

COVID-19 Weekly Epidemiological Update

Edition 137 published 06 April 2023

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Global overview

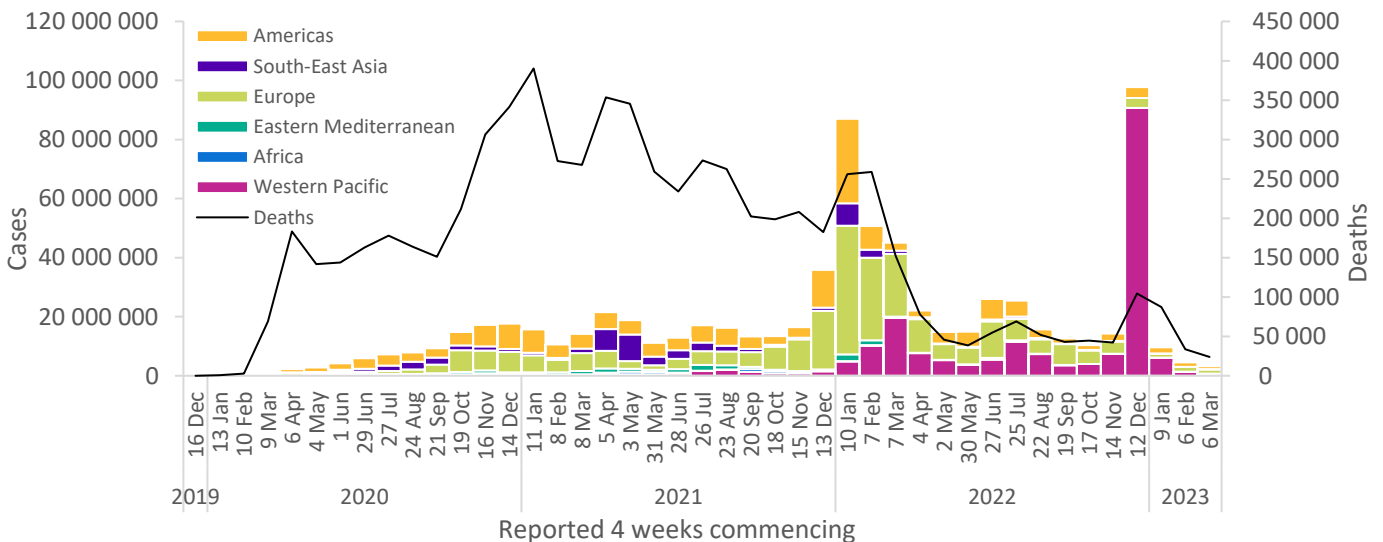
Data as of 2 April 2023

Globally, nearly 3.3 million new cases and over 23 000 deaths were reported in the last 28 days (6 March to 2 April 2023), a decrease of 28% and 30%, respectively, compared to the previous 28 days (6 February to 5 March 2023) (Figure 1, Table 1). Despite this overall downward trend, it is important to note that 74 (31%) countries have reported increases in new cases of 20% or greater during the last 28 days compared to the previous 28-day period. As of 2 April 2023, over 762 million confirmed cases and over 6.8 million deaths have been reported globally.

Current trends in reported COVID-19 cases continue to be underestimates of the true number of global infections and reinfections as shown by prevalence surveys.¹⁻⁴ This is partly due to the reductions in testing and delays in reporting in many countries. Data presented in this report are therefore incomplete and should be interpreted with caution. Additionally, data from previous weeks are continuously being updated to incorporate retrospective changes in reported COVID-19 cases and deaths made by countries.

We present changes in epidemiological trends using a 28-day interval. This wider time window helps to account for delays in reporting, smooth out weekly fluctuations in case numbers, and continue to provide a clear picture of where the pandemic is accelerating or decelerating. Disaggregated data are still accessible on the [WHO COVID-19 dashboard](#), where the full dataset is available for download.

Figure 1. COVID-19 cases reported by WHO Region, and global deaths by 28-day intervals, as of 2 April 2023**



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

At the regional level, the number of newly reported 28-day cases decreased across four of the six WHO regions: the Western Pacific Region (-48%), the African Region (-30%), the Region of the Americas (-29%), and the European Region (-13%); while cases increased in two WHO regions: the Eastern Mediterranean Region (+147%), and the South-East Asia Region (+289%). The number of newly reported 28-day deaths decreased across four regions: the Western Pacific Region (-65%), the African Region (-43%), the Region of the Americas (-34%), and the European Region (-5%); while deaths increased in two WHO regions: the Eastern Mediterranean Region (+118%), and the South-East Asia Region (+36%).

At the country level, the highest numbers of new 28-day cases were reported from the United States of America (626 532 new cases; -39%), the Russian Federation (313 998 new cases; -9%), the Republic of Korea (271 162 new cases; -11%), Japan (202 631 new cases; -61%), and France (193 359 new cases; +98%). The highest numbers of new 28-day deaths were reported from the United States of America (7458 new deaths; -31%), the United Kingdom (2678 new deaths; -7%), Japan (1168 new deaths; -65%), Germany (1090 new deaths; -39%), and the Russian Federation (1014 new deaths; similar to the previous week).

Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 2 April 2023**

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 (%)
Europe	1 384 908 (42%)	-13%	274 837 959 (36%)	10 417 (44%)	-5%	2 209 482 (32%)
Americas	1 047 358 (32%)	-29%	191 734 288 (25%)	10 152 (43%)	-34%	2 944 706 (43%)
Western Pacific	736 177 (23%)	-48%	201 915 129 (26%)	2494 (10%)	-65%	408 974 (6%)
South-East Asia	46 332 (1%)	289%	60 816 269 (8%)	228 (1%)	36%	804 106 (12%)
Eastern Mediterranean	42 675 (1%)	147%	23 306 010 (3%)	537 (2%)	118%	350 127 (5%)
Africa	12 036 (<1%)	-30%	9 518 290 (1%)	21 (<1%)	-43%	175 333 (3%)
Global	3 269 486 (100%)	-28%	762 128 709 (100%)	23 849 (100%)	-30%	6 892 741 (100%)

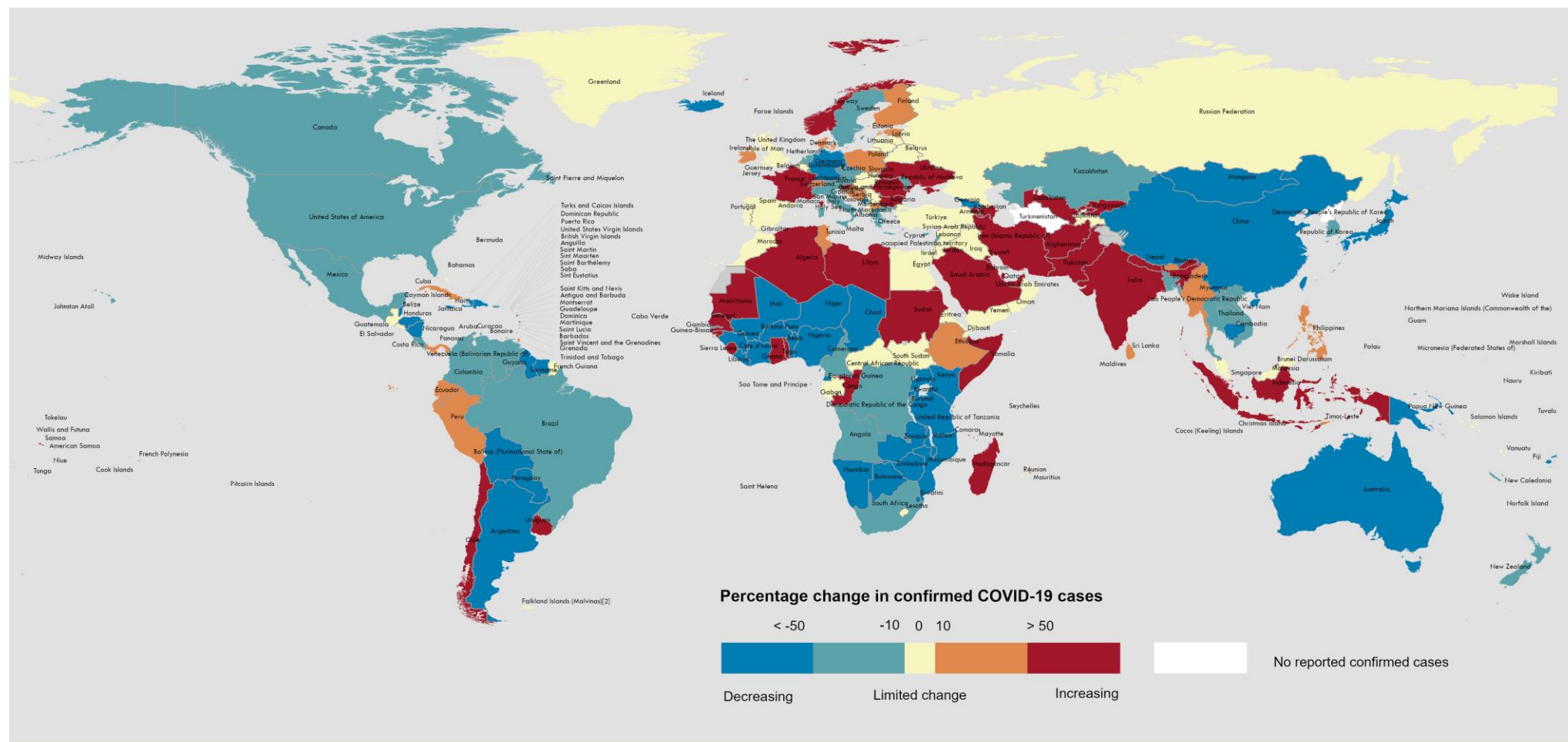
*Percent change in the number of newly confirmed cases/deaths in the past 28 days, compared to 28 days prior. Data from previous weeks are updated continuously with adjustments received from countries.

