

COVID-19 Weekly Epidemiological Update

Edition 125 published 11 January 2023

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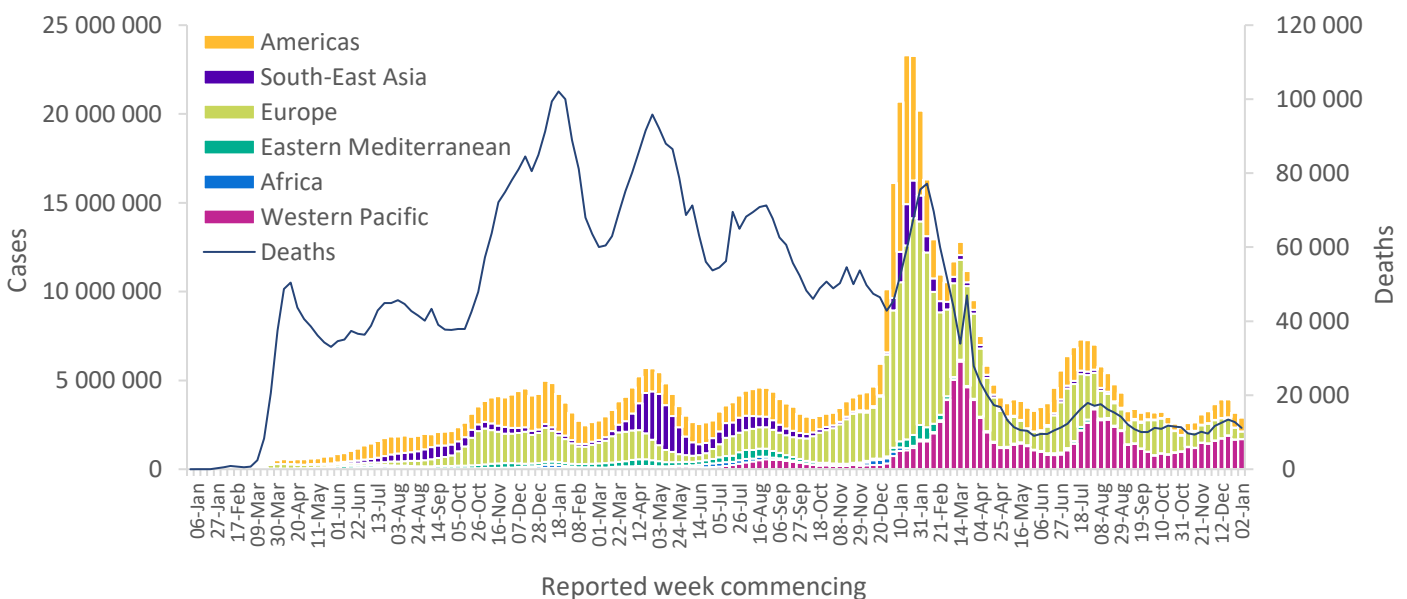
Global overview

Data as of 8 January 2023

Globally, nearly 2.9 million new cases and over 11 000 deaths were reported in the week of 2 to 8 January 2023 (Figure 1, Table 1). This represents a reduction in weekly cases and deaths of 9% and 12%, respectively. However, these trends need to be interpreted considering the reduction in testing and delays in reporting in many countries during the year-end holiday season. Therefore, data presented in this report, especially for the most recent weeks, are incomplete and the decreasing trends should be interpreted in that context as they may change with updated information provided following the holiday period.

In the last 28 days (12 December 2022 to 8 January 2023), over 13.9 million cases and over 49 000 new deaths were reported globally – an increase of 10% and 22% respectively, compared to the previous 28 days. As of 8 January 2023, over 659 million confirmed cases and over 6.6 million deaths have been reported globally.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 8 January 2023**



**See [Annex 1: Data, table, and figure note](#)

At the regional level, the number of newly reported weekly cases decreased or remained stable across all WHO regions: the European Region (-36%), the South-East Asia Region (-27%), the African Region (-23%), the Region of the Americas (-7%), the Eastern Mediterranean Region (-1%), and the Western Pacific Region (+1%). The number of newly reported weekly deaths decreased or remained stable across four regions: the African Region (-53%), the European Region (-34%), the South-East Asia Region (-19%), and the Region of the Americas (-3%); while death numbers increased in the Eastern Mediterranean Region (+31%), and the Western Pacific Region (+5%).

At the country level, the highest numbers of new weekly cases were reported from Japan (1 070 496 new cases; +13%), the United States of America (462 944 new cases; +17%), the Republic of Korea (403 800 new cases; -12%), China (204 609 new cases; -6%), and Brazil (145 933 new cases; -29%). The highest numbers of new weekly deaths were reported from the United States of America (2695 new deaths; +8%), Japan (2149 new deaths; +11%), Brazil (926 new deaths; -17%), China (722 new deaths; +11%), and France (621 new deaths; -22%).

Current trends in reported COVID-19 cases are underestimates of the true number of global infections and reinfections as shown by prevalence surveys.¹⁻⁴ Therefore, the data should be interpreted with caution as several countries have progressively changed COVID-19 testing strategies, resulting in lower numbers of tests performed and consequently lower numbers of cases detected. Additionally, data from previous weeks are continuously updated to retrospectively incorporate changes in reported COVID-19 cases and deaths made by countries.

Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 8 January 2023**

| WHO Region | New cases in last 7 days (%) | Change in new cases in last 7 days * | New cases in last 28 days (%) | Change in new cases in last 28 days * | Cumulative cases (%) | New deaths in last 7 days (%) | Change in new deaths in last 7 days * | New deaths in last 28 days (%) | Change in new deaths in last 28 days * | Cumulative deaths (%) |
|-----------------------|------------------------------|--------------------------------------|-------------------------------|---------------------------------------|---------------------------|-------------------------------|---------------------------------------|--------------------------------|--|-------------------------|
| Western Pacific | 1 693 425 (58%) | 1% | 7 000 900 (50%) | 22% | 108 476 128 (16%) | 3409 (31%) | 5% | 12 529 (25%) | 47% | 299 951 (4%) |
| Americas | 771 400 (27%) | -7% | 3 647 941 (26%) | 42% | 187 065 779 (28%) | 4531 (41%) | -3% | 18 733 (38%) | 28% | 2 896 036 (43%) |
| Europe | 418 751 (14%) | -36% | 3 193 838 (23%) | -22% | 270 496 218 (41%) | 3001 (27%) | -34% | 17 402 (35%) | 12% | 2 164 485 (32%) |
| South-East Asia | 5878 (<1%) | -27% | 40 386 (<1%) | -76% | 60 743 975 (9%) | 139 (1%) | -19% | 873 (2%) | -47% | 803 368 (12%) |
| Africa | 4581 (<1%) | -23% | 29 014 (<1%) | -33% | 9 456 363 (1%) | 8 (<1%) | -53% | 74 (<1%) | -70% | 175 152 (3%) |
| Eastern Mediterranean | 4116 (<1%) | -1% | 19 004 (<1%) | -42% | 23 226 914 (4%) | 46 (<1%) | 31% | 159 (<1%) | -6% | 349 135 (5%) |
| Global | 2 898 151 (100%) | -9% | 13 931 083 (100%) | 10% | 659 466 141 (100%) | 11 134 (100%) | -12% | 49 770 (100%) | 22% | 6 688 140 (100%) |

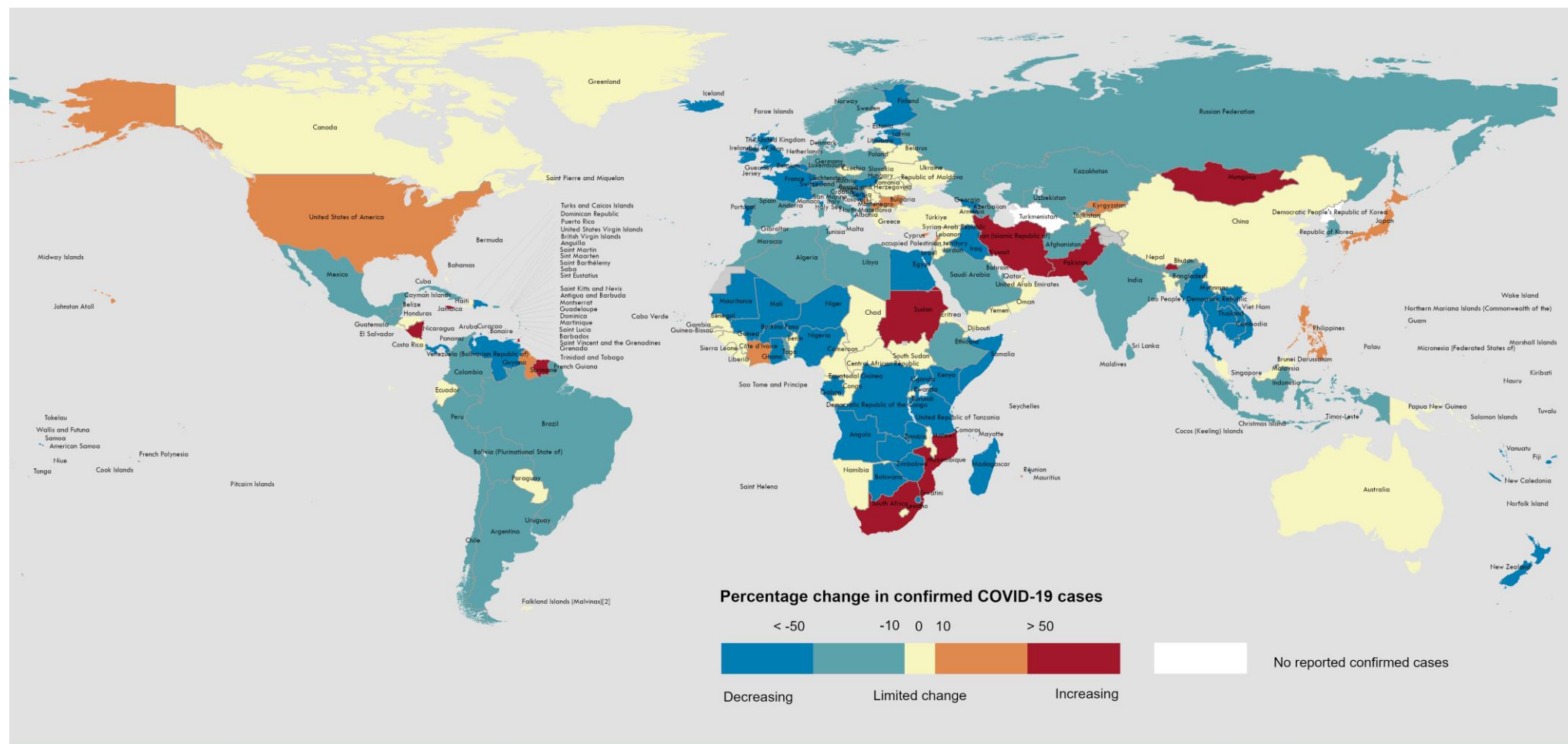
*Percent change in the number of newly confirmed cases/deaths in the past seven days, compared to seven days prior, and past 28 days, compared to 28 days prior. Data from previous weeks are updated continuously with adjustments received from countries.

