COVID-19 Weekly Epidemiological Update

Edition 145 published 1 June 2023

In this edition:

Global overview

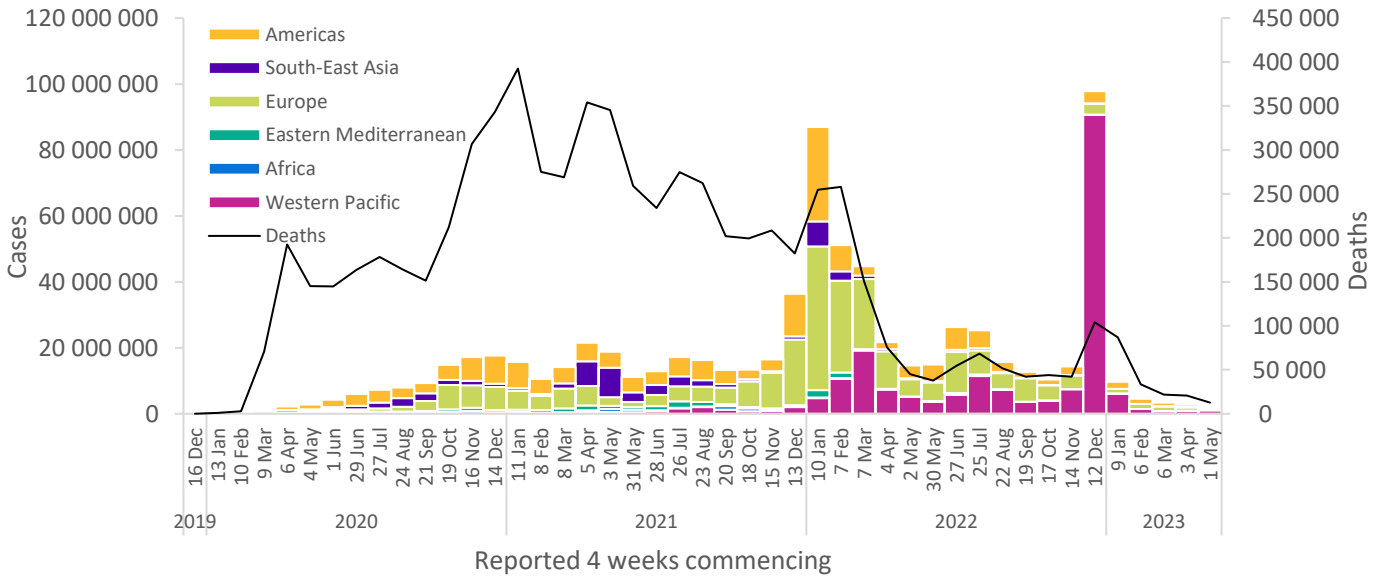
Data as of 28 May 2023

Globally, nearly 2 million new cases and over 12 000 deaths were reported in the last 28 days (1 to 28 May 2023), a decrease of 30% and 39%, respectively, compared to the previous 28 days (3 to 30 April 2023) (Figure 1, Table 1). During this 28-day reporting period, 150 of 243 (62%) countries and territories reported at least one case. The situation is mixed at the regional level, with increases in reported cases seen in the Western Pacific Region and the African Region, and decreases in deaths in all six WHO regions. As of 28 May 2023, over 767 million confirmed cases and over 6.9 million deaths have been reported globally.

Reported COVID-19 cases are underestimates of infection rates, largely due to the reductions in testing globally, and potential delays in reporting. Data presented in this report are therefore incomplete and should be interpreted in light of changes in testing and surveillance. 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. 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 28 May 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 South-East Asia Region (-66%), the Eastern Mediterranean Region (-52%), the European Region (-48%), and the Region of the Americas (-44%); while case numbers increased or remained stable in two WHO regions, the Western Pacific Region (+10%) and the African Region (+3%). The number of newly reported 28-day deaths decreased or remained stable across six regions: the Eastern Mediterranean Region (-74%), the European Region (-50%), the Region of the Americas (-33%), the Western Pacific Region (-15%), the African Region (-11%), and the South-East Asia Region (-4%).

At the country level, the highest numbers of new 28-day cases were reported from the Republic of Korea (476 087 new cases; +44%), the United States of America (170 425 new cases; -57%), Australia (138 721 new cases; +22%), Brazil (129 610 new cases; -32%), and France (106 803 new cases; -46%). The highest numbers of new 28-day deaths were reported from the United States of America (3089 new deaths; -41%), Brazil (1170 new deaths; -7%), France (685 new deaths; -22%), the Russian Federation (614 new deaths; -38%), and Italy (606 new deaths; -4%).

Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 28 May 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 (%)
Western Pacific	1 002 686 (50%)	10%	**203 860 910 (27%)**	1 329 (11%)	-15%	**412 249 (6%)**
Europe	476 449 (24%)	-48%	**276 462 853 (36%)**	4 571 (36%)	-50%	**2 238 758 (32%)**
Americas	393 469 (20%)	-44%	**192 946 838 (25%)**	5 513 (44%)	-33%	**2 954 589 (43%)**
South-East Asia	88 019 (4%)	-66%	**61 161 195 (8%)**	915 (7%)	-4%	**805 971 (12%)**
Eastern Mediterranean	21 823 (1%)	-52%	**23 377 260 (3%)**	221 (2%)	-74%	**351 258 (5%)**
Africa	7 101 (<1%)	3%	**9 532 755 (1%)**	17 (<1%)	-11%	**175 369 (3%)**
Global	**1 989 547 (100%)**	**-30%**	**767 342 575 (100%)**	**12 566 (100%)**	**-39%**	**6 938 207 (100%)**

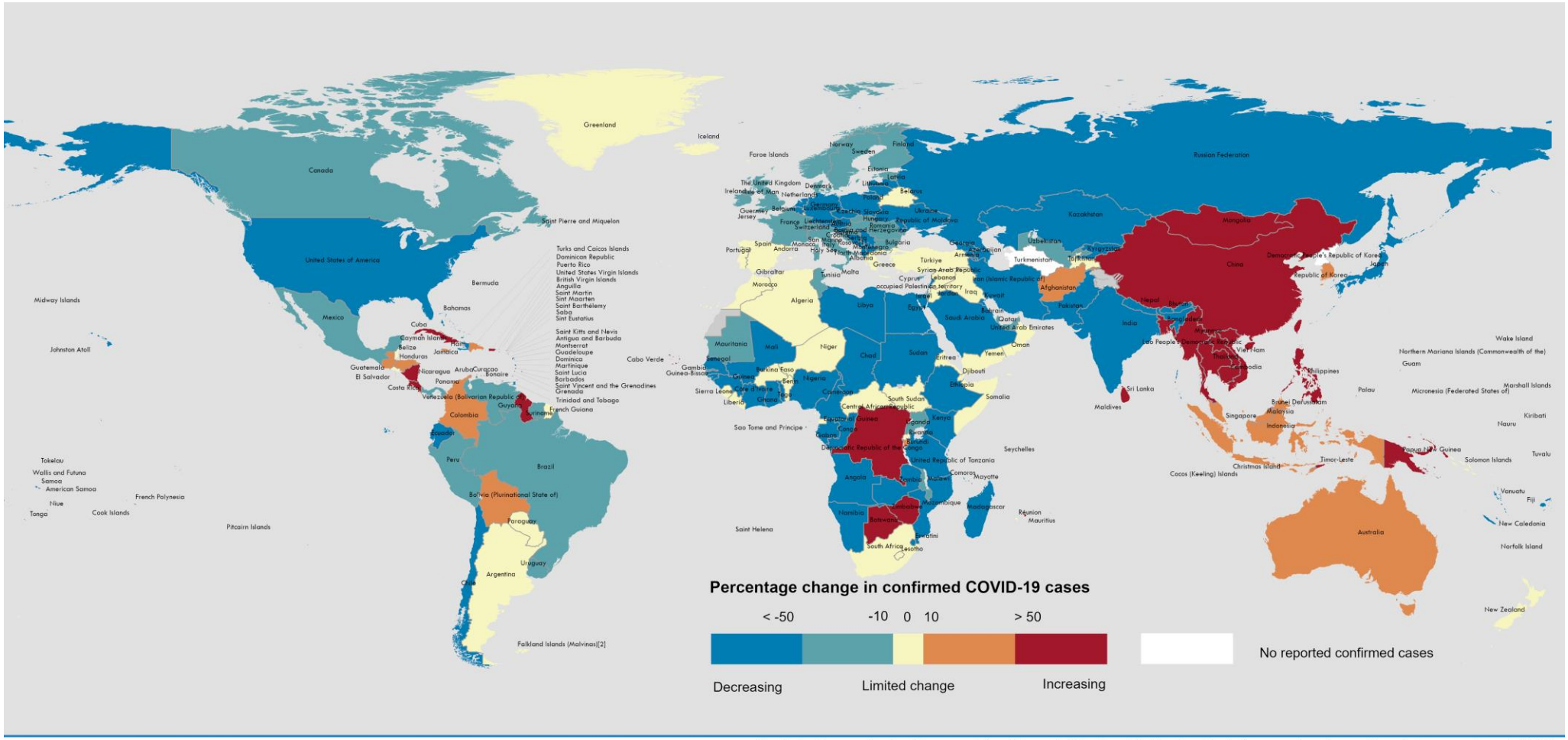
**Percent change in the number of newly confirmed cases/deaths in the past 28 days, compared to 28 days prior. Data from previous weeks are updated continuously with adjustments received from countries.*

