

COVID-19 Epidemiological Update

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Key highlights

- During the four-week reporting period (16 September to 13 October 2024), weekly SARS-CoV-2 PCR positivity changed from 5.0% in the first week of the reporting period to 6.1% in the last week, with a weekly average of 14 506 specimens tested across 90 countries. The European Region showed elevated activity at a decreasing trend (from 14.4% to 10.4%) during the reporting period compared to the other regions.
- WHO is monitoring seven SARS-CoV-2 variants, including two variants of interest (VOIs) BA.2.86 and JN.1, and seven variants under monitoring (VUMs). JN.1 remains the most reported VOU globally, accounting for 12.2% of sequences in week 41. KP.3.1.1 and XEC (both VUMs) show increasing prevalence, while all remaining VUMs are declining. KP.3 and KP.2 account for different rates of sequences, while JN.1.18 and LB.1 are declining.
- Wastewater surveillance, an important component of SARS-CoV-2 surveillance, is also important for early warning and for monitoring SARS-CoV-2 variant circulation. Around [30 countries from five WHO Regions](#) have publicly available wastewater surveillance information and are featured on WHO's COVID-19 dashboard. According to estimates obtained from wastewater surveillance, circulation of the SARS-CoV-2 virus is approximately 2 to 19 times higher than identified and reported cases ^{**†§}.
- Globally, during the 28-day period from 16 September to 13 October 2024, 90 countries reported COVID-19 cases, and 30 countries reported COVID-19 deaths. *Note that this does not reflect the actual number of countries where cases or deaths occur, as many countries have stopped or changed the frequency of reporting.* From the available data, the number of reported cases increased by 18% during the 28-day period, with over 360 000 new cases while new deaths decreased by 25% with over 4500 fatalities, compared to the previous 28 days (19 August to 15 September 2024). *Trends in the number of new reported cases and deaths should be interpreted with caution due to decreased testing and sequencing, alongside reporting delays in many countries.*
- During the 28-day period from 16 September to 13 October 2024, 43 countries provided data on COVID-19 hospitalizations and 30 countries on admissions to an intensive care unit (ICU) at least once, respectively. From available data, about 24 000 new hospitalizations and about 830 new ICU admissions were reported

* [Show us the data: global COVID-19 wastewater monitoring effectors, equity, and gaps](#)

† [Capturing the SARS-CoV-2 infection pyramid within the municipality of Rotterdam using longitudinal sewage surveillance](#)

§. [Omicron COVID-19 Case Estimates Based on Previous SARS-CoV-2 Wastewater Load, Regional Municipality of Peel, Ontario, Canada](#)

during this period. Among the countries reporting these data consistently over the current and past reporting period, there was overall a 9% and 39% decrease in new hospitalizations and ICU admissions, respectively. However, the European Region reported an increase in both hospitalization and ICU admissions.

- Post-COVID-19 condition (PCC) continues to pose a substantial burden on health systems. It is challenging to estimate the incidence of PCC with high precision, but data suggests that approximately 6% of symptomatic SARS-CoV-2 infections resulted in PCC symptoms.** While severe COVID-19 is a significant risk factor for PCC, over 90% of PCC cases arise following mild COVID-19 due to the sheer volume of infections. Vaccination appears to offer a protective effect, reducing the likelihood of developing PCC.††
- WHO published the latest [COVID-19 Vaccination Insights Report](#) for quarter two (April-June) 2024. Globally, 16.6 million individuals have received a dose of COVID-19 vaccine across 79 reporting Member States (MS), containing 25% of the global population, in quarters 1 and 2. This is 6.4 million individuals more than as of end of quarter 1. Among older adults, 9.4 million individuals received a dose across the 63 MS reporting on uptake in this group, corresponding to an uptake rate of 0.81% through the end of quarter 2. This is 5.4 million individuals more than as of end of quarter 1. Data collection for quarter-three (July-September) opened on 15 October 2024 and is progressing.

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

- Past editions of the [WHO Monthly Operational Update](#) and Epidemiological Update on COVID-19
- [WHO COVID-19 detailed surveillance data dashboard](#)
- [WHO COVID-19 policy briefs](#)
- [COVID-19 surveillance reporting requirements update for Member States](#)
- [Summary Tables](#) of COVID-19 vaccine effectiveness (VE) studies and results (last updated 31 October 2024)
- [Forest Plots](#) displaying results of COVID-19 VE studies (last updated 1 November 2024)
- [Special focus WEU on interpreting relative VE](#) (29 June 2022, pages 6-8)
- [Neutralization plots](#) (last updated 1 November 2024)
- [WHO COVID-19 VE Resources/Immunization Analysis and Insights](#)
- [COVID-19 Vaccination Insights Report](#)

** [Estimated Global Proportions of Individuals with Persistent Fatigue, Cognitive, and Respiratory Symptom Clusters Following Symptomatic COVID-19 in 2020 and 2021 - PubMed \(nih.gov\)](#)

†† [Post-acute Sequelae of SARS-CoV-2 Infection in the Pre-Delta, Delta, and Omicron Eras | New England Journal of Medicine \(nejm.org\)](#)

Global overview

Data as of 13 October 2024

SARS-CoV-2 test positivity rate from sentinel sites reflects the circulation of the virus in communities and is not much affected by reductions in disease surveillance. With the integration of SARS-CoV-2 into existing respiratory disease surveillance systems, more countries have started to report SARS-CoV-2 infections to the Global Influenza Surveillance and Response System (GISRS). Global and national data on SARS-CoV-2 PCR percent positivity are available on [WHO's integrated influenza and other respiratory viruses surveillance dashboard](#).

Globally, during the four-week reporting period (16 September to 13 October 2024), the SARS-CoV-2 percent positivity of the specimens tested from sentinel sites stayed stable, changing from 5.0% to 6.1%. During this period, on average 14 506 specimens per week were tested for SARS-CoV-2 from across 90 countries that reported at least once (Table 1).

Globally, the number of new weekly cases increased by 18% during the 28-day period of 16 September to 13 October 2024 as compared to the previous 28-day period, with over 320 000 new cases reported (Figure 2, Table 2). The number of new weekly deaths decreased by 25% as compared to the previous 28-day period, with over 4500 new fatalities reported. As of 13 October 2024, over 776 million confirmed cases and over 7 million deaths have been reported globally. According to estimates obtained from wastewater surveillance, circulation is approximately 2 to 19-times higher than identified and reported cases.^{##§§****}

Reported cases do not accurately represent infection rates due to the reduction in testing and reporting globally. During this 28-day period, only 41% (95 of 234) and 13% (30 of 234) of countries reported at least one case and death to WHO, respectively. It is important to note that this statistic does not reflect the actual number of countries with cases. Additionally, data from the previous 28-day period are continuously being updated to incorporate retrospective changes made by countries regarding reported COVID-19 cases and deaths. The data presented in this report are therefore incomplete and should be interpreted considering these limitations. Some countries continue to report high burdens of COVID-19, including increases in newly reported cases and, more importantly, increases in hospitalizations and deaths – the latter of which are considered more reliable indicators given reductions in testing.

As many countries discontinue COVID-19-specific reporting and integrate it into respiratory disease surveillance, WHO will use all available sources to continue monitoring the COVID-19 epidemiological situation, especially data on illness and impact on health systems. COVID-19 remains a major threat, and WHO urges Member States to maintain, not dismantle, their established COVID-19 infrastructure. It is crucial to sustain early warning, surveillance and reporting, variant tracking, early clinical care provision, administration of vaccine to high-risk groups, improvements in ventilation, and regular communication.

