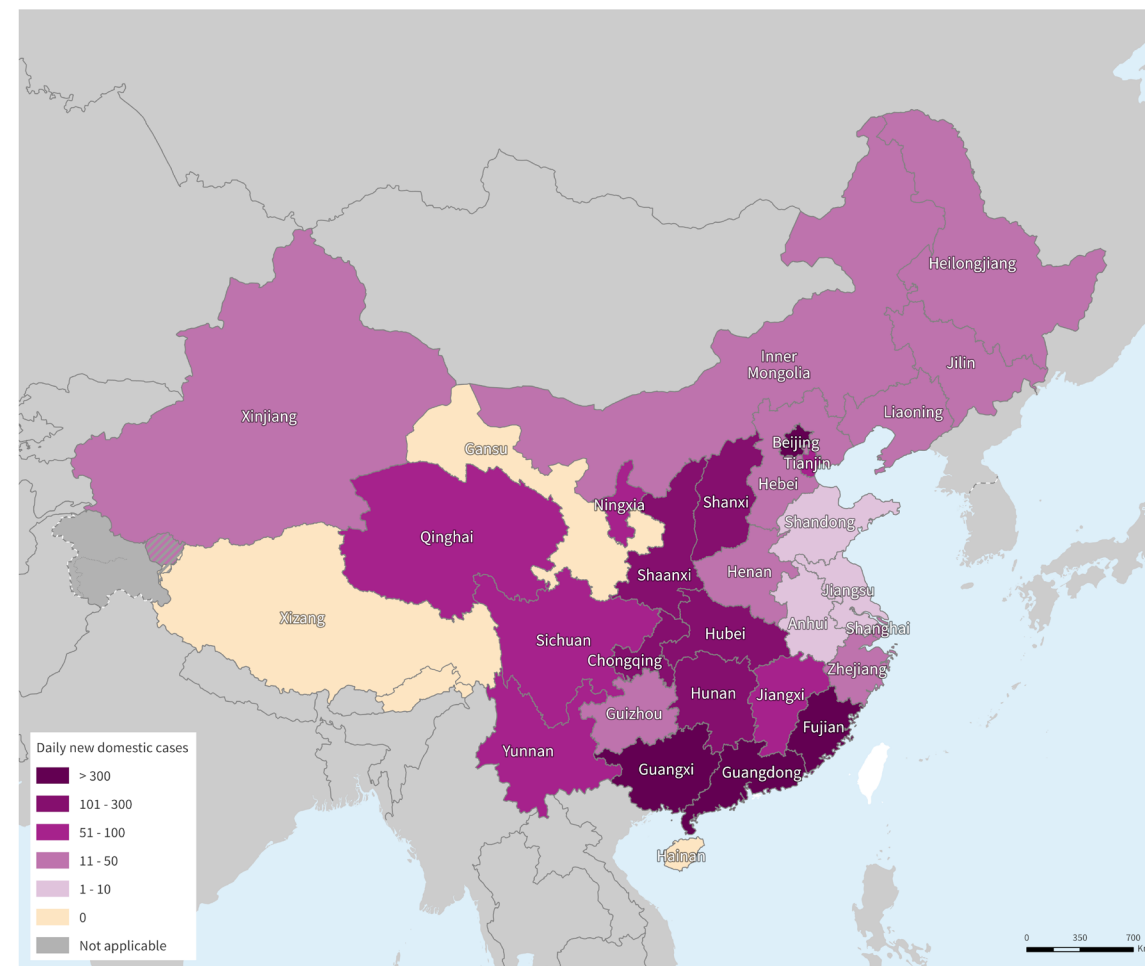
Daily new domestic cases
- \> 300
- 101 - 300
- 51 - 100
- 11 - 50
- 1 - 10
- 0
- Not applicable

New COVID-19 deaths in mainland China, 1 Nov 2022 to 2 Jan 2023

Province	Number of deaths
Beijing	11
Sichuan	7
Chongqing	3
Shaanxi	2
Henan	1
Shandong	1
Heilongjiang	1
Fujian	1
Anhui	1
Total	**28**

- To date, 5246 cumulative COVID-19 deaths have been reported in China.