**See [Annex 1: Data, table, and figure notes](#)

The latest data and other updates on COVID-19, please see:

- [WHO COVID-19 Dashboard](#)
- [WHO COVID-19 Monthly Operational Update and previous editions of the Weekly Epidemiological Update](#)
- [WHO COVID-19 detailed surveillance data dashboard](#)
- [WHO COVID-19 policy briefs](#)

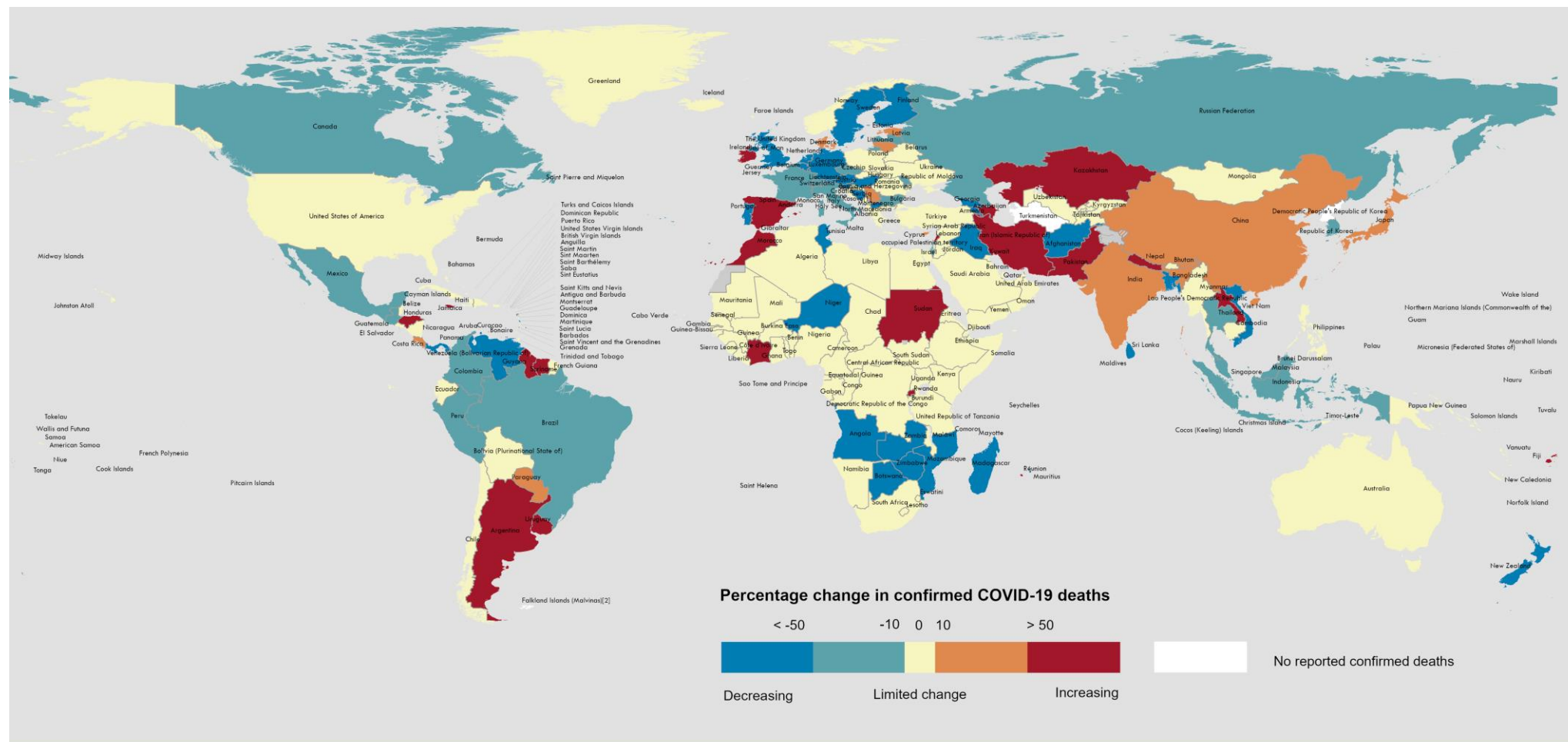
Figure 2. Percentage change in confirmed COVID-19 cases over the last seven days relative to the previous seven days, 2 to 8 January 2023**



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. [1] All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999). Number of cases of Serbia and Kosovo (UNSCR 1244, 1999) have been aggregated for visualization purposes. [2] A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas). Data for Bonaire, Sint Eustatius and Saba have been disaggregated and displayed at the subnational level.

**See [Annex 1: Data, table, and figure notes](#)

Figure 3. Percentage change in confirmed COVID-19 deaths over the last seven days relative to the previous seven days, 2 to 8 January 2023**



Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme

Not applicable

0 2,500 5,000 km

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**See [Annex 1: Data, table, and figure notes](#)

SARS-CoV-2 variants of concern and Omicron subvariants under monitoring

Geographic spread and prevalence

Globally, from 9 December 2022 to 9 January 2023, 97 693 SARS-CoV-2 sequences were shared through GISAID. Among these, 97 603 sequences were the Omicron variant of concern (VOC), accounting for 99.9% of sequences reported globally in the past 30 days.

BA.5 and its descendent lineages are still dominant globally, with 9685 sequences (59.7%) submitted to GISAID in week 51 (19 to 25 December 2022). The prevalence of BA.2 and its descendent lineages is rising, a trend based on 2201 sequences (13.6%) submitted globally in week 51. BA.4 and its descendent lineages are declining with a prevalence of 0.6% as of week 51. The remaining 3439 sequences (21.1%) are classified as "unassigned" or "other" in week 51. These are assumed to be Omicron descendent lineages yet to be assigned.

The six Omicron variants under monitoring accounted for 76.2% of all sequences submitted in week 51. Among these six variants, the prevalence is 53.4% for BQ.1*; 9.7% for BA.5 with one or several of five mutations (S:R346X, S:K444X, S:V445X, S:N450D, S:N460X); 8.1% for BA.2.75*; 4.6% for XBB*; 0.4% for BA.4.6*; and <0.1% for BA.2.3.20*.