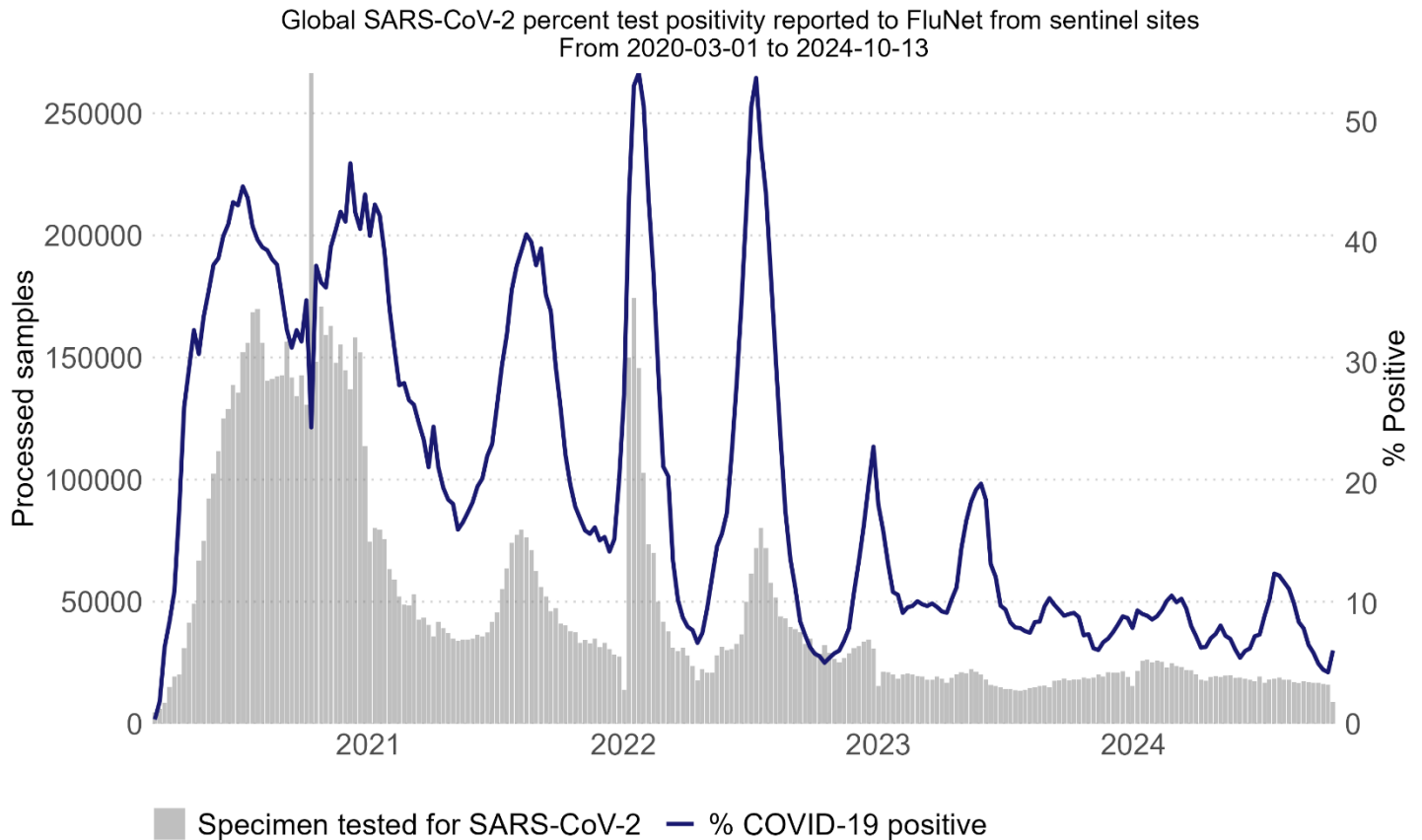
^{##} [Show us the data: global COVID-19 wastewater monitoring effectors, equity, and gaps](#)

^{§§} [Capturing the SARS-CoV-2 infection pyramid within the municipality of Rotterdam using longitudinal sewage surveillance](#)

^{***} [Omicron COVID-19 Case Estimates Based on Previous SARS-CoV-2 Wastewater Load, Regional Municipality of Peel, Ontario, Canada](#)

SARS-CoV-2 Test Positivity

Figure 1. Weekly SARS-CoV-2 percent test positivity reported to FluNet from sentinel sites, from 05 January 2020 to 13 October 2024



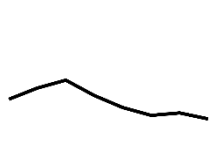






Source: *Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet*; WHO

At the regional level, during the reporting period (September 16 to October 13 2024) the highest SARS-CoV-2 activity was observed in the European Region (changed from 14.4% to 10.4% across 34 countries), followed by the Western Pacific Region (from 3.0% to 6.6% across 7 countries), the Region of the Americas (from 5.4% to 4.5% across 19 countries), the African Region (from 1.4% to 4.4% across 17 countries), the Eastern Mediterranean Region (from 4.6% to 2.9% across 7 countries), and the South-East Asia Region (from 1.5% to 2.0% across 6 countries) (Table 1).

At the country level, 90 countries reported SARS-CoV-2 test positivity from sentinel sites at least once during the reporting period (Figure 3). From the first to the fourth week of the reporting period, 17.8% (16/90) of countries reported an increase of more than 2.5% in weekly percent positivity. The top five highest increases in percent test positivity during the reporting period were reported from: Switzerland (from 13.3% to 30.8%), Ghana (from 1.2% to 12.6%), Slovenia (from 10% to 18.2%), Saint Vincent and the Grenadines (from 0% to 7.7%), and New Caledonia (from 4.4% to 10.9%). At the end of the reporting week ending on 13 October 2024, 20% (18/90) of countries reported elevated SARS-CoV-2 activity (10% test positivity or more). The five highest test positivity rates at the end of the period were: Slovakia (75.0%), Poland (50.0%), Switzerland (30.8%), Hungary (27.8%), and Germany (21.8%).

Table 1. SARS-CoV-2 test positivity as reported from sentinel sites by WHO Region during four-week reporting period (16 September to 13 October 2024)