- Only 28 deaths were reported from 1 Nov 2022 to 2 Jan 2023.

- Health authorities only counts deaths from respiratory failure as COVID-19-related deaths.

Circulation of SARS-CoV-2 variants
As of 2 January 2023

The number and percentage of SARS-CoV-2 sequences, 1 June – 19 December 2022
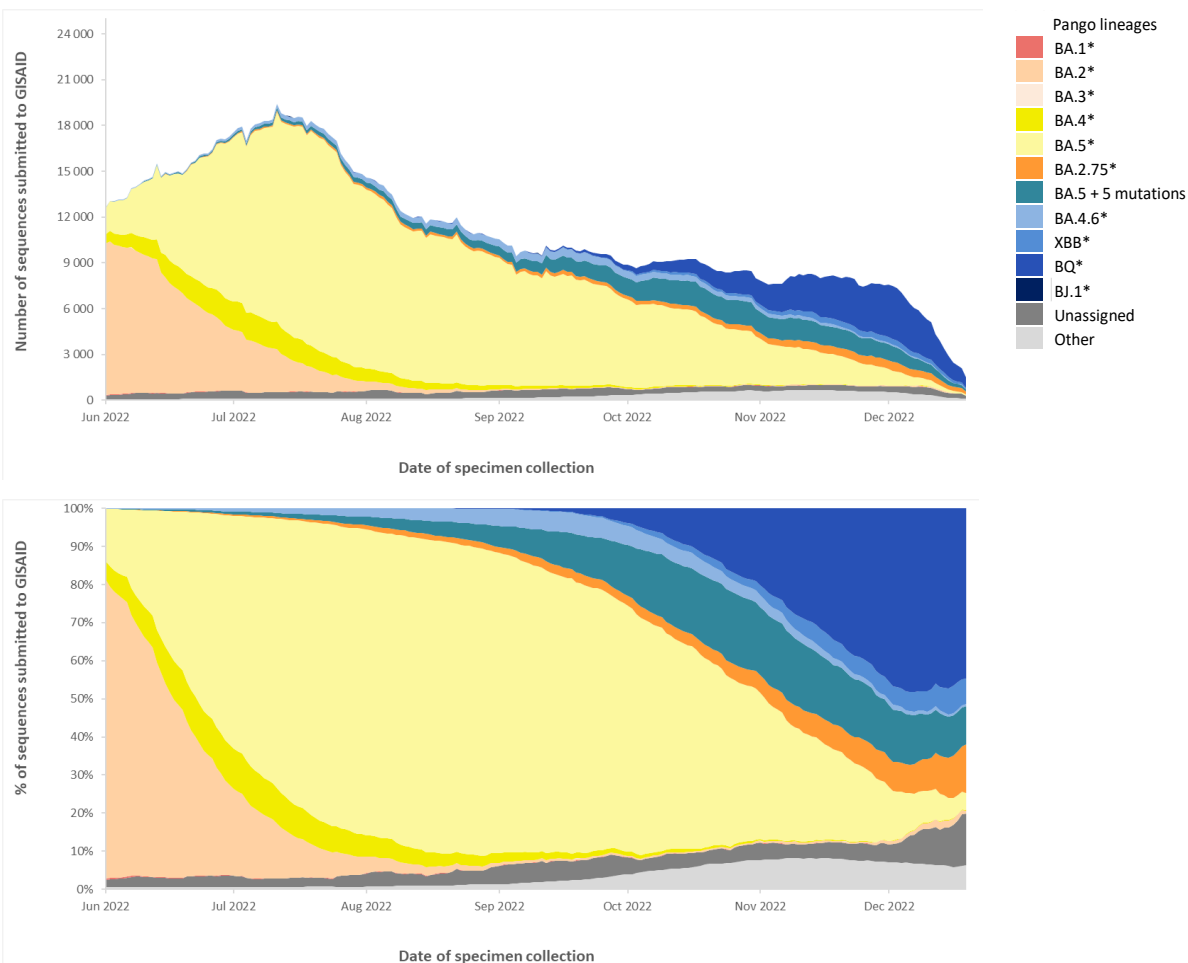
Genomic sequencing of circulating SARS-CoV-2
From 2 December 2022 to 2 January 2023, 105 428 SARS-CoV-2 sequences were shared through GISAID. Among these, 103 723 sequences were the Omicron variant of concern (VOC), accounting for 98.4% of sequences reported globally in the past 30 days.