WHO, with advice from Technical Advisory Group on Virus Evolution (TAG-VE), has conducted a global rapid risk assessment for XBB.1.5 (see [Annex 3](#)). XBB.1.5 is a sublineage of XBB, which is a recombinant of two BA.2 sublineages. Globally, 5288 sequences of XBB.1.5 have been reported from 38 countries. In brief, data on XBB.1.5 are limited; however, based on currently available information from one country, XBB.1.5 has a growth advantage compared to other circulating Omicron sublineages; based on only one country. Preliminary laboratory-based antibody escape studies indicate that XBB.1.5 has higher immune escape than previous Omicron descendent lineages;¹⁰ however, this finding has not yet been confirmed by epidemiological evidence in humans. At present, there is no available information on clinical severity for XBB.1.5.

Additional resources

- [Tracking SARS-CoV-2 Variants](#)
- [TAG-VE statement on the situation in China, published on 3 January 2023](#)
- [TAG-VE statement on Omicron sublineages BQ.1 and XBB](#)
- [COVID-19 new variants: Knowledge gaps and research](#)
- [Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health](#)
- [VIEW-hub: repository for the most relevant and recent vaccine data](#)

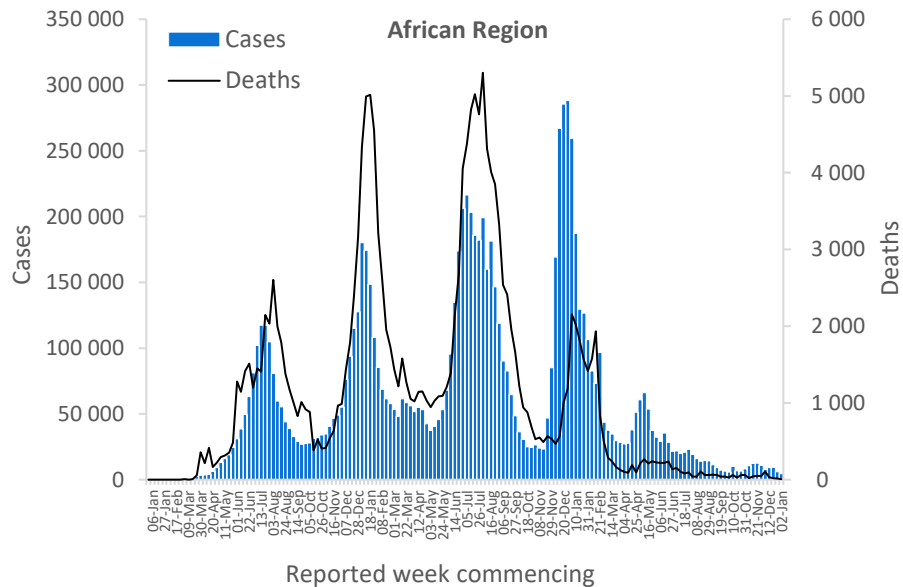
* Indicates inclusion of descendent lineages.

WHO regional overviews: Epidemiological week 2 to 8 January 2023

African Region

The African Region reported 4581 new cases, a 23% decrease as compared to the previous week. Two (4%) of the 50 countries for which data are available reported increases in new cases of 20% or greater: South Africa (1470 new cases; 2.5 new cases per 100 000; +322%) and Mozambique (180 vs 69 new cases; +161%). The highest numbers of new cases were reported from Réunion (2104 new cases; 235 new cases per 100 000; +14%), South Africa, and Ethiopia (659 new cases; <1 new case per 100 000; -27%).

The number of new weekly deaths in the region decreased by 53% as compared to the previous week, with eight new deaths reported. The highest numbers of new deaths were reported from Réunion (four new deaths; <1 new death per 100 000; +300%), Côte d'Ivoire (two new deaths; <1 new death per 100 000; +100%), and Mauritius (one new death; <1 new death per 100 000; -50%).

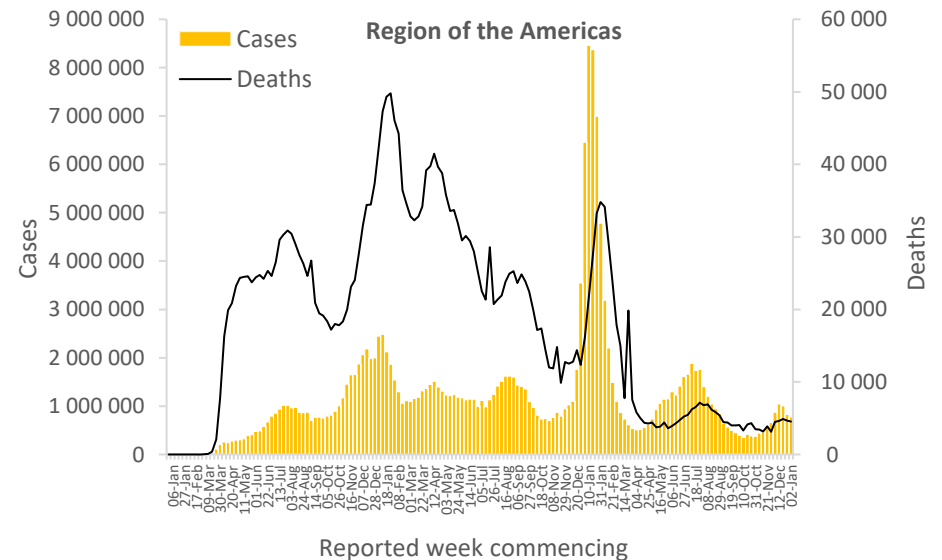


Updates from the [African Region](#)

Region of the Americas

The Region of the Americas reported over 771 000 new cases, a 7% decrease as compared to the previous week. Three (5%) of the 56 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Saint Barthélemy (10 vs six new cases; +67%), Trinidad and Tobago (246 vs 151 new cases; +63%), and Guyana (234 vs 159 new cases; +47%). The highest numbers of new cases were reported from the United States of America (462 944 new cases; 139.9 new cases per 100 000; +17%), Brazil (145 933 new cases; 68.7 new cases per 100 000; -29%), and Argentina (40 982 new cases; 90.7 new cases per 100 000; -44%).