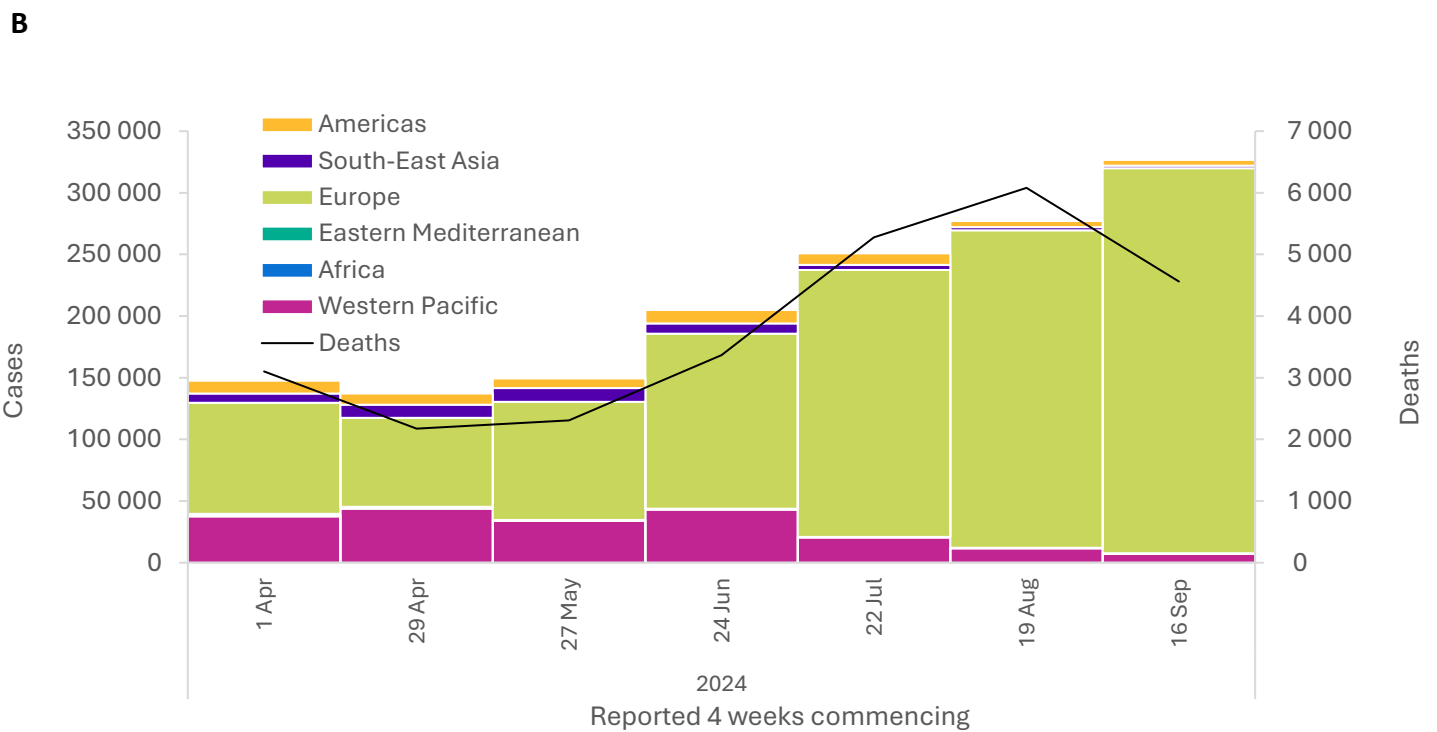
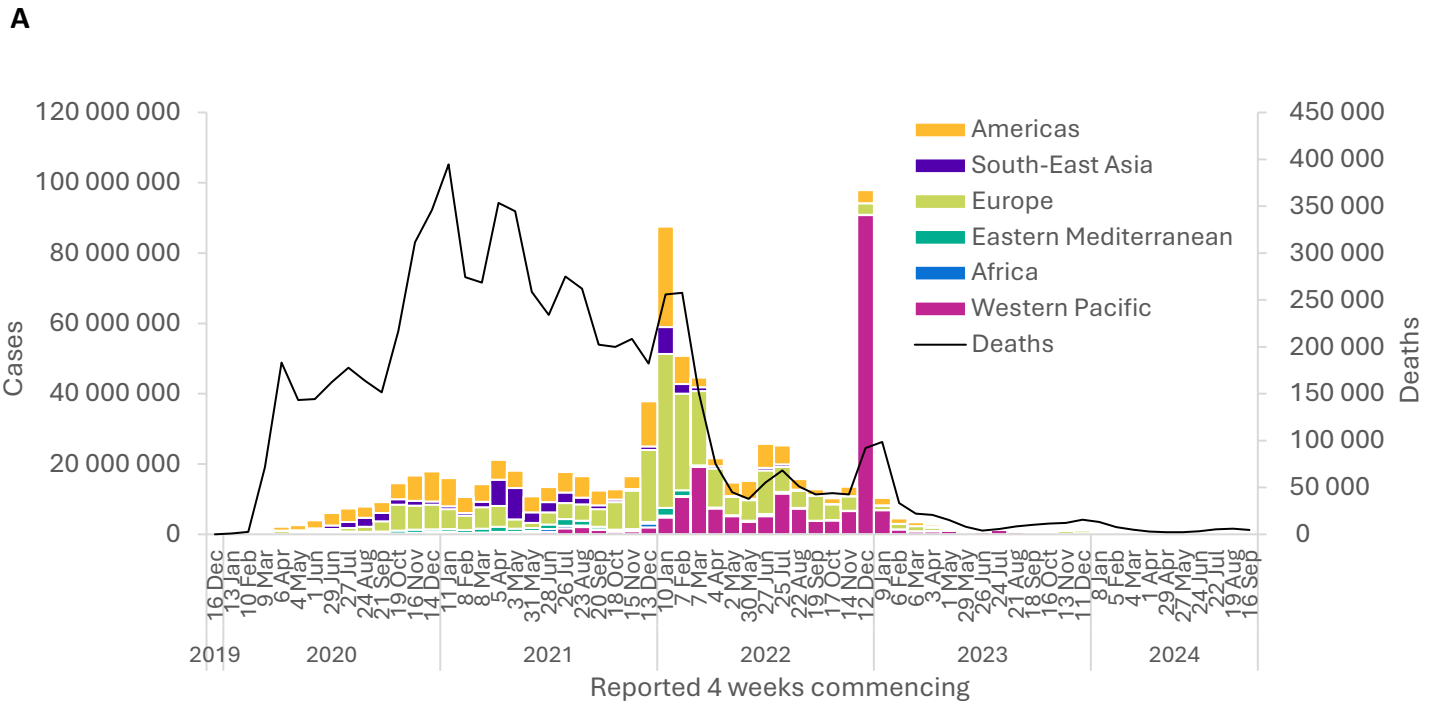
WHO Region	TPR trend for the past eight weeks [‡]	Number of countries reporting at least once	Weekly percent test positivity* (number of specimens tested)			
			2024-38	2024-39	2024-40	2024-41
Africa		17	1.4% (1254)	3.8% (1118)	4.4% (1239)	4.1% (1141)
Americas		19	5.4% (3860)	4.1% (3461)	4.5% (3147)	3.7% (2616)
Eastern Mediterranean		7	4.6% (830)	3.4% (825)	3.8% (691)	2.9% (701)
Europe		34	14.4% (2346)	13.3% (2226)	10.2% (2842)	10.4% (3006)
South-East Asia		6	1.5% (943)	0.8% (934)	2.0% (767)	1.5% (587)
Western Pacific		7	3.0% (7610)	2.9% (7727)	2.1% (7325)	6.6% (828)
Global		90	5.0% (16,843)	4.5% (16,291)	4.3% (16,011)	6.1% (8879)

[‡]From week 34 to week 41 2024

*Percent test positivity is calculated by dividing the number of SARS-CoV-2 detections by the number of specimens tested for SARS-CoV-2 and expressed in percentage. Data from previous weeks are updated continuously with adjustments received from countries.

COVID-19 Morbidity and Mortality trends

Figure 2. COVID-19 cases and global deaths by 28-day intervals reported by WHO Region, as of 13 October 2024 (A); 5 February to 13 October 2024 (B)**



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

At the regional level, the number of newly reported 28-day cases decreased or remained stable across four of the six WHO regions: the Western Pacific Region (-37%), the South-East Asia Region (-21%), the Region of the Americas (-5%), and the African Region (+4%); while case numbers increased in one WHO region: the European Region (+21%). The number of newly reported 28-day deaths decreased across four regions: the African Region (-100%), the Western Pacific Region (-78%), the Region of the Americas (-26%), and the European Region (-10%); while death numbers increased in the South-East Asia Region (+62%).

At the country level, the highest numbers of new 28-day cases were reported from the Russian Federation (135 344 new cases; +41%), Poland (36 669 new cases; +1%), Czechia (28 784 new cases; +218%), Greece (19 408 new cases; +8%), and the United Kingdom (14 597 new cases; +62%). The highest numbers of new 28-day deaths were reported from the United States of America (3657 new deaths; -26%), Sweden (200 new deaths; -3%), the Russian Federation (138 new deaths; +23%), Greece (105 new deaths; -27%), Czechia (87 new deaths; +181%), and Denmark (57 new deaths; -7%).