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

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

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

Figure 2. Percentage change in confirmed COVID-19 cases over the last 28 days relative to the previous 28 days, as of 2 April 2023**



Data Source: World Health Organization

Map Production: WHO Health Emergencies Programme

Not applicable

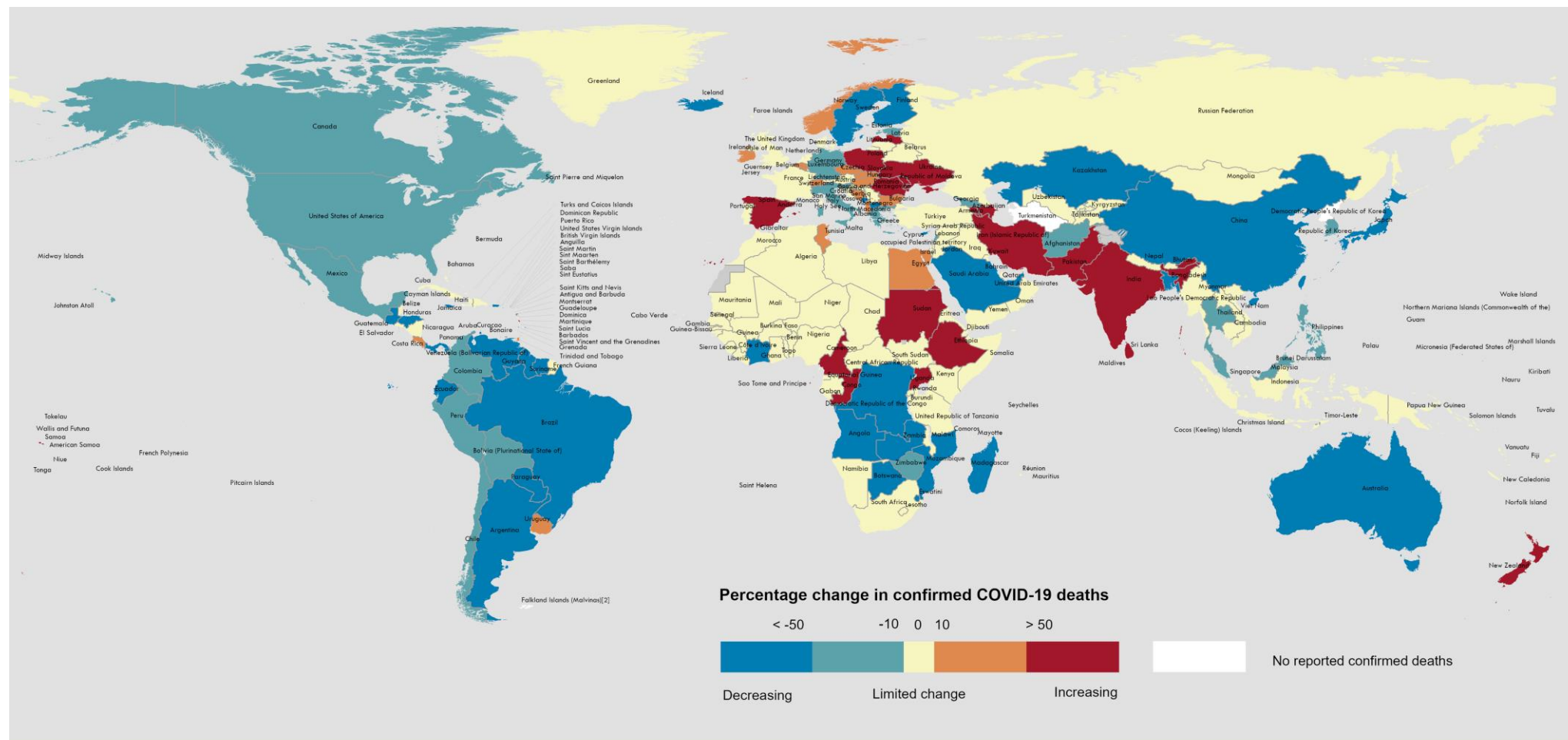


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**See [Annex 1: Data, table, and figure notes](#)

Figure 3. Percentage change in confirmed COVID-19 deaths over the last 28 days relative to the previous 28 days, as of 2 April 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 interest and variants under monitoring

Geographic spread and prevalence

Globally, from 5 March to 2 April 2023 (28 days), 65 864 SARS-CoV-2 sequences were shared through GISAID.

Currently, WHO is closely tracking one variant of interest (VOI), XBB.1.5, and seven variants under monitoring (VUMs). The VUMs are BA.2.75, CH.1.1, BQ.1, XBF, XBB, XBB.1.16, and XBB.1.9.1. On 30 March 2023, XBB.1.9.1 was added to the list of VUMs due to the F486P mutation (shared with XBB.1.5 and XBB.1.16). XBB.1.16 and XBB.1.9.1 have the same spike mutation profile as XBB.1.5 (E180V and F486P); and additional mutations in the open reading frame regions, the effects of which are not well characterized. Mutations at position 478 of the SARS-CoV-2 spike protein have been associated with decreased antibody neutralization, increased transmissibility, and pathogenicity.^{i,ii,iii,iv} As of 2 April, a total of 1497 XBB.1.16 and 9644 sequences XBB.1.9.1 have been reported from 27 and 68 countries, respectively.