As of epidemiological week 50 (12 to 18 Dec 2022)

BA.5* prevalence of 63.7%

BA.2* prevalence is 15.2%

BA.4* prevalence is 0.7%

Unassigned sequences account for 13.6%

Other category accounts for 6.1%

XBB* (recombinant) prevalence is 6.8%

Omicron variants under monitoring

BQ.1*	44.9%	
BA.5 + 5 mutations		10.3%
BA.2.75*		11.8%
XBB*	6.8%	
BA.2.3.20		<0.1%

Figures by WHO, data from GISAID.org, extracted on 3 January 2023.
* indicates descendent lineages are included

Circulation of SARS-CoV-2 variants in mainland China

1 December 2022 to 3 January 2023

Circulating variants among locally-acquired cases in mainland China, 1 Dec 2022 to 3 Jan 2023

- 0.53% BA.2.76
- 0.29% BN.1.3
- 0.08% BN.1
- 0.65% BA.5.1
- 0.16% BA.5.2.1
- 0.04% XBB.1
- 0.70% BA.5.2.20
- 0.04% BA.2.12.1
- 28.03% BF.7
- 69.48% BA.5.2

- 69.48% BA.5.2
- 28.03% BF.7
- 0.70% BA.5.2.20
- 0.65% BA.5.1
- 0.53% BA.2.76
- 0.29% BN.1.3
- 0.16% BA.5.2.1
- 0.08% BN.1
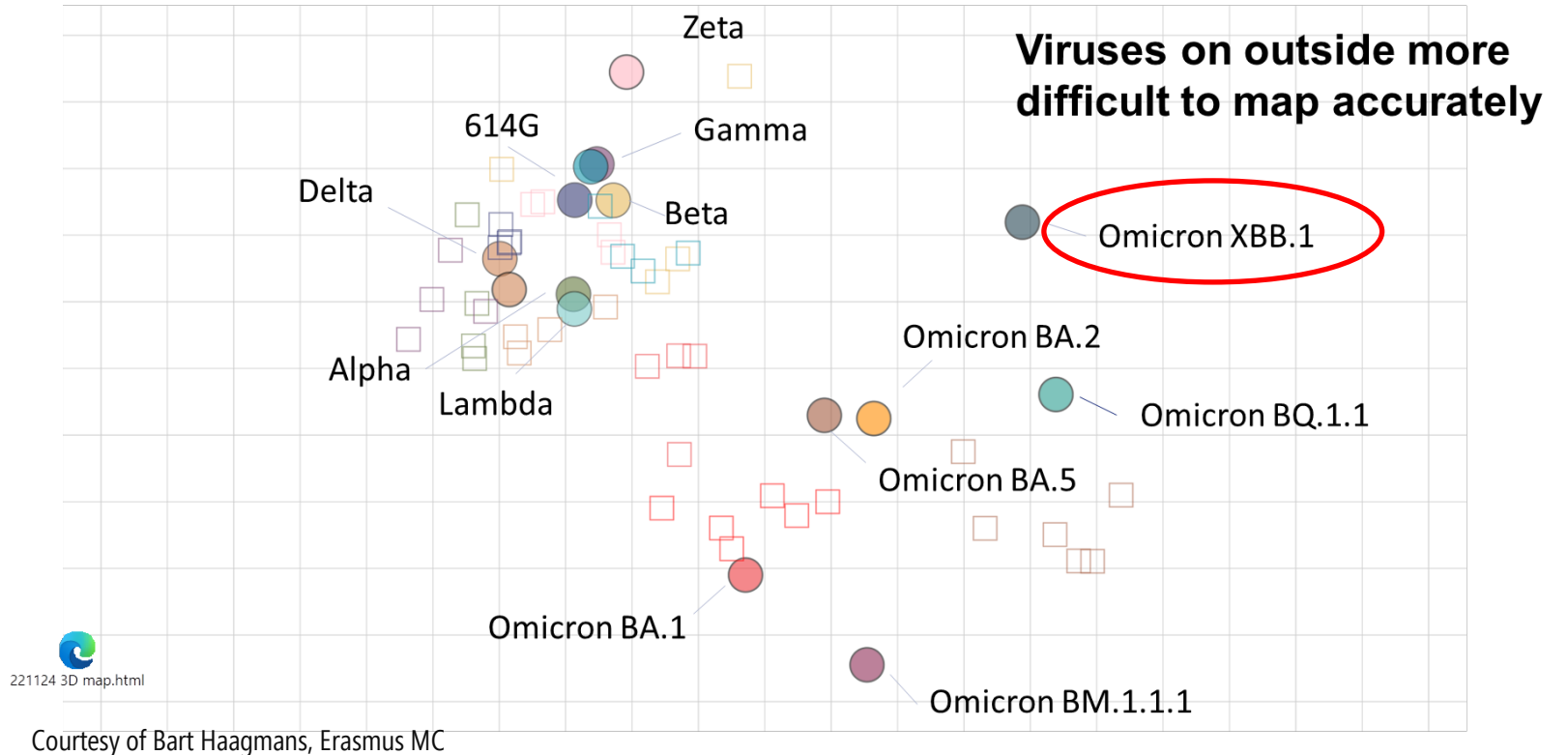- 0.04% XBB.1
- 0.04% BA.2.12.1