The number of new weekly deaths in the region decreased by 3% as compared to the previous week, with 4531 new deaths reported. The highest numbers of new deaths were reported from the United States of America (2695 new deaths; <1 new death per 100 000; +8%), Brazil (926 new deaths; <1 new death per 100 000; -17%), and Canada (189 new deaths; <1 new death per 100 000; -30%).

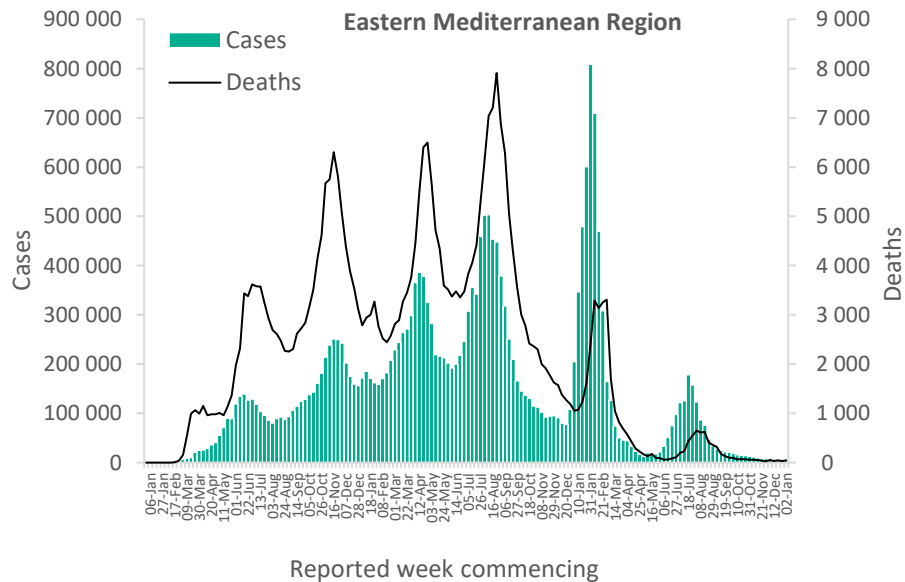


Updates from the [Region of the Americas](#)

Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 4110 new cases, a 1% decrease as compared to the previous week. Two (9%) of the 22 countries for which data are available reported increases in new cases of 20% or greater: the Islamic Republic of Iran (668 vs 409 new cases; +63%), and Lebanon (907 vs 682 new cases; +33%). The highest numbers of new cases were reported from Qatar (1065 new cases; 37 new cases per 100 000; -26%), Lebanon, and the Islamic Republic of Iran.

The number of new weekly deaths in the region increased by 31% as compared to the previous week, with 46 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (21 new deaths; <1 new death per 100 000; +75%), Saudi Arabia (11 new deaths; <1 new death per 100 000; +10%), and Lebanon (six new deaths; <1 new death per 100 000; +100%).

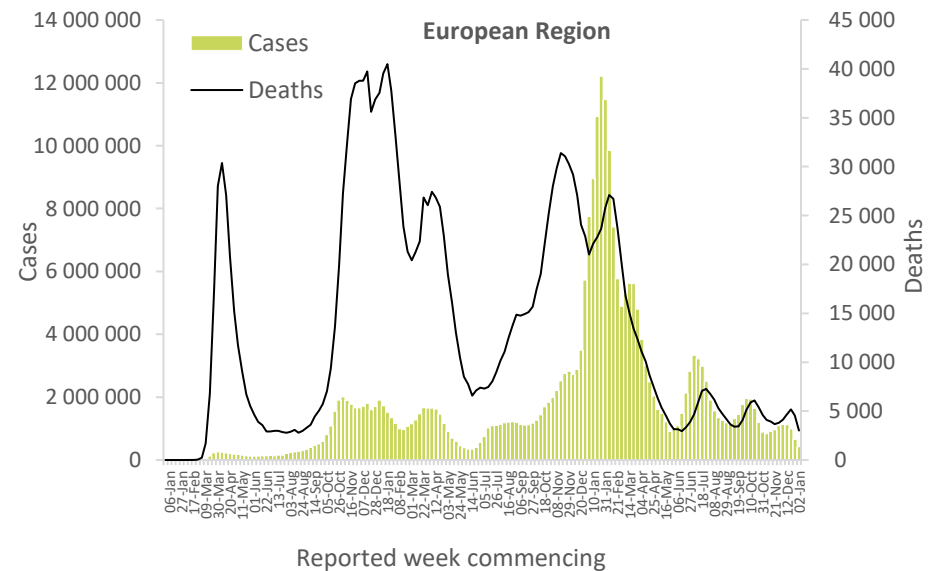


Updates from the [Eastern Mediterranean Region](#)

European Region

The European Region reported over 418 000 new cases, a 36% decrease as compared to the previous week. Seven (11%) of the 61 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Kosovo^[1] (52 vs 35 new cases; +49%), Malta (241 vs 167 new cases; +44%), and Cyprus (3598 vs 2602 new cases; +38%). The highest numbers of new cases were reported from Germany (121 007 new cases; 145.5 new cases per 100 000; -21%), Italy (86 851 new cases; 145.6 new cases per 100 000; -34%), and France (73 186 new cases; 112.5 new cases per 100 000; -52%).

The number of new weekly deaths in the region decreased by 34% as compared to the previous week, with 3001 new deaths reported. The highest numbers of new deaths were reported from France (621 new deaths; 1 new death per 100 000; -22%), Italy (499 new deaths; <1 new death per 100 000; -33%), and Spain (318 new deaths; <1 new death per 100 000; +118%).