To date, there have been no reports of higher severity for the currently circulating variants, although some countries have reported an increase in hospitalizations following a rise in case incidence. However, there have been no reported rises in ICU admissions or deaths due to any of the currently circulating XBB descendent lineages. There are currently no reported laboratory studies on markers of disease severity for XBB.1.5, XBB.1.16 or XBB.1.9.1.

Globally, XBB.1.5 accounted for 47.1% of cases in epidemiological week 11 (13 to 19 March 2023), compared to 39.8% in week 7 (13 to 19 February 2023). To date, XBB.1.5 has been detected in 94 countries. A comparison of sequences submitted to GISAID from week 7 to week 11 shows declining trends for all VUMs except for XBB, XBB.1.16, and XBB.1.9.1. Table 2 shows the number of countries reporting the VOI and VUMs, and their prevalence from week 7 to week 11.

ⁱ SARS-CoV-2 variants, spike mutations and immune escape: <https://www.nature.com/articles/s41579-021-00573-0>

ⁱⁱ Emerging Vaccine-Breakthrough SARS-CoV-2 Variants: <https://www.ncbi.nlm.nih.gov/research/coronavirus/publication/35133792>

ⁱⁱⁱ SARS-CoV-2 Spike Mutations, L452R, T478K, E484Q and P681R, in the Second Wave of COVID-19 in Maharashtra, India: <https://www.ncbi.nlm.nih.gov/research/coronavirus/publication/34361977>

^{iv} Antibody-Mediated Neutralization of Authentic SARS-CoV-2 B.1.617 Variants Harboring L452R and T478K/E484Q: <https://www.ncbi.nlm.nih.gov/research/coronavirus/publication/34578275>

Table 2. Weekly prevalence of SARS-CoV-2 VOIs and VUMs, week 7 to week 11 of 2023

Lineage	Countries	Sequences	2023-07	2023-08	2023-09	2023-10	2023-11
XBB.1.5* (VOI)	94	139 228	39.83	43.61	45.97	48.32	47.14
BA.2.75*	121	102 656	6.05	5.87	5.16	2.84	1.59
CH.1.1*	88	38 888	6.91	6.70	6.50	5.80	5.04
BQ.1*	142	406 210	18.68	14.79	11.07	8.52	6.92
XBB*	122	74 221	5.52	6.69	8.16	11.80	15.26
XBB.1.9.1*	59	8212	2.03	2.96	4.26	5.46	5.96
XBF*	48	8505	1.25	1.24	1.10	1.26	0.87
Unassigned	96	292 690	9.17	8.99	10.91	10.28	13.77
Other [†]	207	6 690 563	1.28	1.10	1.12	1.05	1.02
XBB.1.16 [§]	27	1497	0.12	0.25	0.60	1.32	2.15

* Denotes descendent lineages.

[§]The prevalence of XBB.1.16 was extracted from GISAID on 5 April 2023 using the nucleotides T12730A, T28297C, A28447G.

[†]Others are other circulating lineages excluding the VOI, VUMs, BA.1*, BA.2*, BA.3*, BA.4*, BA.5*.

Additional resources

- [Tracking SARS-CoV-2 Variants](#)
- [WHO statement on updated tracking system on SARS-CoV-2 variants of concern and variants of interest](#)
- [WHO XBB.1.5 rapid risk assessment, 24 February 2023](#)
- [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](#)

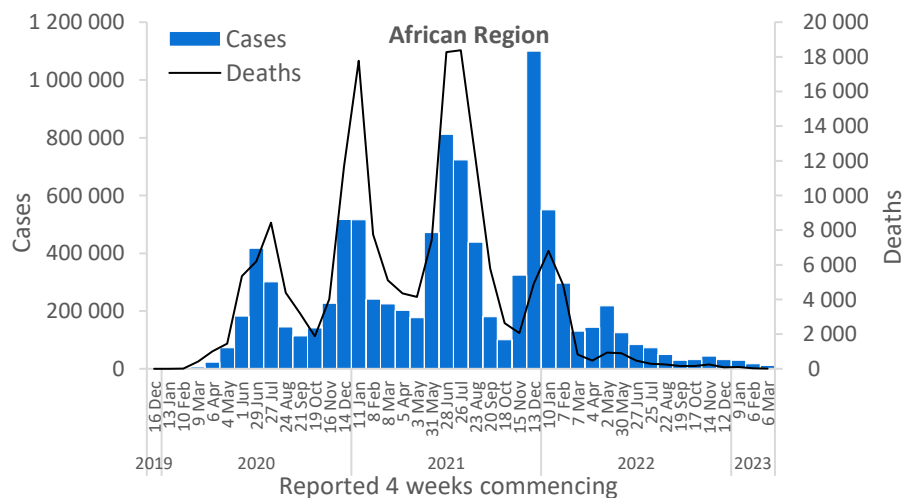
WHO regional overviews

Data for 6 March to 2 April 2023

African Region

The African Region reported over 12 000 new cases, a 30% decrease as compared to the previous 28-day period. Thirteen (26%) of the 50 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Sao Tome and Principe (156 vs one new cases; +15 500%), Guinea-Bissau (390 vs seven new cases; +5471%), and Mauritania (76 vs two new cases; +3700%). The highest numbers of new cases were reported from South Africa (6790 new cases; 11.4 new cases per 100 000; -21%), Mauritius (1432 new cases; 112.6 new cases per 100 000; +20%), and Ethiopia (525 new cases; <1 new case per 100 000; +33%).