Total=2444
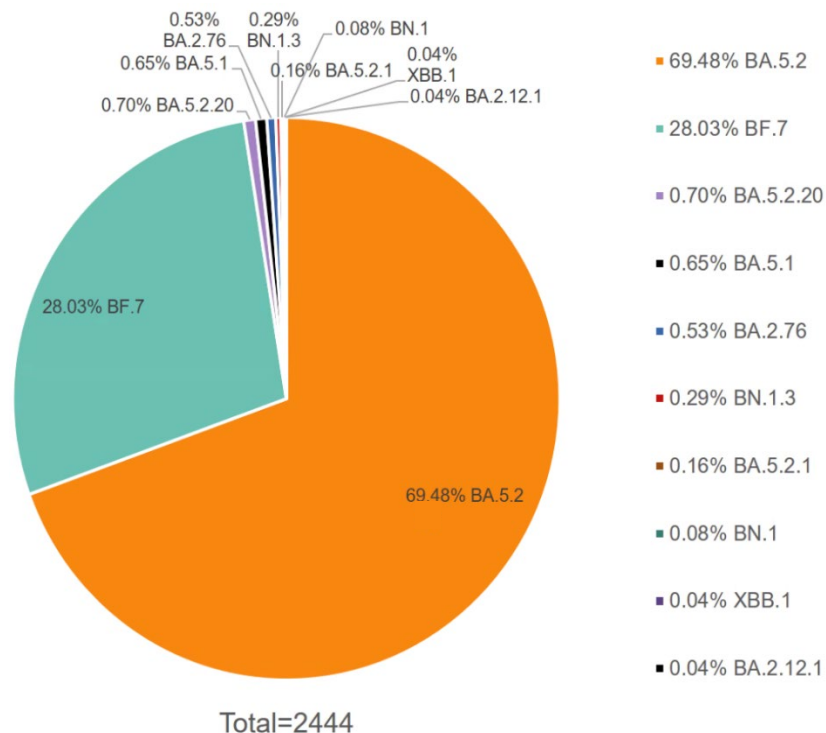
Source
China CDC

- Data provided to TAG-VE by China CDC using sequences collected from 1 Dec 2022 to 3 Jan 2023, of 2,444 locally-acquired cases

- According to China CDC, Omicron BA.5.2 sublineages and BF.7 account for 97.5% of cases
  - Delta has not been detected has been among cases in China

- Unclear how sequences on GISAID relate to those presented by China to TAG-VE, as there are only 95 sequences of locally acquired cases available on GISAID (compared to 2,444 presented at TAG-VE on 3 Jan)

- Among GISAID sequences, no variants of known significance have been identified
  - NB: this cannot be fully ruled out in the larger set of sequences presented by China, as virus diversity (e.g., phylogenetic tree) of BA.5.2 and BF.7 lineages was not presented --> this stresses the importance of sharing sequences publicly so that global community can run additional analyses.