***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 28 May 2023**

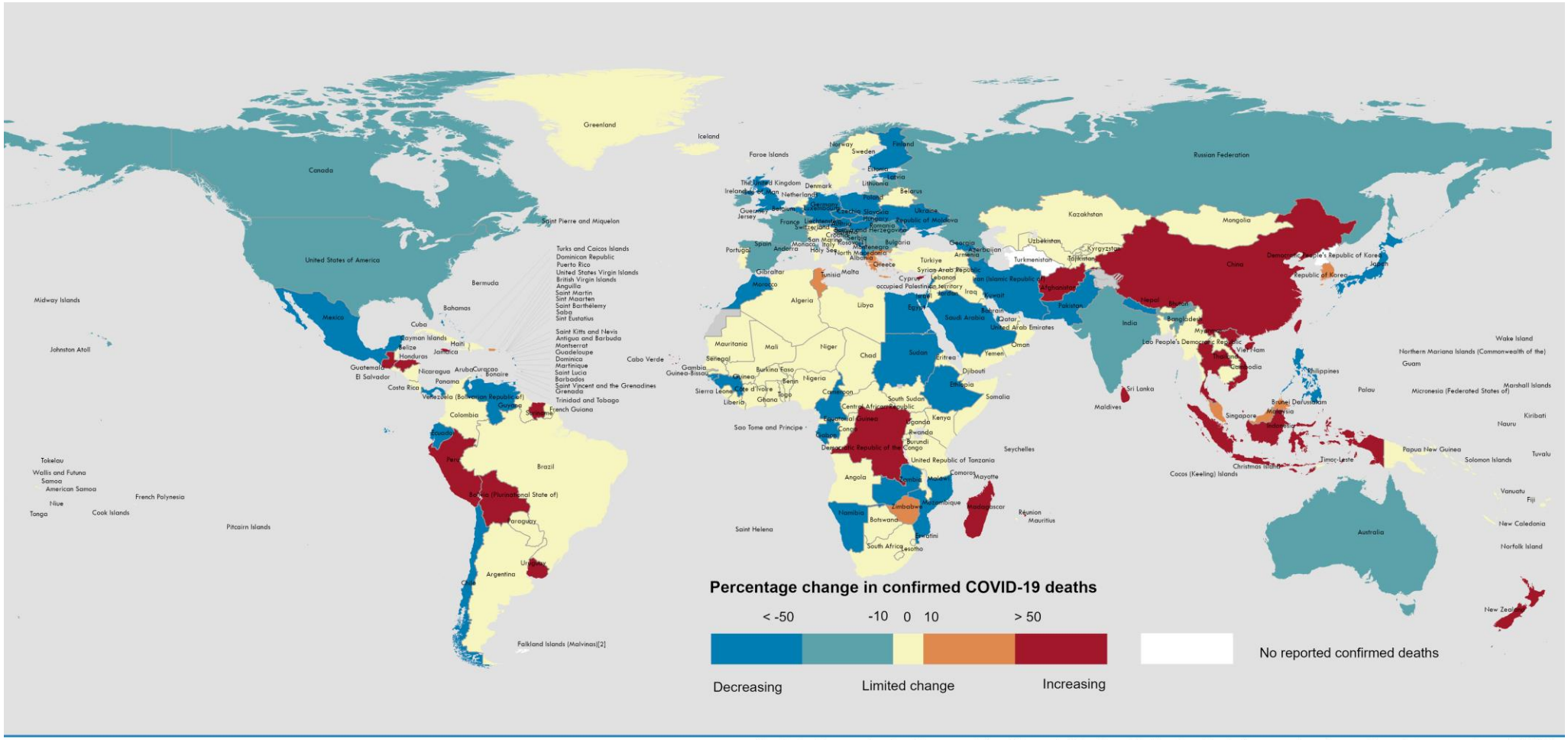


***Data Source**: World Health Organization*
***Map Production**: WHO Health Emergencies Programme*

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 28 days relative to the previous 28 days, as of 28 May 2023**



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Hospitalizations and ICU admissions

At the global level, during the past 28 days (24 April to 21 May 2023), a total of 94 096 new hospitalizations and 2723 new intensive care unit (ICU) admissions were reported (Figure 4). This represents a 27% and 13% decrease in hospitalizations and ICU admissions, respectively, compared to the previous 28 days (27 March to 23 April 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, 37 (16%) countries reported data to WHO on new hospitalizations at least once (Figure 5). The European Region had the highest proportion of countries reporting data on new hospitalizations (19 countries; 31%), followed by the South-East Asia Region (two countries; 18%), the Eastern Mediterranean Region (three countries; 14%), the African Region (six countries; 12%), the Western Pacific Region (three countries; 9%), and the Region of the Americas (four countries; 7%). The proportion of countries that consistently[i] reported new weekly hospitalizations for the period was 11% (25 countries).