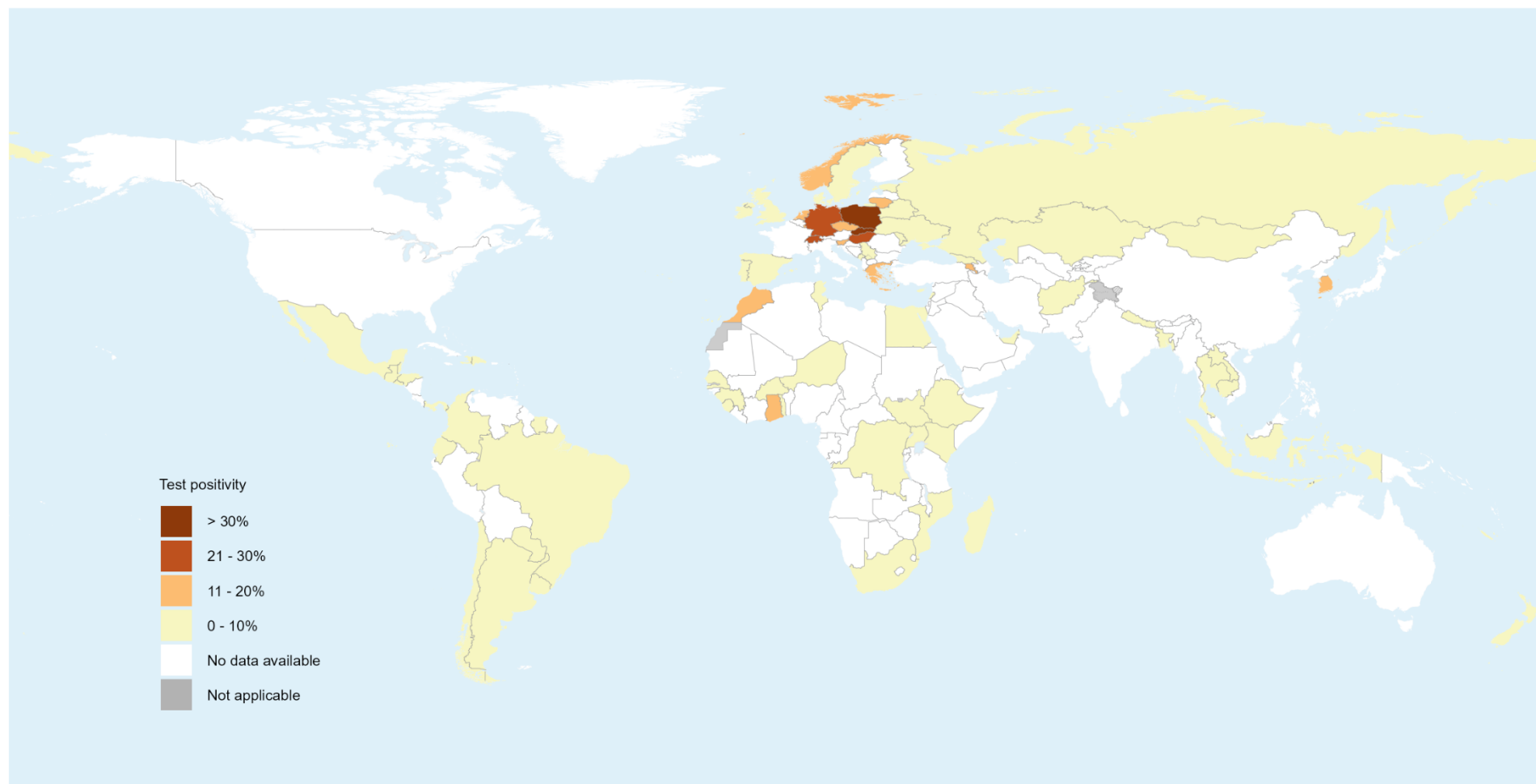
Table 2. Newly reported and cumulative COVID-19 confirmed cases and deaths by WHO Region, as of 13 October 2024**

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 (%)	Countries reporting cases in the last 28 days	Countries reporting deaths in the last 28 days
Europe	312 177 (96%)	21%	280 435 645 (36%)	803 (18%)	-10%	2 276 440 (32%)	36/61 (59%)	19/61 (31%)
Western Pacific	7 237 (2%)	-37%	208 577 300 (27%)	29 (1%)	-78%	421 551 (6%)	7/35 (20%)	2/35 (6%)
Americas	4 565 (1%)	-5%	193 304 515 (25%)	3 710 (81%)	-26%	3 037 411 (43%)	20/56 (36%)	7/56 (12%)
South-East Asia	2 068 (1%)	-21%	61 320 053 (8%)	21 (0%)	62%	808 848 (11%)	5/10 (50%)	2/10 (20%)
Africa	535 (0%)	4%	9 583 785 (1%)	0 (0%)	-100%	175 531 (2%)	27/50 (54%)	0/50 (<1%)
Eastern Mediterranean	N/A (0%)	N/A	23 417 911 (3%)	N/A (0%)	N/A	351 975 (5%)	0/22 (<1%)	0/22 (<1%)
Global	326 582 (100%)	18%	776 639 973 (100%)	4 563 (100%)	-25%	7 071 769 (100%)	95/234 (41%)	30/234 (13%)

*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](#)

Figure 3. SARS-CoV-2 percent test positivity from sentinel sites during the week ending on 13 October 2024