  - Importantly, available results do not show virus diversity among identified lineages, and therefore additional phylogenetic analyses with a representative set of sequences are urgently needed

  - Sequences need to be checked mutation by mutation to make sure there is no variant of known significance among them

XBB increase in various regions around the world

- Globally, XBB went from 5.3% in week 47 to 10% in week 52

- In Europe, XBB went from 3% to 6% during the same period

- In North America, XBB went from 4% to 26% in the same period

ANTIGENIC MAP

Viruses on outside more difficult to map accurately

Zeta

Gamma

614G

Delta

Beta

Alpha

Lambda

Omicron XBB.1

Omicron BA.2

Omicron BQ.1.1

Omicron BA.5

Omicron BA.1

Omicron BM.1.1.1

221124 3D map.html

Courtesy of Bart Haagmans, Erasmus MC

XBB is not closely clustering with BA.1, BA.2 and BA.5 in latest antigenic maps, its immune escape potential under further investigation

Available information on XBB.1.5

- Showed the highest variant-specific Rt of all Omicron subvariants that circulated in New York so far

- XBB.1 and XBB.1.5 are predicted to be equally immune evasive and only differ by one mutation in spike: F486P (XBB.1.5) vs F486S (XBB.1)

- Spike F486P mutation may be the reason why XBB.1.5 appears more successful than XBB.1, but data from other countries are needed to confirm growth advantage

- WHO is working closely with US CDC to perform a rapid risk assessment on XBB.1.5

From Trevor Bedford group, Twitter
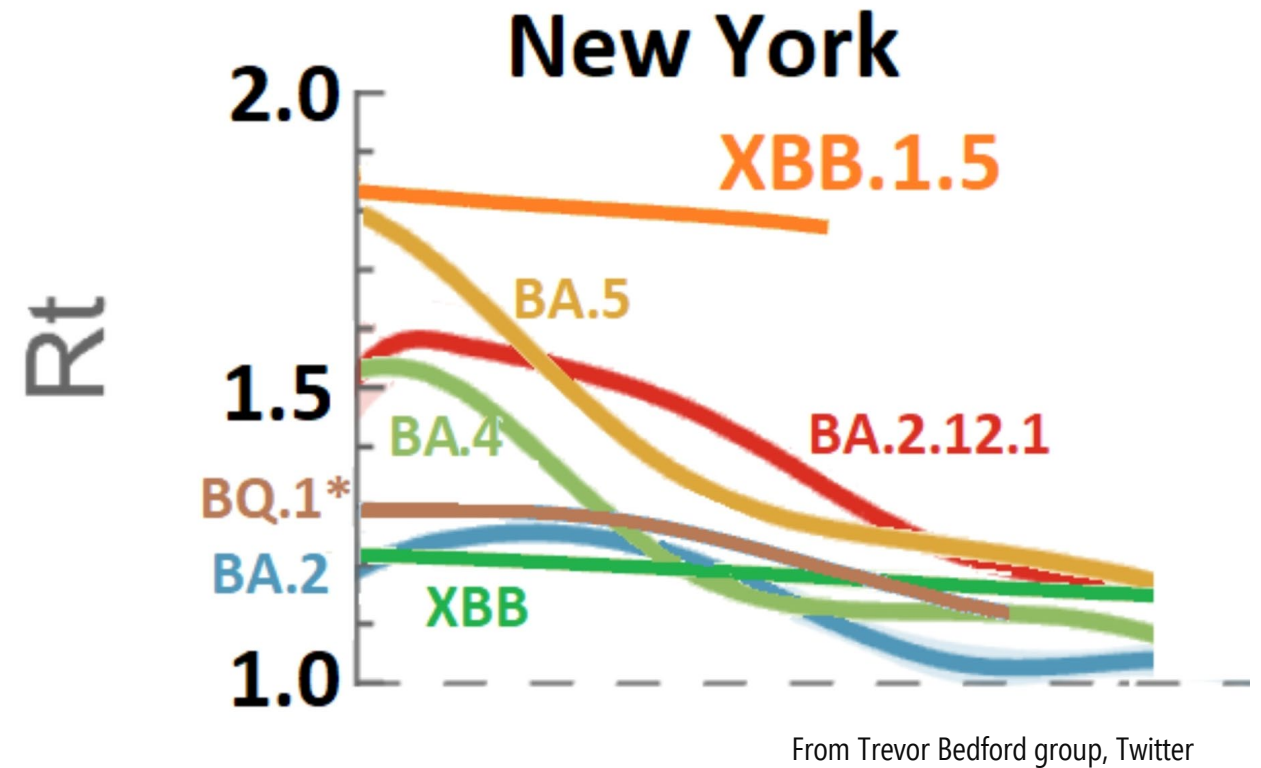
Summary of global pandemic situation