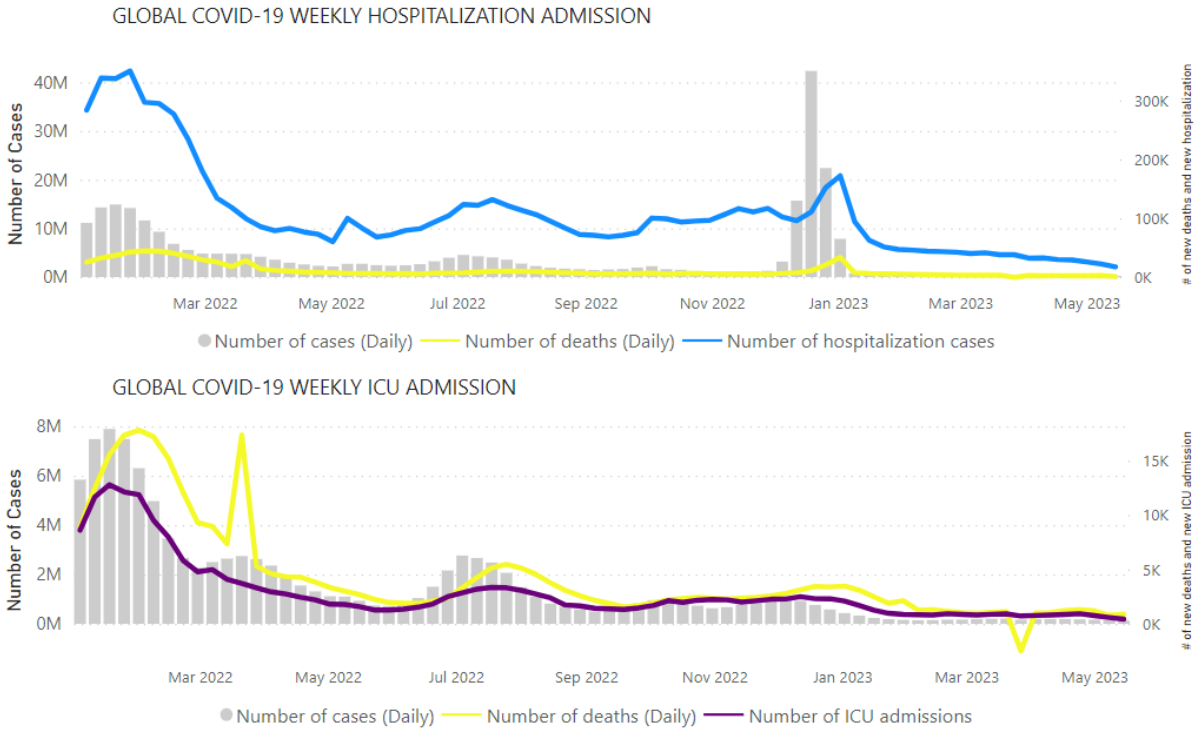
Among the 25 countries consistently reporting new hospitalizations, six (24%) countries registered an increase of 20% or greater in hospitalizations during the past 28 days compared to the previous 28-day period: Mongolia (1299 vs 84; +1446%), Indonesia (9623 vs 3556; +171%), Zimbabwe (40 vs 27; +48%), Malaysia (8354 vs 5867; +42%), Bangladesh (104 vs 78; +33%), and Argentina (206 vs 163; +26%). The highest number of new hospitalizations was reported from the United States of America (37 426 vs 54 985; -32%), Indonesia (9623 vs 3556; +171%), and Ukraine (8853 vs 14 925; -41%).

Across the six WHO regions, in the past 28 days, a total of 34 (14%) countries reported data to WHO on new ICU admissions at least once (Figure 5). 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 Region of the Americas (three countries; 5%), and the African Region (two countries; 4%). The proportion of countries that consistently[i] reported new weekly ICU admissions for the period was 9% (20 countries).

Among the 20 countries consistently reporting new ICU admissions, two (10%) countries showed an increase of 20% or greater during the past 28 days compared to the previous 28-day period: Malaysia (150 vs 49; +206%) and Indonesia (406 vs 164; +148%). The highest numbers of new ICU admissions were reported from France (869 vs 1018; -15%), Indonesia (406 vs 164; +148%), and Australia (283 vs 279; +1%).

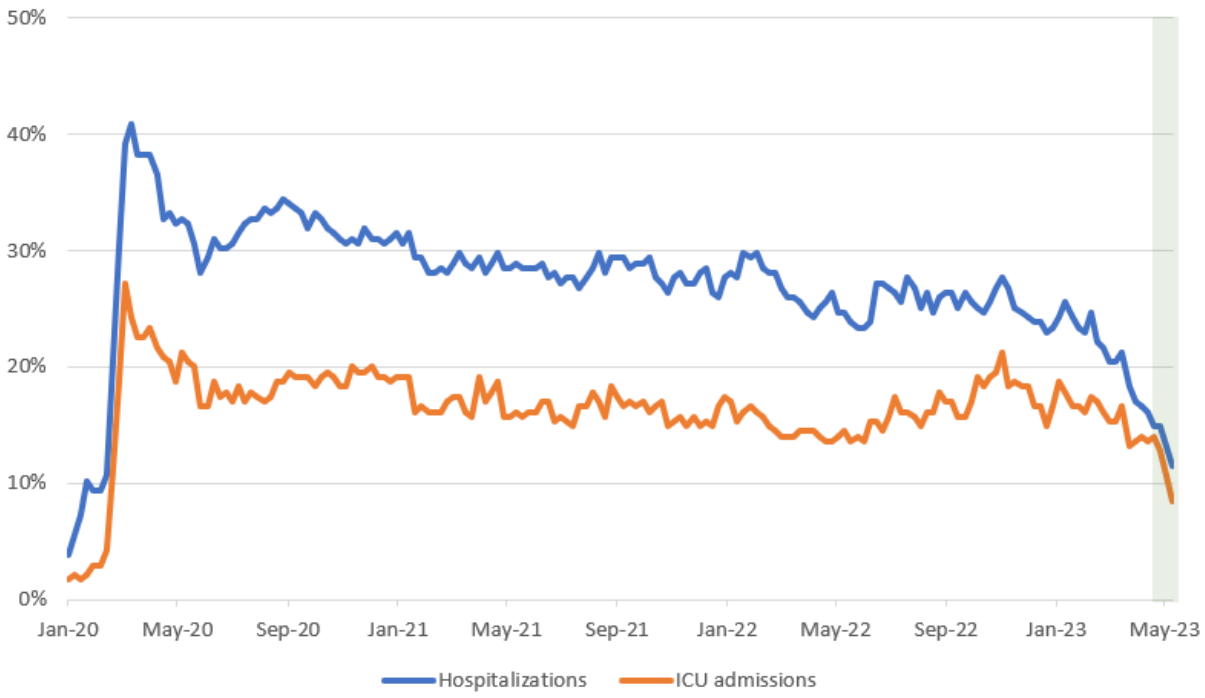
[i] "Consistently" as used here refers to countries that submitted data for new hospitalizations and intensive care unit admissions for the four consecutive weeks that make up the 28-day period.