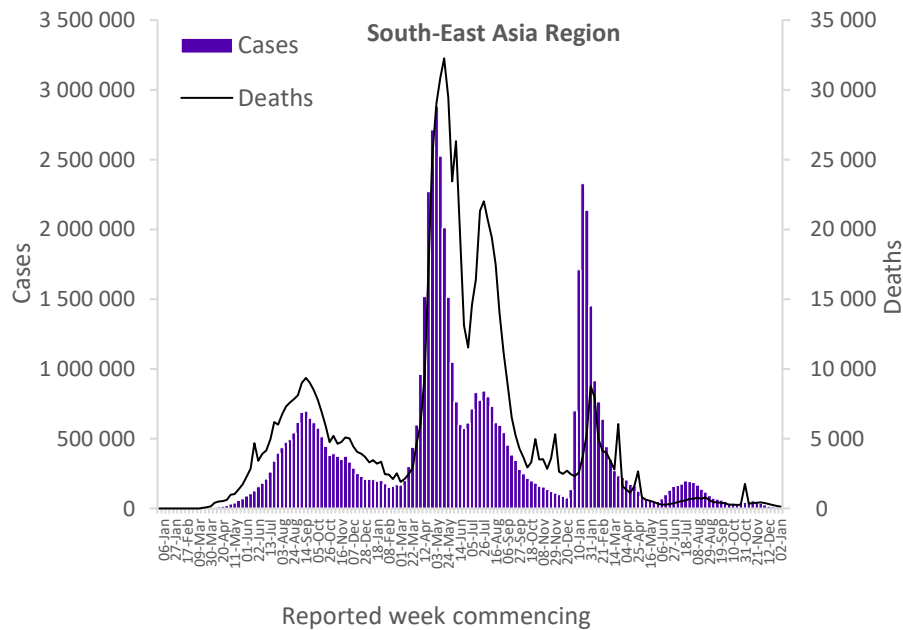


Updates from the [European Region](#)

South-East Asia Region

The South-East Asia Region reported over 5870 new cases, a 27% decrease as compared to the previous week. One (10%) of the 10 countries for which data are available reported increases in new cases of 20% or greater: Bhutan (13 vs seven new cases; +86%). The highest numbers of new cases were reported from Indonesia (3365 new cases; 1.2 new cases per 100 000; -17%), India (1275 new cases; <1 new case per 100 000; -17%), and Thailand (997 new cases; 1.4 new cases per 100 000; -53%).

The number of new weekly deaths in the region decreased by 19% as compared to the previous week, with 139 new deaths reported. The highest numbers of new deaths were reported from Indonesia (64 new deaths; <1 new death per 100 000; -22%), Thailand (58 new deaths; <1 new death per 100 000; -23%), and India (15 new deaths; <1 new death per 100 000; +25%).

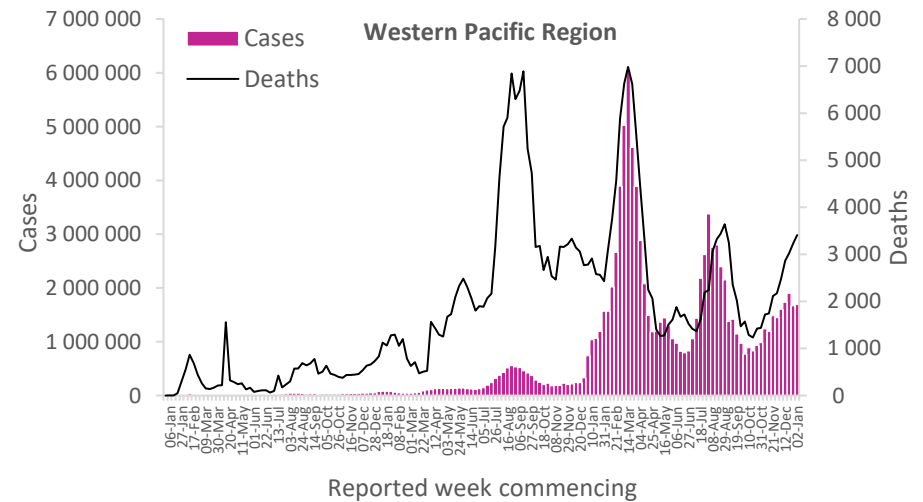


Updates from the [South-East Asia Region](#)

Western Pacific Region

The Western Pacific Region reported just under 1.7 million new cases, a 1% increase as compared to the previous week. Five (14%) of the 35 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Mongolia (343 vs 108 new cases; +218%), Palau (five vs three new cases; +67%), and Cook Islands (134 vs 85 new cases; +58%). The highest numbers of new cases were reported from Japan (1 070 496 new cases; 846.4 new cases per 100 000; +13%), the Republic of Korea (403 800 new cases; 787.6 new cases per 100 000; -12%), and China (204 609 new cases; 13.9 new cases per 100 000; -6%).

The number of new weekly deaths in the region increased by 5% as compared to the previous week, with 3409 new deaths reported. The highest numbers of new deaths were reported from Japan (2149 new deaths; 1.7 new deaths per 100 000; +11%), China (722 new deaths; <1 new death per 100 000; +11%), and the Republic of Korea (371 new deaths; <1 new death per 100 000; -14%).



Updates from the [Western Pacific Region](#)

Hospitalizations and ICU admissions

At the global level, during epidemiological week 52 (26 December 2022 to 01 January 2023), a total of 23 509 new hospitalizations and 1133 new intensive care unit (ICU) admissions were reported. The presented hospitalization data are preliminary and are likely to change as new data become available and are reported. Furthermore, hospitalization data are subject to reporting delays. These data are also likely to include both hospitalizations with incidental cases of SARS-CoV-2 infection and those due to COVID-19 disease.