The number of new 28-day deaths in the Region decreased by 43% as compared to the previous 28-day period, with 21 new deaths reported. The highest numbers of new deaths were reported from Zimbabwe (10 new deaths; <1 new death per 100 000; -17%), Cameroon (four new deaths; <1 new death per 100 000; +300%), and Uganda (two new deaths; <1 new death per 100 000; no death reported the previous 28-day period).

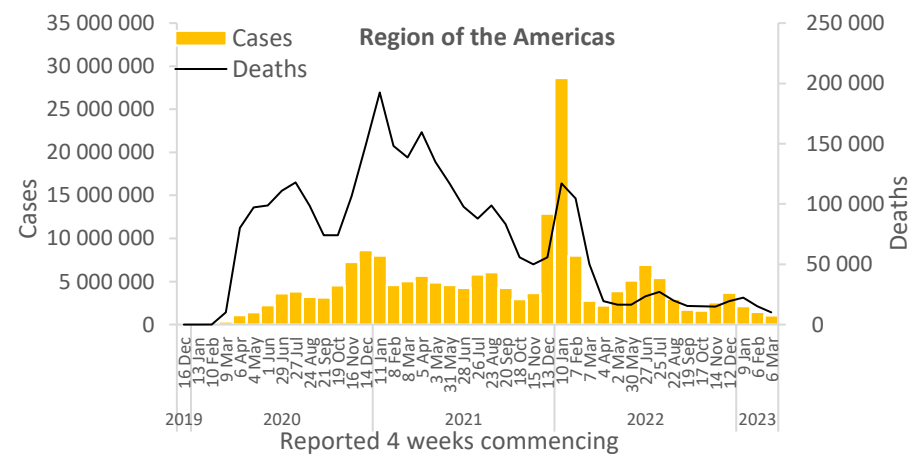


Updates from the [African Region](#)

Region of the Americas

The Region of the Americas reported over one million new cases, a 29% decrease as compared to the previous 28-day period. Fourteen (25%) 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 Saba (71 vs one new cases; +7000%), Saint Barthélemy (37 vs 10 new cases; +270%), and Saint Vincent and the Grenadines (11 vs five new cases; +120%). The highest numbers of new cases were reported from the United States of America (626 532 new cases; 189.3 new cases per 100 000; -39%), Brazil (182 610 new cases; 85.9 new cases per 100 000; -13%), and Chile (86 560 new cases; 452.8 new cases per 100 000; +69%).

The number of new 28-day deaths in the Region decreased by 34% as compared to the previous 28-day period, with 10 152 new deaths reported. The highest numbers of new deaths were reported from the United States of America (7458 new deaths; 2.3 new deaths per 100 000; -31%), Brazil (963 new deaths; <1 new death per 100 000; -50%), and Canada (593 new deaths; 1.6 new deaths per 100 000; -20%).

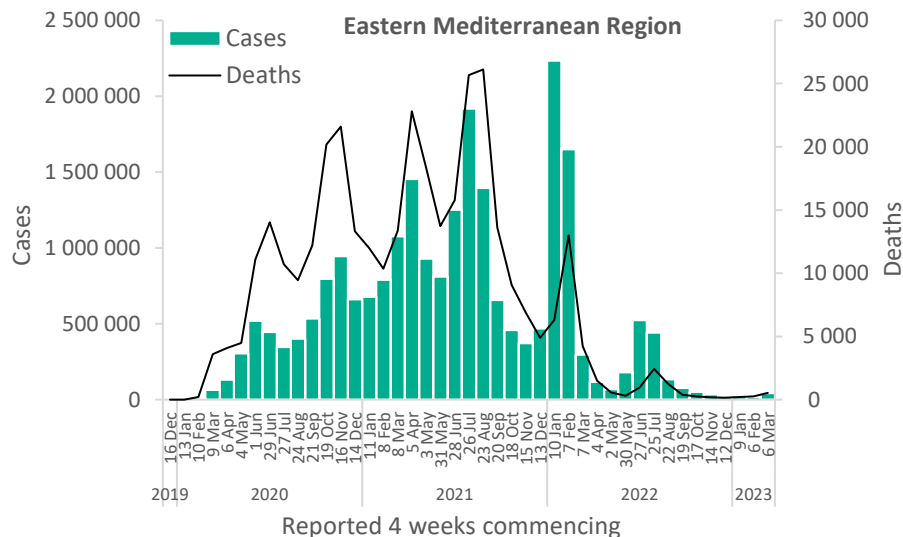


Updates from the [Region of the Americas](#)

Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 42 000 new cases, a 147% increase as compared to the previous 28-day period. Eleven (50%) of the 22 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Kuwait (1666 vs 310 new cases; +437%), Somalia (10 vs two new cases; +400%), and Pakistan (2687 vs 729 new cases; +269%). The highest numbers of new cases were reported from the Islamic Republic of Iran (18 771 new cases; 22.3 new cases per 100 000; +268%), the United Arab Emirates (5481 new cases; 55.4 new cases per 100 000; +96%), and Qatar (4826 new cases; 167.5 new cases per 100 000; +139%).