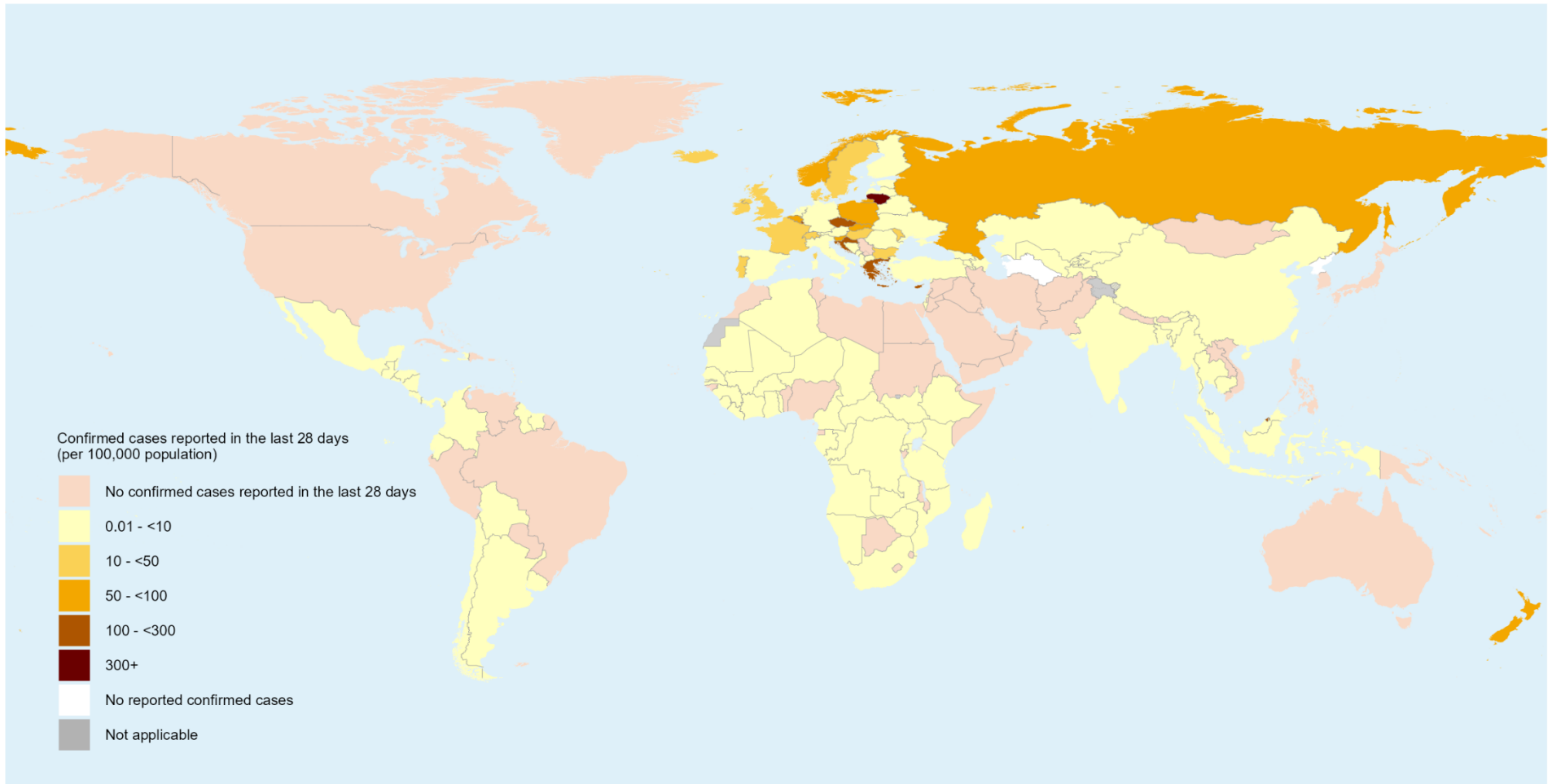


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Data Source: World Health Organization, Global Influenza Surveillance and Response System (GISRS)
Map Production: WHO Health Emergencies Programme
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Source: *Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet; WHO Global Influenza Programme*

Figure 4. Number of confirmed COVID-19 cases reported over the last 28 days per 100 000 population, as of 13 October 2024**

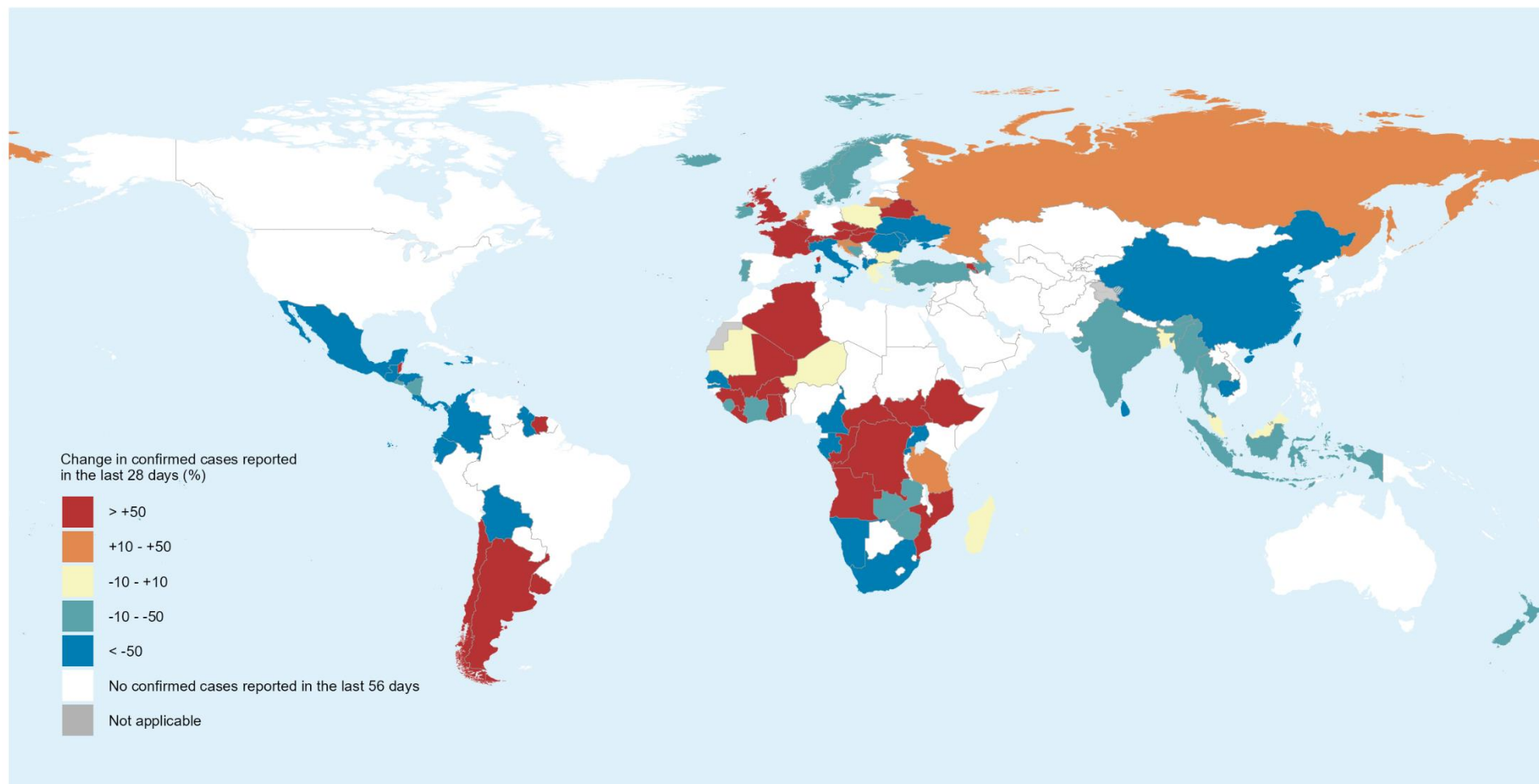


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Data Source: World Health Organization, United Nations Population Division, EuroStat
Map Production: WHO Health Emergencies Programme
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**See [Annex 1: Data, table, and figure notes](#)

Figure 5. Percentage change in confirmed COVID-19 cases over the last 28 days relative to the previous 28 days, as of 13 October 2024**