- The progressive decrease in surveillance and changes in reporting frequency make the interpretation of observed epidemiological trends increasingly more complex

- Worrying trends in several countries across the temperate regions of the northern hemisphere in terms of increasing hospitalizations, ICU admissions and deaths

- Several countries are experiencing surges due to SARS-CoV-2 and other respiratory pathogens driven by a combination of factors: abandonment of PHSM, increased indoor social mixing, waning immunity, suboptimal booster coverage (esp. among older people), and circulation of highly-transmissible Omicron subvariants, such as XBB*, including XBB.1.5, BQ.1* and BA.2.75* (e.g., CH.1.1)
  - XBB is the most divergent subvariant in current antigenic maps, its immune escape potential is currently under investigation.

  - In addition to that immune escape potential, XBB.1.5 also appears to have substantial growth advantage in the United States. Rapid risk assessment from TAG-VE is ongoing

- Within China: the situation remains concerning. Despite low number of COVID-19 deaths reported from China, there are signals of severe healthcare system pressures and increasing severity
  - Further analyses of sequences from China are needed for more thorough analyses

World Health Organization

HEALTH EMERGENCIES programme

Recommended actions (1)

- **Focus on the fundamentals:**
  - Remain vigilant: know your risk and lower your risk

  - Surveillance and sequencing, including real-time sharing, remain critical to track known and identify new variants and to monitor trends

  - Testing and optimal clinical care need to be strengthened to reduce severe disease and death

  - Use of public health and social measures to reduce circulation: mask when around others, improve ventilation, distancing where possible, staying home if unwell, hand hygiene

  - Vaccinate/boost most at risk to minimize severe disease and deaths – its not just a matter if you have been vaccinated, but when you have been vaccinated as protection wanes over time

  - Communicate regularly, openly and honestly and listen to concerns of communities

Recommended actions (2)

Government planning

- **Reassess** current national epidemiologic situation, capacities, policies and financing for an agile response planning for future waves of SARS-CoV-2 infection

- **Maintain** surveillance to meet the immediate needs of SARS-CoV-2 virus evolution, including sequencing and sharing information, while strengthening longer term surveillance capacities for respiratory diseases

- **Report** more consistently on burden: hospitalizations, ICU admissions, deaths ideally by age and vaccination status

- **Strengthen** SARS-CoV-2 surveillance into more routine respiratory disease surveillance

- **Optimize** treatment and clinical care pathways for respiratory disease to ensure appropriate clinical management for COVID-19, influenza, RSV, etc

- **Reinforce**

  - supplies for surge including PPE, O_2, ventilation, hospital beds, antivirals and other therapeutics

  - work force across sectors, especially the health sector

- **Plan** to manage Post COVID-19 Condition (also known as Long COVID)

- **Vaccinate** those most at risk for severe disease and at highest risks of exposure in all countries; reach targets