The number of new 28-day deaths in the Region increased by 118% as compared to the previous 28-day period, with 537 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (418 new deaths; <1 new death per 100 000; +243%), Lebanon (33 new deaths; <1 new death per 100 000; -21%), and Tunisia (31 new deaths; <1 new death per 100 000; +35%).

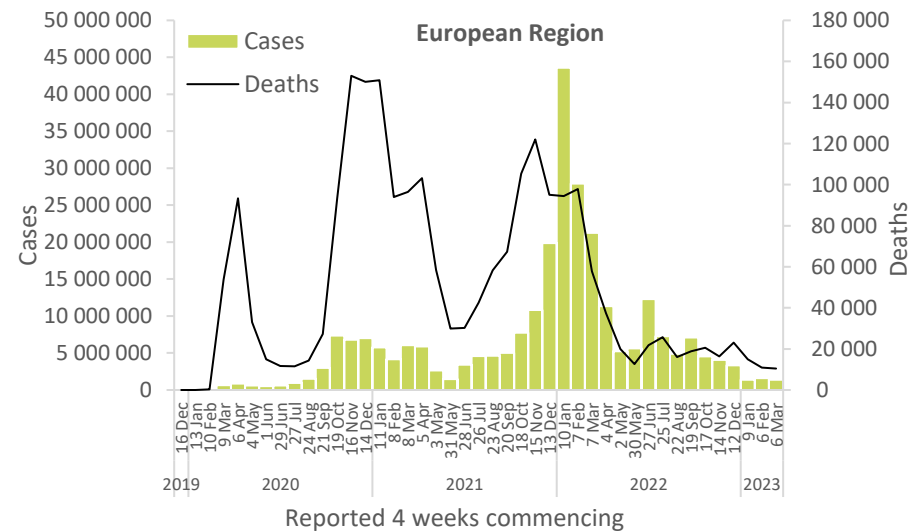


Updates from the [Eastern Mediterranean Region](#)

European Region

The European Region reported over 1.3 million new cases, a 13% decrease as compared to the previous 28-day period. Twenty-two (36%) 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 Ukraine (66 723 vs 26 127 new cases; +155%), Bulgaria (3131 vs 1452 new cases; +116%), and France (193 359 vs 97 903 new cases; +98%). The highest numbers of new cases were reported from the Russian Federation (313 998 new cases; 215.2 new cases per 100 000; -9%), France (193 359 new cases; 297.3 new cases per 100 000; +98%), and Germany (139 261 new cases; 167.4 new cases per 100 000; -64%).

The number of new 28-day deaths in the Region decreased by 5% as compared to the previous 28-day period, with 10 417 new deaths reported. The highest numbers of new deaths were reported from the United Kingdom (2678 new deaths; 3.9 new deaths per 100 000; -7%), Germany (1090 new deaths; 1.3 new deaths per 100 000; -39%), and the Russian Federation (1014 new deaths; <1 new death per 100 000; similar with the previous 28-day).

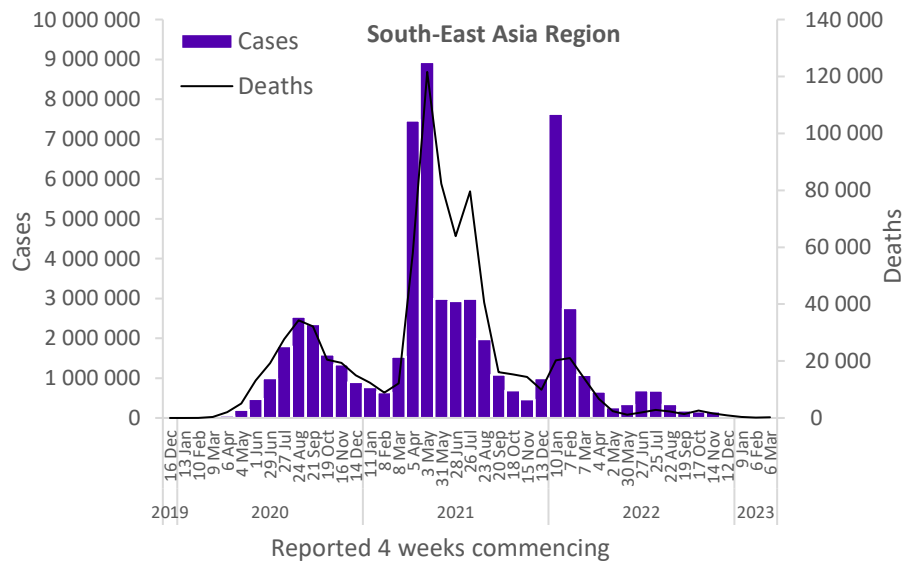


Updates from the [European Region](#)

South-East Asia Region

The South-East Asia Region reported over 46 000 new cases, a 289% increase as compared to the previous 28-day period. Seven (64%) of the 11 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in India (34 785 vs 4457 new cases; +680%), Nepal (272 vs 43 new cases; +533%), and the Maldives (72 vs 17 new cases; +324%). The highest numbers of new cases were reported from India (34 785 new cases; 2.5 new cases per 100 000; +680%), Indonesia (10 204 new cases; 3.7 new cases per 100 000; +69%), and Thailand (617 new cases; <1 new case per 100 000; -35%).