Figure 4. COVID-19 cases, deaths, hospitalizations, and ICU admissions reported weekly to WHO, as of 21 May 2023



Note: Recent weeks are subject to reporting delays and should not be interpreted as a declining trend. Cases included in grey bars in the graph are only from countries reporting hospitalizations or ICU admissions, respectively.
Source: WHO Detailed Surveillance Dashboard

Figure 5. Weekly proportion of countries reporting new hospitalizations and ICU admissions: epidemiological week 1, 2020 to week 20, 2023



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

SARS-CoV-2 variants of interest and variants under monitoring

Geographic spread and prevalence

Globally, from 1 to 28 May 2023 (28 days), 20 796 SARS-CoV-2 sequences were shared through GISAID. WHO is currently monitoring two variants of interest (VOIs), XBB.1.5 and XBB.1.16, along with seven variants under monitoring (VUMs) and their descendent lineages: BA.2.75, CH.1.1, BQ.1, XBB, XBB.1.9.1, XBB.1.9.2, and XBB.2.3.

Globally, XBB.1.5 has been reported from 115 countries since the variant emerged. In epidemiological week 19 (8 to 14 May 2023), XBB.1.5 accounted for 34% of sequences, a decrease from 49% in epidemiological week 15 (10 to 16 April 2023). XBB.1.16 has been reported from 61 countries. In week 19, XBB.1.16 accounted for 16.3% of sequences, an increase from 8.8% in week 15.

Table 2 shows the number of countries reporting the VOIs and VUMs and their prevalence from week 15 to week 19. Among the VUMs, XBB, XBB.1.9.1, XBB.1.9.2, and XBB.2.3 have shown increasing trends in recent weeks. Overall, other VUMs show declining trends during the same reporting period. VOI and VUMs that have shown increasing trends are highlighted in orange, and those with decreasing trends are highlighted in green.

Table 2. Weekly prevalence of SARS-CoV-2 VOIs and VUMs, week 15 to week 19 of 2023

Lineage	Countries[§]	Sequences[§]	2023-15	2023-16	2023-17	2023-18	2023-19
XBB.1.5* (VOI)	115	234 239	49.07	46.45	44.42	42.29	34.04
XBB.1.16* (VOI)	61	13 848	8.78	9.84	10.25	12.86	16.32
BA.2.75*	123	111 654	2.75	2.37	1.82	1.49	1.15
CH.1.1*	92	46 462	3.67	3.05	2.97	2.60	2.79
BQ.1*	150	411 011	2.78	2.03	1.40	0.96	0.69
XBB*	127	63 294	4.10	4.00	4.64	4.78	5.46
XBB.1.9.1*	90	28 900	11.93	13.37	15.52	16.44	16.94
XBB.1.9.2*	60	7 573	3.32	4.08	4.71	4.60	5.26
XBB.2.3*	52	5 498	2.99	3.30	3.84	4.18	6.34
Unassigned	103	149 179	1.23	0.90	0.08	0.03	0.02
Other[+]	208	6 722 190	6.71	7.65	8.51	8.49	10.11

* Includes descendant lineages, except those individually specified elsewhere in the table. For example, XBB* does not include XBB.1.5, XBB.1.9.1, XBB.1.9.2, XBB.1.16, and XBB.2.3.

[+] "Other" represents other circulating lineages excluding the VOI, VUMs, BA.1*, BA.2*, BA.3*, BA.4*, BA.5*.