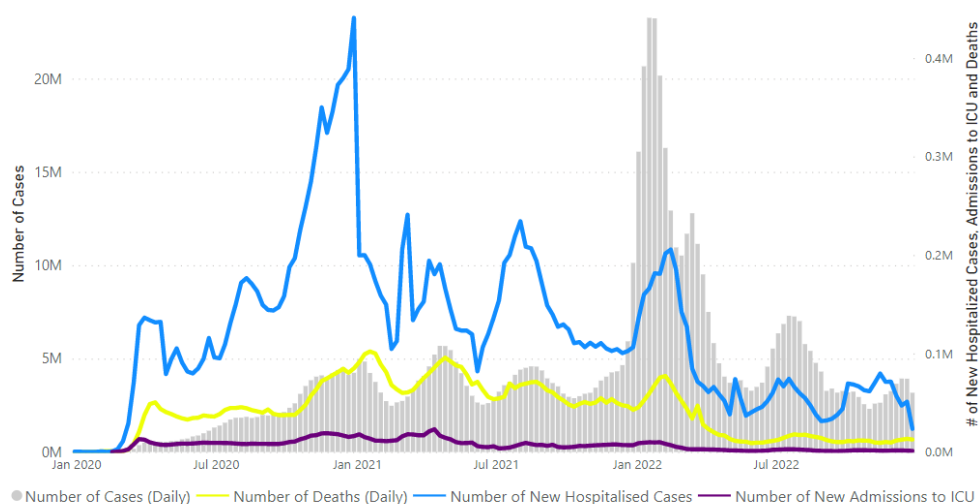
Globally, in week 52, 23 (10%) countries reported data to WHO on new hospitalizations. The region with the highest proportion of countries reporting data on new hospitalizations was the European Region (14 countries; 23%) followed by the Eastern Mediterranean Region (four countries; 18%), the African Region (four countries; 8%), the Region of the Americas (one country; 2%). No country in the South-East Asia Region and the Western Pacific Region has reported data on new hospitalizations during week 52.

Across the six WHO regions, in week 52, a total of 14 (6%) countries reported data to WHO on new ICU admissions. The region with the highest proportion of countries reporting data on new ICU admissions was the European Region (10 countries; 16%) followed by the Eastern Mediterranean Region (three countries; 14%), the Region of the Americas (one country; 2%). No country in the African Region, the South-East Asia Region and the Western Pacific Region has reported data on new ICU admissions during week 52.

Among the 11 countries that reported more than 50 new hospitalizations, three countries showed an increasing trend compared to the previous week: Portugal (292 vs two new hospitalizations; +14 500%), Greece (1519 vs 1250 new hospitalizations; +22%) and Ukraine (2801 vs 2662 new hospitalizations; +5%).

Among the eight countries that reported more than 10 new ICU admissions, four countries showed an increasing trend compared to the previous week: Ireland (14 vs four new ICU admissions; +250%), Netherlands (51 vs 40 new ICU admissions; +28%), Greece (57 vs 51 new ICU admissions; +12%), and Ukraine (120 vs 118 new ICU admissions; +2%).

Figure 4. COVID-19 cases, deaths, hospitalizations, and ICU admissions reported weekly to WHO, as of 1 January 2023



Note: Recent weeks are subject to reporting delays and should not be interpreted as a declining trend.

Source: [WHO Detailed Surveillance Dashboard](#)

Summary of Monthly Operational Update

The [Monthly Operational Update](#) aims to update on the ongoing global progress [against the COVID-19 Strategic Preparedness and Response Plan \(SPRP\) 2021](#). In the latest edition, highlights of country-level actions and WHO support to countries include:

- WHO and partners deploy medical personnel and supplies in solidarity with **Tuvalu's** COVID-19 response effort in the Western Pacific region
- WHO and Africa Infodemic Response Alliance(AIRA) host workshops on the 'co-design' approach on content development for Infodemic management in **Nigeria**
- WHO/Europe carries out its Regional Joint Assessment and Detection of Events (JADE) simulation exercise for the first time since the pandemic
- WHO conducts an assessment visit in **Bhutan**, ahead of the installation of the country's first onsite medical oxygen generation system
- A nurse's role in counteracting myths about COVID-19 vaccination in **Honduras**: "We talked for an hour, and I managed to vaccinate them against COVID-19"
- Local health workers in the **Philippines** champion COVID-19 safety on remote islands
- Fostering and mentoring laboratory leaders in **Central Africa**
- WHO launches emergency-use protocol for tecovirimat to support mpox response efforts globally
- **Peru** responds to mpox by engaging affected communities
- The WHE **Balkan** Hub builds local and long-term public health capacity for mpox prevention and control
- WHO publishes public health advice on preventing and addressing stigma and discrimination related to mpox
- WHO responds to cholera outbreaks across the world
- WHO at the forefront of the cholera response in **Lebanon**
- WHO/Europe hosts a strategic and operational planning and Monitoring and Evaluation workshop for refugee-hosting countries responding to the crisis in **Ukraine**
- Rapid response teams bolster **Uganda's** response to Ebola Disease Outbreak
- WHO undertakes a measles-rubella campaign to prevent disease outbreaks in flood-affected **Pakistan**
- **Ethiopian** Emergency Medical Teams provides support to drought-affected areas as part of its deployment
- Global Health Cluster conducts a successful first all-women Health Cluster leadership training

Annex 1. Data, table, and figure notes

Data presented are based on official laboratory-confirmed COVID-19 cases and deaths reported to WHO by country/territories/areas, largely based upon WHO [case definitions](#) and [surveillance guidance](#). While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change, and caution must be taken when interpreting these data as several factors influence the counts presented, with variable underestimation of true case and death incidences, and variable delays to reflecting these data at the global level. Case detection, inclusion criteria, testing strategies, reporting practices, and data cut-off and lag times differ between countries/territories/areas. A small number of countries/territories/areas report combined probable and laboratory-confirmed cases. Differences are to be expected between information products published by WHO, national public health authorities, and other sources.

A record of historic data adjustment made is available upon request by emailing epi-data-support@who.int. Please specify the countries of interest, time period, and purpose of the request/intended usage. Prior situation reports will not be edited; see covid19.who.int for the most up-to-date data. COVID-19 confirmed cases and deaths reported in the last seven days by countries, territories, and areas, and WHO Region (reported in previous issues) are now available at: <https://covid19.who.int/table>.