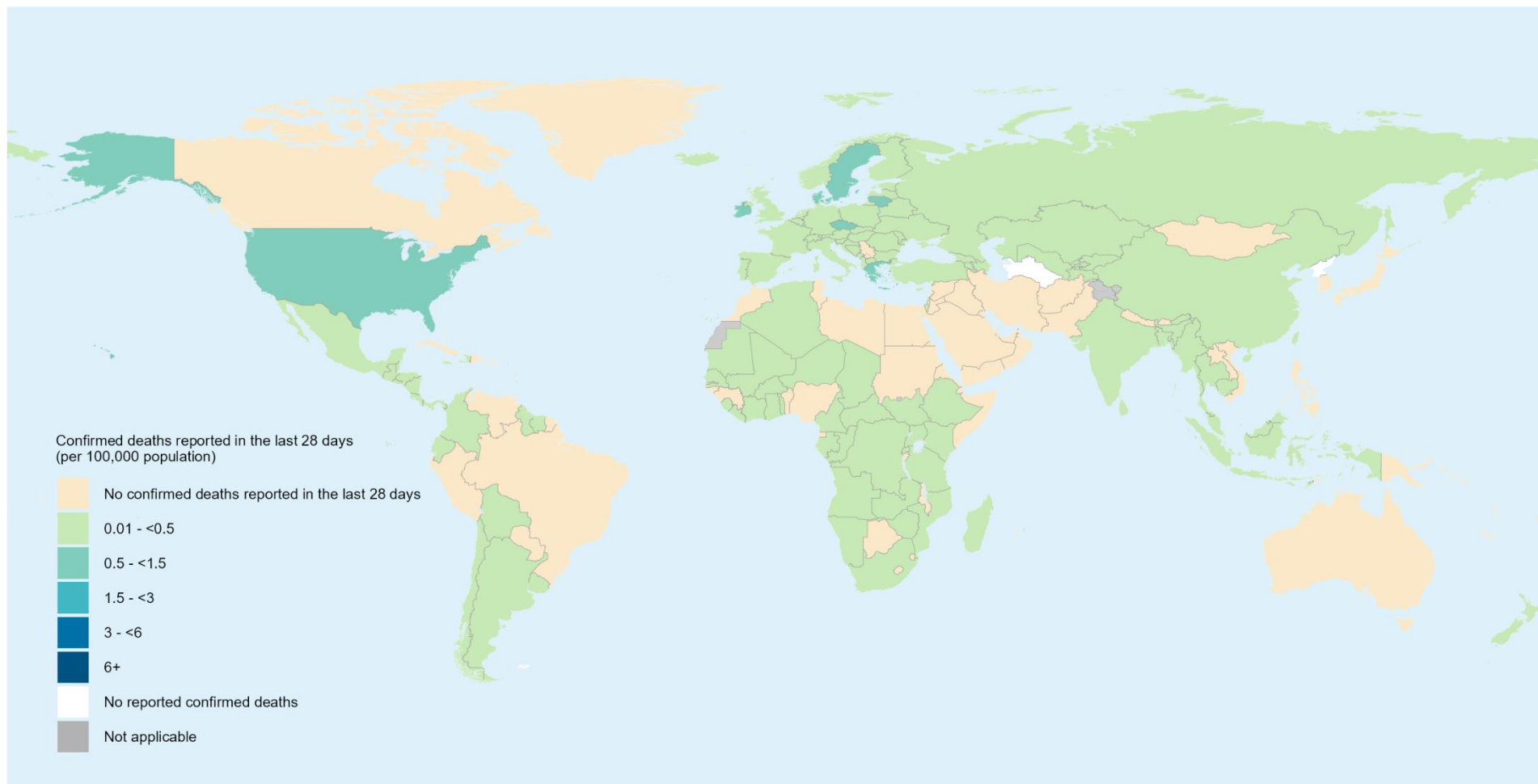


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Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
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**See [Annex 1: Data, table, and figure notes](#)

Figure 6. Number of COVID-19 deaths reported over the last 28 days per 100 000 population, as of 13 October 2024 **

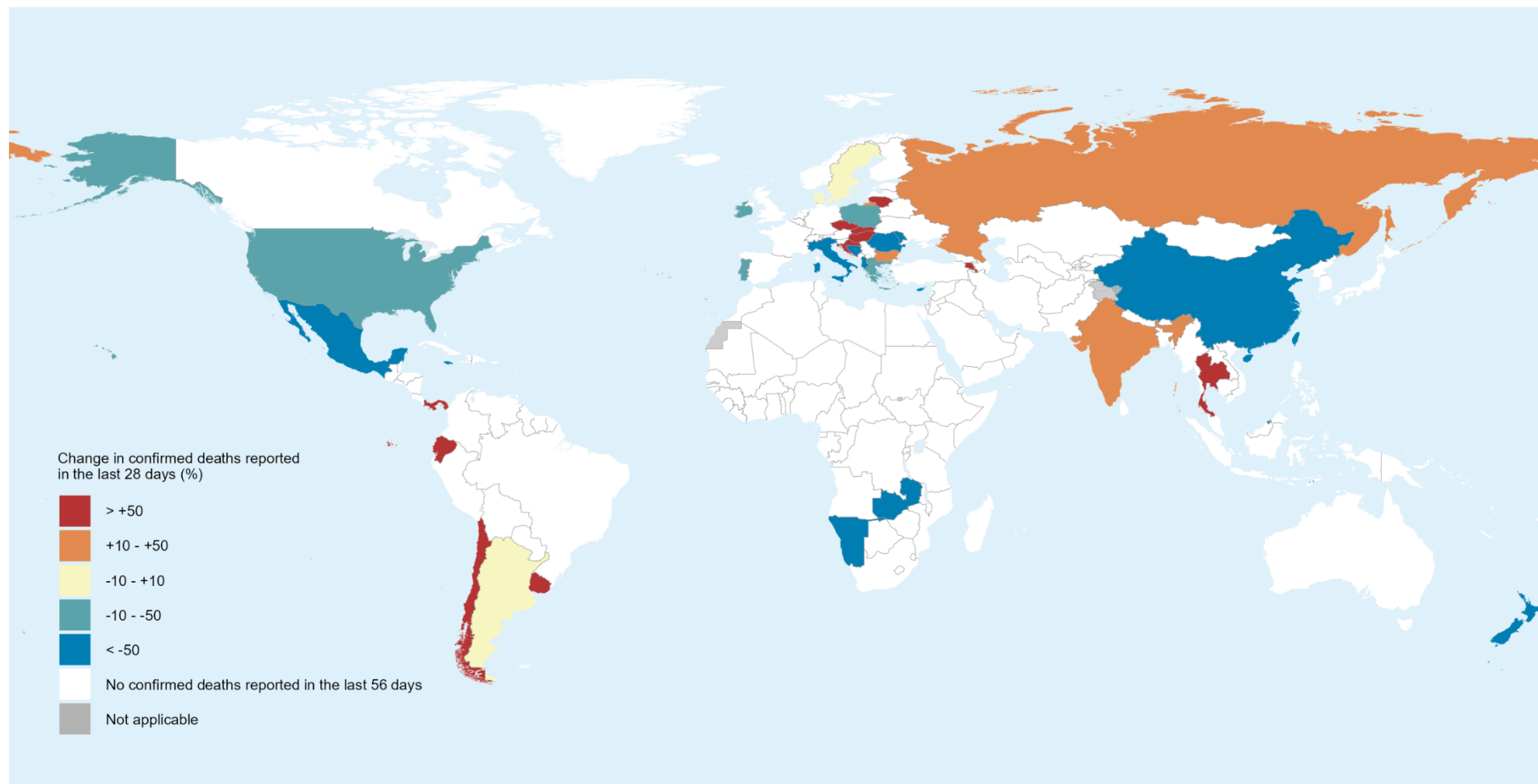


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Data Source: World Health Organization, United Nations Population Division, EuroStat
Map Production: WHO Health Emergencies Programme
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**See [Annex 1: Data, table, and figure notes](#)

Figure 7. Percentage change in confirmed COVID-19 deaths over the last 28 days relative to the previous 28 days, as of 13 October 2024**



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Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
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**See [Annex 1: Data, table, and figure notes](#)

Hospitalizations and ICU admissions

At the global level, during the 28 days from 16 September to 13 October 2024, a total of 24 725 new hospitalizations and 823 new ICU admissions were reported from 43 and 30 countries, respectively. Among the countries reporting these data consistently over the current and past reporting period, there was overall a 9% and 39% decrease in new hospitalizations and ICU admissions, respectively, compared to the previous 28 days (19 August to 15 September 2024) (Tables 3 and 4). The European Region reported an increase in both hospitalization and ICU admissions. Note that the absence of reported data from some countries to WHO does not imply that there are no COVID-19-related hospitalizations in those countries. 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.

New hospitalizations

During the 28-day period from 16 September to 13 October 2024, 43 (18%) countries reported data to WHO on new hospitalizations at least once (Table 3). The Region of the Americas had the highest proportion of countries reporting data on new hospitalizations (19 countries; 34%), followed by the European Region (16 countries; 26%), South-East Asia Region (two countries; 20%), the Western Pacific Region (three countries; 9%), and the African Region (three countries; 6%). No country in the Eastern Mediterranean Region shared data during the period. The number of countries that consistently¹¹ reported new hospitalizations for the period was 38 (16%) (Table 3).