The number of new 28-day deaths in the Region increased by 36% as compared to the previous 28-day period, with 228 new deaths reported. The highest numbers of new deaths were reported from India (106 new deaths; <1 new death per 100 000; +253%), Indonesia (97 new deaths; <1 new death per 100 000; -1%), and Thailand (20 new deaths; <1 new death per 100 000; -44%).

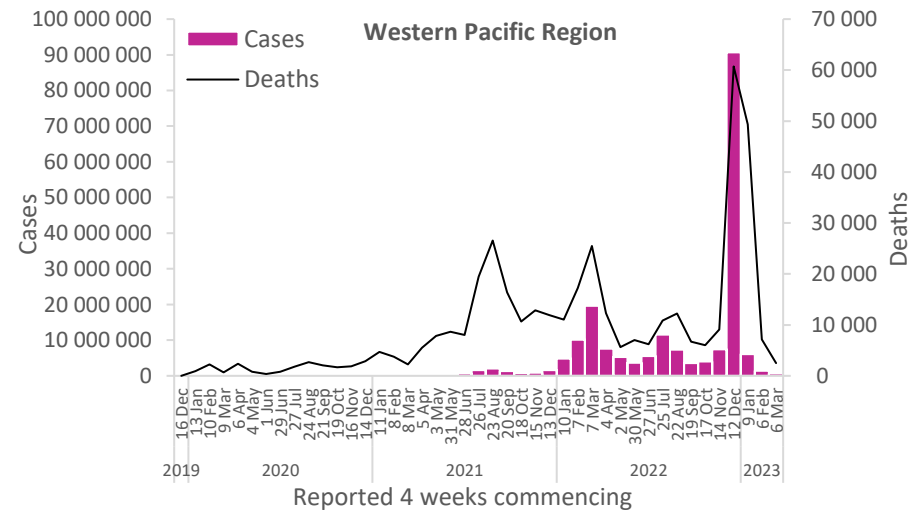


Updates from the [South-East Asia Region](#)

Western Pacific Region

The Western Pacific Region reported over 736 000 new cases, a 48% decrease as compared to the previous 28-day period. Seven (20%) 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 Samoa (248 vs 25 new cases; +892%), the Marshall Islands (364 vs 65 new cases; +460%), and Micronesia (Federated States of) (1508 vs 524 new cases; +188%). The highest numbers of new cases were reported from the Republic of Korea (271 162 new cases; 528.9 new cases per 100 000; -11%), Japan (202 631 new cases; 160.2 new cases per 100 000; -61%), and China (136 071 new cases; 9.2 new cases per 100 000; -69%).

The number of new 28-day deaths in the Region decreased by 65% as compared to the previous 28-day period, with 2494 new deaths reported. The highest numbers of new deaths were reported from Japan (1168 new deaths; <1 new death per 100 000; -65%), China (715 new deaths; <1 new death per 100 000; -73%), and the Republic of Korea (247 new deaths; <1 new death per 100 000; -41%).



Updates from the [Western Pacific Region](#)

Hospitalizations and ICU admissions

At the global level, during the past 28 days (27 February to 26 March 2023), a total of 63 376 new hospitalizations and 2561 new intensive care unit (ICU) admissions were reported. This represents a 0.4% increase in new hospitalizations and a 2% reduction in ICU admissions compared to the previous 28 days (30 January to 26 February 2023). The presented hospitalization data are preliminary and might change as new data become available. Furthermore, hospitalization data are subject to reporting delays. These data also likely include both hospitalizations with incidental cases of SARS-CoV-2 infection and those due to COVID-19 disease.

Globally, during the past 28 days, 50 (21%) countries reported data to WHO on new hospitalizations at least once. The European Region had the highest proportion of countries reporting data on new hospitalizations (23 countries; 38%), followed by the Eastern Mediterranean Region (seven countries; 32%), the South-East Asia Region (three countries; 27%), the African Region (nine countries; 18%), the Region of the Americas (five countries; 9%), and the Western Pacific Region (three countries; 9%). The proportion of countries that consistently^v reported new hospital admissions for the period was 13% (31 countries).