'Countries' may refer to countries, territories, areas or other jurisdictions of similar status. The designations employed, and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. Countries, territories, and areas are arranged under the administering WHO region. The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions except, the names of proprietary products are distinguished by initial capital letters.

^[1] All references to Kosovo should be understood to be in the context of the United Nations Security Council resolution 1244 (1999). In the map, the number of cases of Serbia and Kosovo (UNSCR 1244, 1999) have been aggregated for visualization purposes.

^[2] A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Updates on the COVID-19 outbreak in the Democratic People's Republic of Korea are not included in this report as the number of laboratory-confirmed COVID-19 cases is not reported.

Annex 2. SARS-CoV-2 variants assessment and classification

WHO, in collaboration with national authorities, institutions and researchers, routinely assesses if variants of SARS-CoV-2 alter transmission or disease characteristics, or impact the effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied to control disease spread. Potential variants of concern (VOCs), variants of interest (VOIs) or variants under monitoring (VUMs) are regularly assessed based on the risk posed to global public health.

The classifications of variants will be revised as needed to reflect the continuous evolution of circulating variants and their changing epidemiology. Criteria for variant classification, and the lists of currently circulating and previously circulating VOCs, VOIs and VUMs, are available on the WHO Tracking SARS-CoV-2 variants website. National authorities may choose to designate other variants and are strongly encouraged to investigate and report newly emerging variants and their impact.

WHO continues to monitor SARS-CoV-2 variants, including descendent lineages of VOCs, to track changes in prevalence and viral characteristics. The current trends describing the circulation of Omicron descendent lineages should be interpreted with due consideration of the limitations of the COVID-19 surveillance systems. These include differences in sequencing capacity and sampling strategies between countries, changes in sampling strategies over time, reductions in tests conducted and sequences shared by countries, and delays in uploading sequence data to GISAID.⁵

Annex 3. XBB.1.5 rapid risk assessment, 11 January 2023

The Omicron XBB.1.5 variant is a sublineage of XBB, which is a recombinant of two BA.2 sublineages. From 22 October 2022 to 11 January 2023, 5 288 sequences of the Omicron XBB.1.5 variant have been reported from 38 countries. Most of these sequences are from the United States of America (82.2%), the United Kingdom (8.1%), and Denmark (2.2%).

WHO's Technical Advisory Group on Virus Evolution (TAG-VE) met on 5 January 2023 to discuss the latest evidence on XBB.1.5 and assess the public health risk associated with this variant. Based on its genetic characteristics and early growth rate estimates, XBB.1.5 may contribute to increases in case incidence. To date, the overall confidence in the assessment is low as growth advantage estimates are only from one country, the United States of America.

WHO and the TAG-VE recommend Member States to prioritize the following studies to better address uncertainties relating to the growth advantage, antibody escape, and severity of XBB.1.5. The suggested timelines are indicative and will vary from one country to another based on national capacities:

- Analysis of growth advantage from additional countries where XBB.1.5 has been detected (1-3 weeks).
- Neutralization assays using human sera representative of the affected community(ies) and XBB.1.5 live virus isolates (2-6 weeks).
- Comparative assessment to detect changes in rolling or ad hoc indicators of severity (see table below, 4-12 weeks).

The rapid risk assessment below is based on currently available evidence and will be revised regularly as more evidence and data from additional countries become available.

| | Indicator | Confidence in the assessment |
|---|--|------------------------------|
| Growth advantage | National weekly growth advantage in the United States of America, but within-country regional differences reported, with an increase in proportions from 1% (95% CI 0.3-2.2%) in week 47 to 8% (95% CI 3.4-15.3%) in week 50, and a rapid increase in proportion in the north-east part of the United States of America. ⁶ As of the date of publication, available data are available only from one country, and therefore confidence in a global assessment is low. | Low |
| Antibody escape | Along with BQ.1* variants, XBB* variants are the most antibody-resistant variants to date. ^{7,8,9} Using pseudotyped virus neutralization assays, XBB.1.5 is shown to be equally immune evasive as XBB.1, the Omicron subvariant with the highest immune escape to date. ¹² These data reported that sera from individuals with a) BA.1, b) BA.5 or c) BF.7 breakthrough infection and three doses of the inactivated vaccine (Coronavac) or d) BA.5 infection following three or four doses of mRNA vaccine (BNT162b2 or mRNA-1273) do not induce high neutralization titers against XBB.1.5. ¹⁰ There is currently no data on real world vaccine effectiveness against severe disease or death. | Moderate |
| Severity and clinical considerations | No data. Severity assessments are ongoing. XBB.1.5 does not carry any mutation known to be associated with potential change in severity (such as S:P681R). ^{11,12} | Low |
| Risk assessment | Based on its genetic characteristics and early growth rate estimates, XBB.1.5 may contribute to increases in case incidence globally. To date, the overall confidence in the assessment is low as growth advantage estimates are only from one country, the United States of America. | |

Risk assessment framework and indicators used to assess risk and confidence given available evidence

| | Rapid indicators: 0-4 weeks | Confidence in the assessment | | |
|---|--|---|---|---|
| | | LOW | MODERATE | HIGH |
| Growth advantage | <p>Evidence of a growth advantage likely to lead to global predominance</p> <p>A. An increase in variant specific Rt</p> <p>B. Logistic growth (compared to currently circulating variant)</p> <p>(Nb variants with subnational-limited growth are not assessed).</p> | 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 | <ul style="list-style-type: none"> 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 <p>(Rapid VE is unlikely by 28 days so the rapid RA cannot reach high confidence).</p> | One indicator (reinfection, neutralization or structural model) | Two indicators including neutralization data | [rapid VE] |
| Severity and clinical considerations | <ul style="list-style-type: none"> Change in a rolling surveillance metric for severity synchronized with increase in variant e.g. <ul style="list-style-type: none"> 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. | | | |

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