[§] Numbers of countries and sequences are since the emergence of the variants

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.1.16 Initial Risk Assessment, 17 April 2023
- WHO XBB.1.5 rapid risk assessment, 24 February 2023

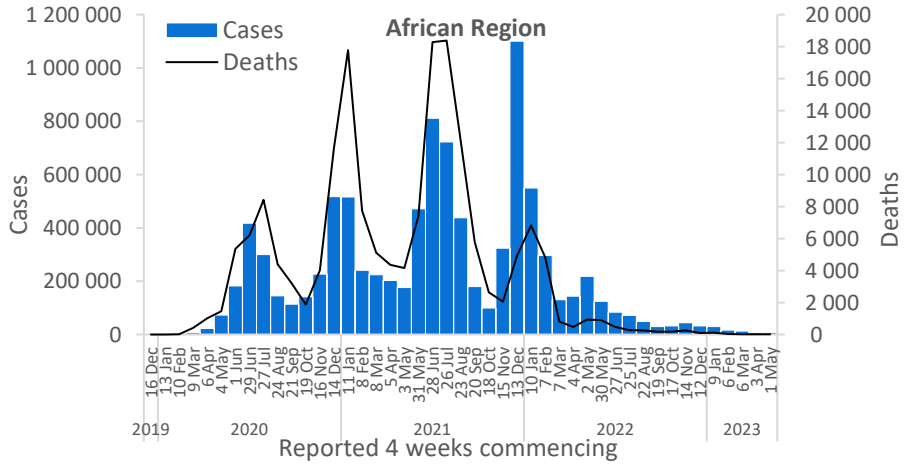
WHO regional overviews

Data for 1 to 28 May 2023

African Region

The African Region reported over 7000 new cases, a slight increase of 3% as compared to the previous 28-day period. Six (12%) 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 Botswana (49 vs 19 new cases; +158%), Zimbabwe (340 vs 134 new cases; +154%), and Cabo Verde (444 vs 207 new cases; +114%). The highest numbers of new cases were reported from Mauritius (5227 new cases; 411.0 new cases per 100 000; +57%), Cabo Verde (444 new cases; 79.9 new cases per 100 000; +114%), and the Democratic Republic of the Congo (440 new cases; <1 new case per 100 000; +64%).

The number of new 28-day deaths in the Region decreased by 11% as compared to the previous 28-day period, with 17 new deaths reported. The highest numbers of new deaths were reported from Zimbabwe (seven new deaths; <1 new death per 100 000; +40%), Mauritius (four new deaths; <1 new death per 100 000; +100%), and the Democratic Republic of the Congo (three new deaths; <1 new death per 100 000; no deaths reported the previous 28-day period).

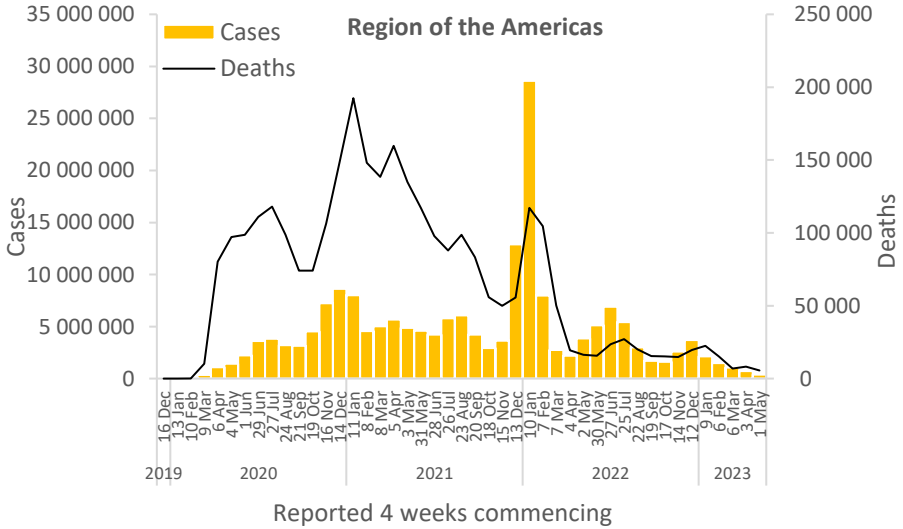


Updates from the African Region

Region of the Americas

The Region of the Americas reported over 393 000 new cases, a 44% decrease as compared to the previous 28-day period. Eleven (20%) 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 Cuba (975 vs 263 new cases; +271%), the United States Virgin Islands (167 vs 56 new cases; +198%), and Barbados (328 vs 134 new cases; +145%). The highest numbers of new cases were reported from the United States of America (170 425 new cases; 51.5 new cases per 100 000; -57%), Brazil (129 610 new cases; 61.0 new cases per 100 000; -32%), and Puerto Rico (25 103 new cases; 877.5 new cases per 100 000; +99%).

The number of new 28-day deaths in the Region decreased by 33% as compared to the previous 28-day period, with 5513 new deaths reported. The highest numbers of new deaths were reported from the United States of America (3089 new deaths; <1 new death per 100 000; -41%), Brazil (1170 new deaths; <1 new death per 100 000; -7%), and Peru (551 new deaths; 1.7 new deaths per 100 000; +63%).