Among the 38 countries consistently reporting new hospitalizations, 7 (18%) countries registered an increase of 20% or greater in hospitalizations during the past 28 days compared to the previous 28-day period: Czechia (986 vs 221; >100%), Hungary (411 vs 143; >100%), Chile (101 vs 55; 84%), Ukraine (14 vs 8; 75%), Argentina (694 vs 407; 71%), Slovakia (321 vs 236; 36%), and Uruguay (53 vs 40; 33%). The highest numbers of hospitalizations were reported in the Russian Federation (10 178; 7%), the United States of America (4779; -16%), and Greece (2503; -6%).

¹¹ “Consistently” as used here refers to countries that submitted data for new hospitalizations and intensive care unit admissions for the eight consecutive weeks (for the reporting and comparison period).

Table 3. Number of new hospitalization admissions reported by WHO regions, 16 September to 13 October 2024 compared to 19 August to 15 September 2024

Region	Countries reported at least once in the past 28 days		Countries reported consistently in the past and previous 28 days*		
	Number of countries (percentage)**	Number of new hospitalizations	Number of countries (percentage)**	Number of new hospitalizations	Percent change in new hospitalizations
Africa	3/50 (6%)	5	3/50 (6%)	5	-62%
Americas	19/56 (34%)	7155	18/56 (32%)	7155	-31%
Eastern Mediterranean	0/22 (<1%)	N/A ⁺	0/22 (<1%)	N/A	N/A
Europe	16/61 (26%)	15 786	12/61 (20%)	15 307	10%
South-East Asia	2/10 (20%)	1159	2/10 (20%)	1159	-20%
Western Pacific	3/35 (11%)	620	3/35 (9%)	620	-17%
Global	43/234 (18%)	24 725	38/234 (16%)	24 246	-9%

*Percent change is calculated for countries reporting consistently both in the past 28 days and the previous 28 days (comparison period).

**Number of countries reported / total number of countries in the region (percentage of reporting).

⁺ N/A represents not available or not applicable.

New ICU admissions

Across the four WHO regions, in the past 28 days, a total of 30 (13%) countries reported data to WHO on new ICU admissions at least once (Table 4). The Region of the Americas had the highest proportion of countries reporting data on new ICU admissions (12 countries; 21%), followed by the European Region (11 countries; 18%), the Western Pacific Region (four countries; 11%), and the African Region (three countries; 6%). No country from the South-East Asia Region or the Eastern Mediterranean Region shared data during the period. The proportion of countries that consistently reported new ICU admissions for the period was 11% (25 countries).

Among the 25 countries consistently reporting new ICU admissions, seven (28%) countries showed an increase of 20% or greater in new ICU admissions during the past 28 days compared to the previous 28-day period: Hungary (37 vs 8; >100%), Czechia (52 vs 22; >100%), Malaysia (6 vs 3; 100%), Slovakia (10 vs 5; 100%), Uruguay (7 vs 4; 75%), Ireland (14 vs 10; 40%), and Chile (8 vs 6; 33%). The highest numbers of ICU admissions were reported in Brazil (544; -47%), Czechia (52; >100%), Hungary (37; >100%).

Table 4. Number of new ICU admissions reported by WHO regions, 16 September to 13 October 2024 compared to 19 August to 15 September 2024

Region	Countries reported at least once in the past 28 days		Countries reported consistently in the past and previous 28 days*		
	Number of countries (percentage)**	Number of new ICU admissions	Number of countries (percentage)**	Number of new ICU admissions	Percent change in new ICU admissions
Africa	3/50 (6%)	0 [#]	3/50 (6%)	0	N/A
Americas	12/56 (21%)	577	11/56 (20%)	577	-49%
Eastern Mediterranean	0/22 (<1%)	N/A ⁺	N/A	N/A	N/A
Europe	11/61 (18%)	206	7/61 (11%)	185	38%
South-East Asia	0/10 (<1%)	N/A	N/A	N/A	N/A
Western Pacific	4/35 (11%)	40	4/35 (11%)	40	-27%
Global	30/234 (13%)	823	25/234 (11%)	802	-39%

*Percent change is calculated for countries reporting consistently both in the past 28 days and the previous 28 days (comparison period).

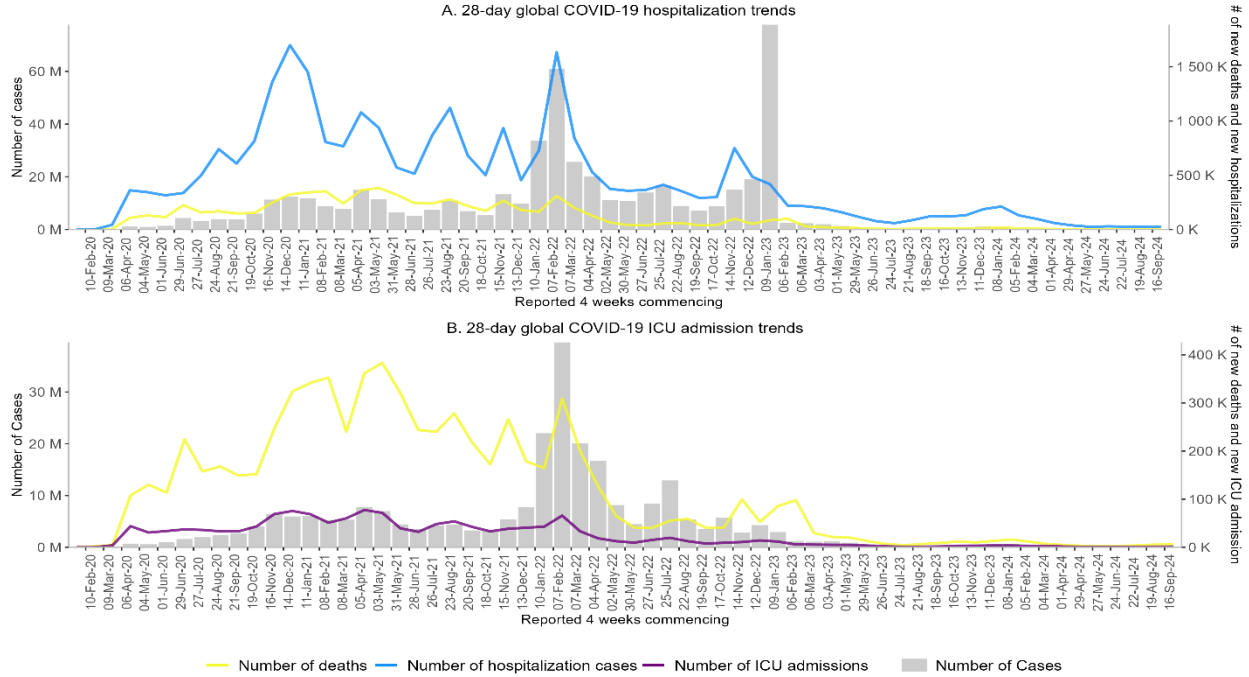
**Number of countries reported / total number of countries in the region (percentage of reporting).

⁺ N/A represents data not available or applicable.