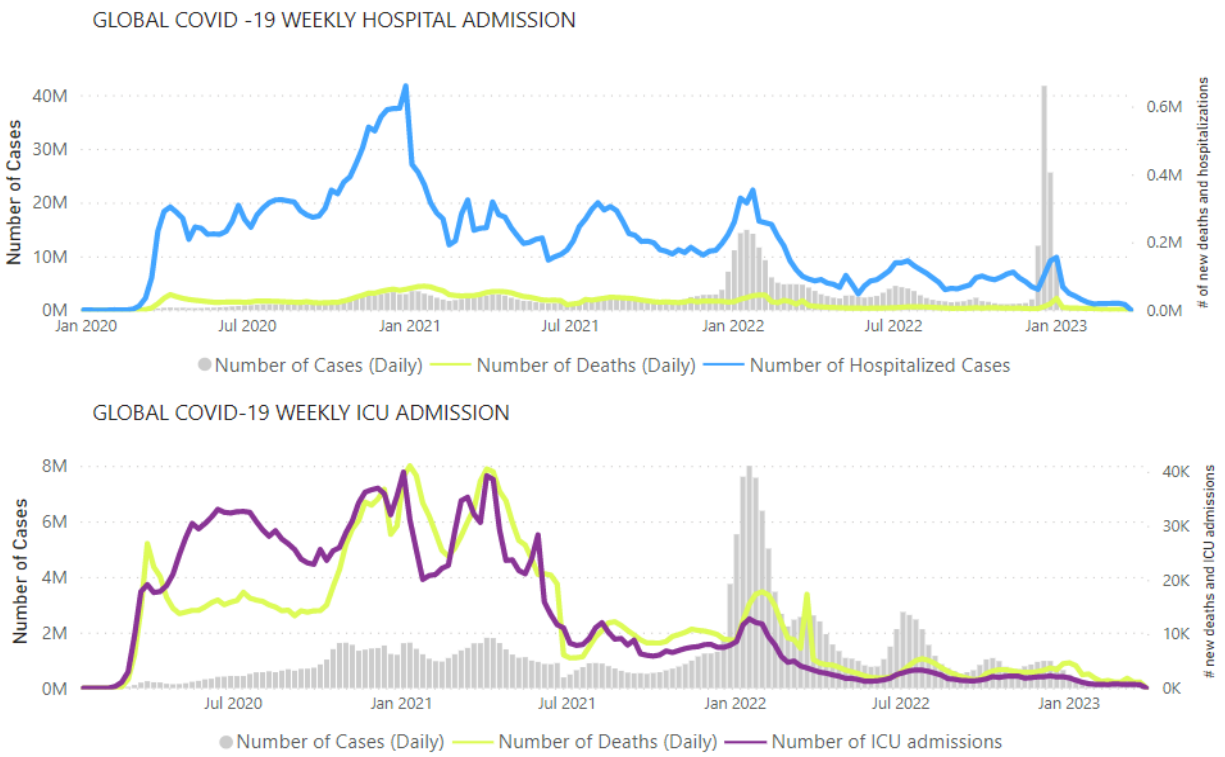
Among the 31 countries consistently reporting new hospitalizations, nine (29%) countries registered an increase of 20% or greater in hospitalizations during the past 28 days compared to the previous 28-day period: Qatar (120 vs 48; +150%), Bosnia and Herzegovina (207 vs 123; +68%), the Netherlands (2880 vs 1744; +65%), Ukraine (16 535 vs 11 376; +45%), Malta (73 vs 51; +43%), Belgium (3644 vs 2593; +41%), France (9040 vs 7163; +26%), Latvia (616 vs 497; +24%), and Kyrgyzstan (55 vs 45; +22%). The highest number of new hospitalizations was reported from Ukraine (16 535 vs 11 376; +45%), France (9040 vs 7163; +26%), and Italy (4398 vs 6376; -31%).

Across the six WHO regions, in the past 28 days, a total of 37 (16%) countries reported data to WHO on new ICU admissions at least once. The European Region had the highest proportion of countries reporting data on new ICU admissions (18 countries; 30%), followed by the Eastern Mediterranean Region (five countries; 23%), the Western Pacific Region (five countries; 14%), the South-East Asia Region (one country; 9%), the African Region (four countries; 8%), and the Region of the Americas (four countries; 7%). The proportion of countries that consistently^v reported new ICU admissions for the period was 11% (25 countries).

Among the 25 countries consistently^v reporting new ICU admissions, eight (32%) countries showed an increase of 20% or greater in new ICU admissions during the past 28 days compared to the previous 28-day period: Brunei Darussalam (four vs one; +300%), Netherlands (179 vs 103; 74%), Pakistan (21 vs 13; +62%), Estonia (eight vs five; +60%), Chile (43 vs 27; +59%), Czechia (128 vs 98; +31%), and Qatar (five vs four; +25%). The highest numbers of new ICU admissions were reported from France (852 vs 715; +19%), Ukraine (458 vs 418; +10%), and Italy (179 vs 103; +74%).

^v “Consistently” as used here refers to countries that submitted data for new hospitalizations and intensive care unit admissions for the four consecutive weeks that make up the 28-day period.

Figure 4. COVID-19 cases, deaths, hospitalizations, and ICU admissions reported weekly to WHO, as of 26 March 2023



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

Source: [WHO Detailed Surveillance Dashboard](#)

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 excepted, the names of proprietary products are distinguished by initial capital letters.

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 and to track changes in prevalence and viral characteristics. The current trends describing the circulation of variants 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

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