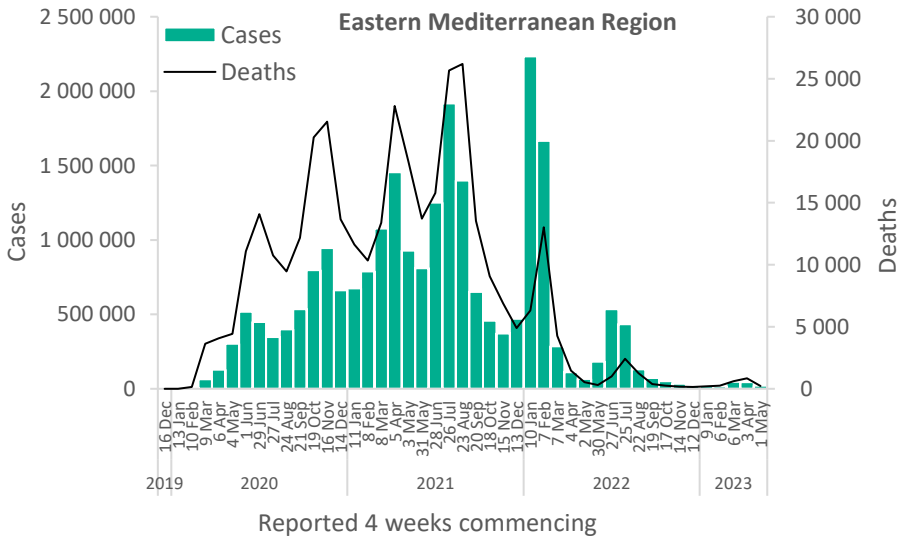


Updates from the Region of the Americas

Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 21 000 new cases, a 52% decrease as compared to the previous 28-day period. One (5%) of the 22 countries for which data are available reported increases in new cases of 20% or greater: Afghanistan (6300 vs 4252 new cases; +48%). The highest numbers of new cases were reported from Afghanistan (6300 new cases; 16.2 new cases per 100 000; +48%), Qatar (4929 new cases; 171.1 new cases per 100 000; -40%), and the United Arab Emirates (4230 new cases; 42.8 new cases per 100 000; -12%).

The number of new 28-day deaths in the Region decreased by 74% as compared to the previous 28-day period, with 221 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (156 new deaths; <1 new death per 100 000; -79%), Tunisia (28 new deaths; <1 new death per 100 000; +12%), and Afghanistan (22 new deaths; <1 new death per 100 000; +144%).

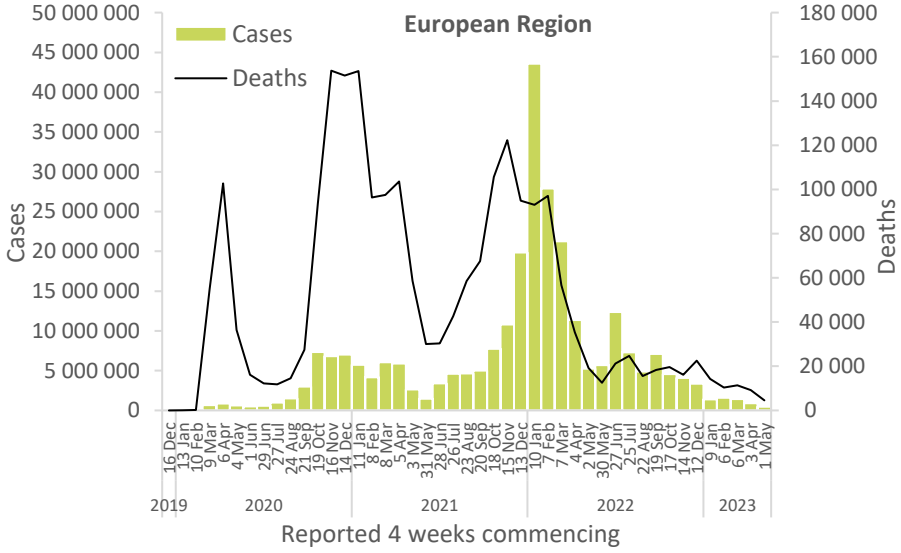


Updates from the Eastern Mediterranean Region

European Region

The European Region reported over 476 000 new cases, a 48% decrease as compared to the previous 28-day period. No country has reported increases in new cases of 20% or greater compared to the previous 28-day period. The highest numbers of new cases were reported from France (106 803 new cases; 164.2 new cases per 100 000; -46%), the Russian Federation (66 664 new cases; 45.7 new cases per 100 000; -66%), and Italy (62 063 new cases; 104.1 new cases per 100 000; -34%).

The number of new 28-day deaths in the Region decreased by 50% as compared to the previous 28-day period, with 4571 new deaths reported. The highest numbers of new deaths were reported from France (685 new deaths; 1.1 new deaths per 100 000; -22%), the Russian Federation (614 new deaths; <1 new death per 100 000; -38%), and Italy (606 new deaths; 1.0 new deaths per 100 000; -4%).

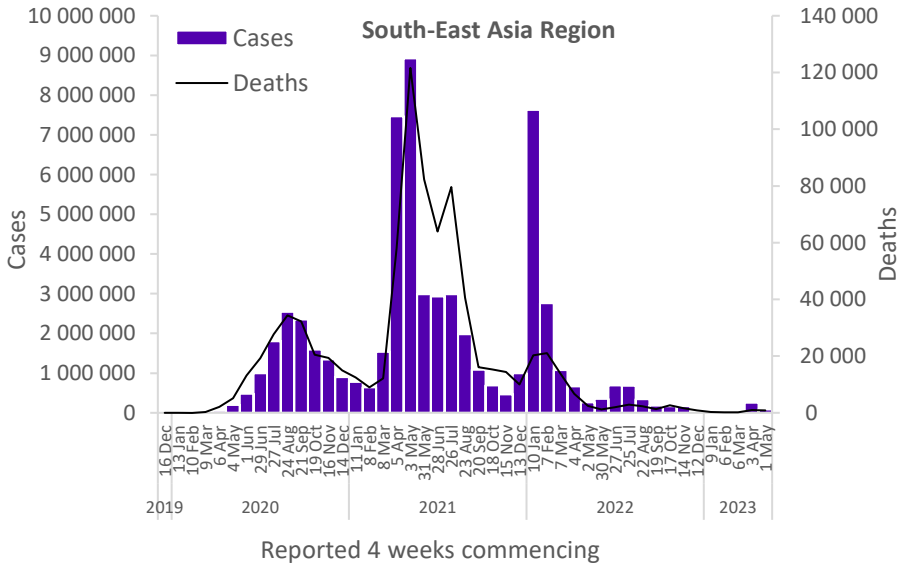


Updates from the European Region

South-East Asia Region

The South-East Asia Region reported over 88 000 new cases, a 66% decrease as compared to the previous 28-day period. Five (45%) of the 10 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Myanmar (3791 vs 792 new cases; +379%), Timor-Leste (20 vs five new cases; +300%), and Bangladesh (739 vs 194 new cases; +281%). The highest numbers of new cases were reported from India (44 355 new cases; 3.2 new cases per 100 000; -80%), Indonesia (31 567 new cases; 11.5 new cases per 100 000; +15%), and Thailand (6687 new cases; 9.6 new cases per 100 000; +91%).

The number of new 28-day deaths in the Region decreased by 4% as compared to the previous 28-day period, with 915 new deaths reported. The highest numbers of new deaths were reported from Indonesia (455 new deaths; <1 new death per 100 000; +77%), India (331 new deaths; <1 new death per 100 000; -49%), and Thailand (96 new deaths; <1 new death per 100 000; +405%).

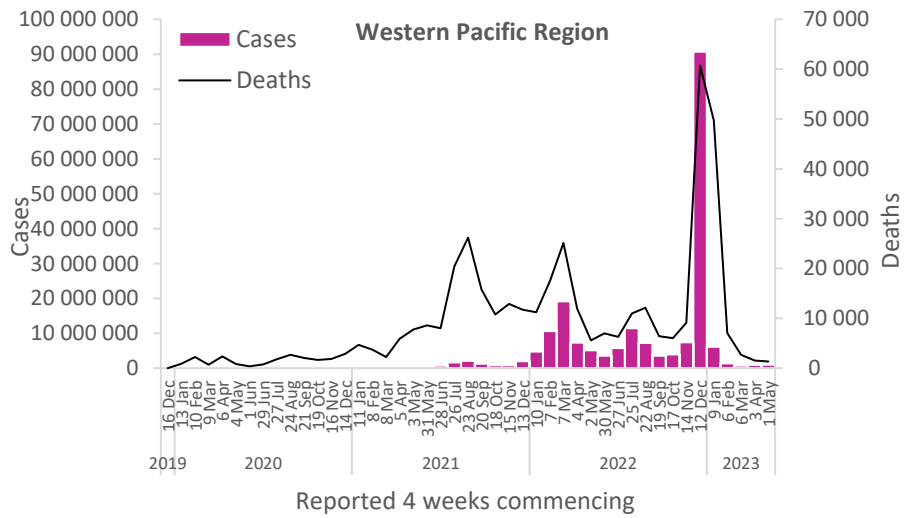


Updates from the South-East Asia Region

Western Pacific Region

The Western Pacific Region reported over one million new cases, a 10% increase as compared to the previous 28-day period. Fourteen (40%) 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 (656 vs 79 new cases; +730%), Palau (10 vs two new cases; +400%), and the Philippines (45 586 vs 10 341 new cases; +341%). The highest numbers of new cases were reported from the Republic of Korea (476 087 new cases; 928.6 new cases per 100 000; +44%), Australia (138 721 new cases; 544.0 new cases per 100 000; +22%), and Singapore (91 104 new cases; 1557.2 new cases per 100 000; -7%).

The number of new 28-day deaths in the Region decreased by 15% as compared to the previous 28-day period, with 1329 new deaths reported. The highest numbers of new deaths were reported from Australia (379 new deaths; 1.5 new deaths per 100 000; -25%), the Republic of Korea (272 new deaths; <1 new death per 100 000; +37%), and China (260 new deaths; <1 new death per 100 000; +319%).



Updates from the Western Pacific Region

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 all 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.[1]

References

1. Chen Z, Azman AS, Chen X, et al. Global landscape of SARS-CoV-2 genomic surveillance and data sharing. *Nature genetics*. 2022;54(4). doi:10.1038/s41588-022-01033-y