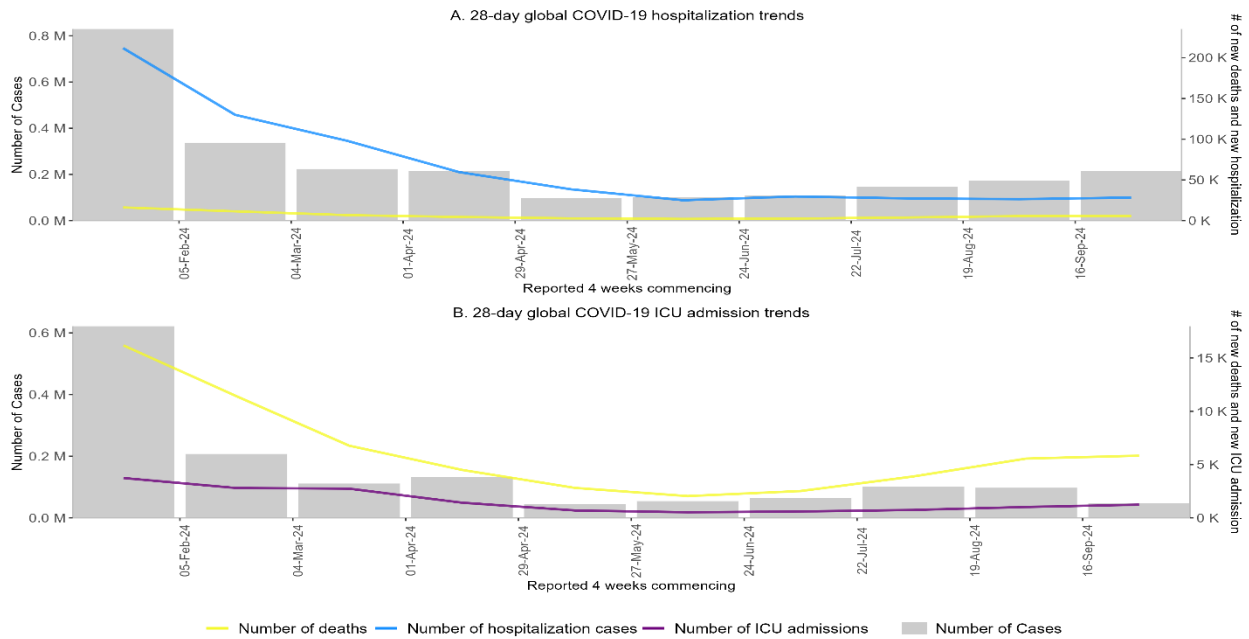
[#] WHO emphasizes the importance of maintaining reporting and encourages countries to report the absence of new admissions ("zero reporting") if there are no new hospital or ICU admissions during the week.

Figure 8. 28-day global COVID-19 hospitalization and ICU admission trends, from 10 February 2020 to 13 October 2024 (A); and from 5 February 2024 to 13 October 2024 (B)

A



B



Note: Recent weeks are subject to reporting delays and data might not be complete, thus the data should be interpreted with caution. Cases included in grey bars are only from countries reporting hospitalizations or ICU admissions, respectively.

Severity indicators

The incidence of ICU admissions per 1000 hospitalizations and the mortality rate per 1000 hospitalizations serve as critical indicators for monitoring the severity of COVID-19, especially since case-based surveillance is no longer systematically conducted. The ICU admissions per 1000 hospitalizations allow us to evaluate the number of patients requiring intensive care in relation to the total number of hospitalizations, while number of deaths per 1000 hospitalization allow us to monitor deaths occurring among those hospitalized.

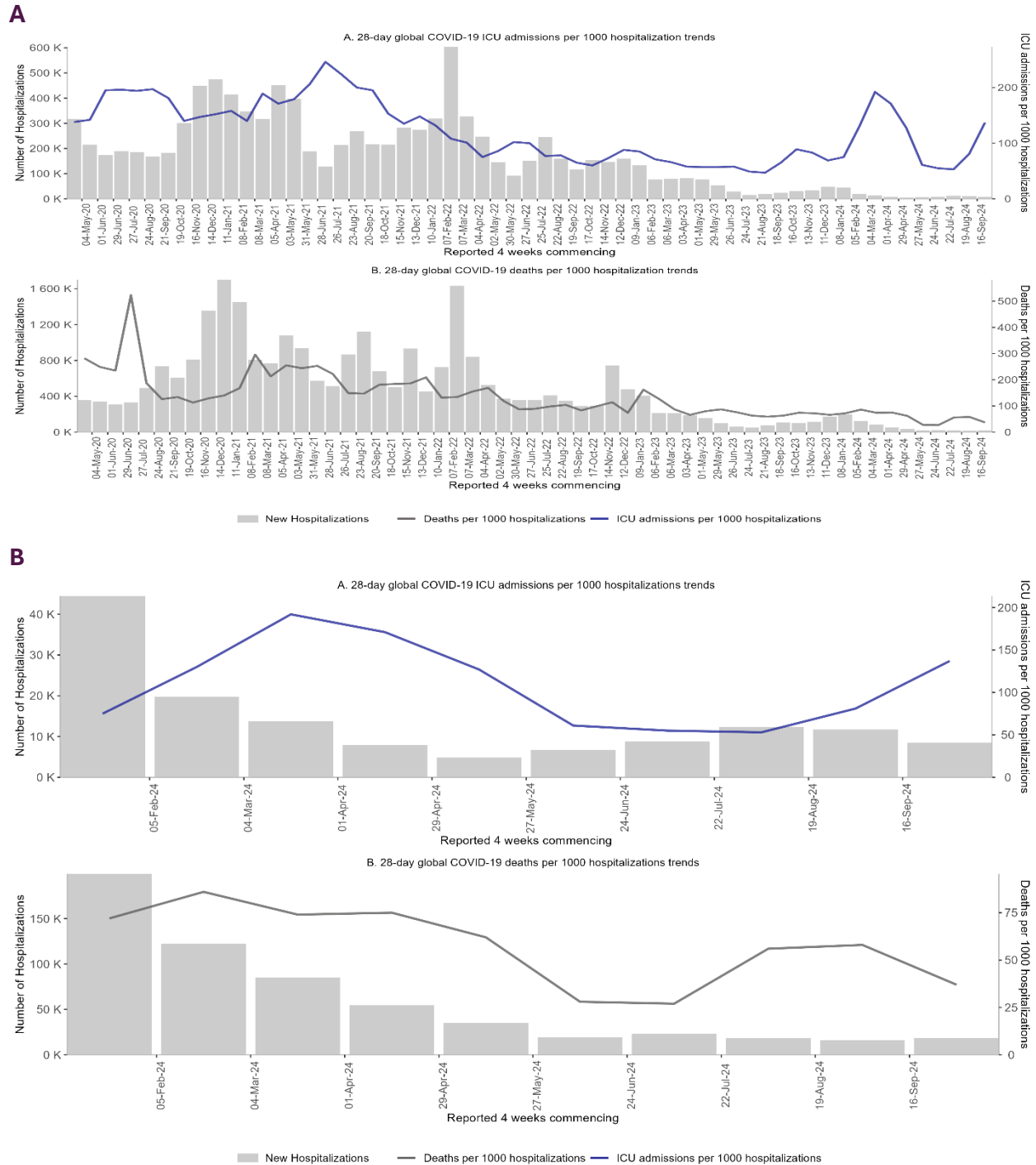
These indicators are subject to the same limitations mentioned in hospitalizations and ICU admissions section and their calculations are limited to the countries reporting all relevant data elements (hospitalizations, ICU admissions and deaths) in a given reporting period. It should be noted that there may be differences in reporting among countries. For instance, in some countries, hospitalization data may include ICU admissions, whereas in others, ICU admissions may be reported separately. Furthermore, it is important to consider that some deaths might have occurred outside of hospital facilities.

Overall, ICU admissions per 1000 hospitalizations have been decreasing since the peak in July 2021 when the rate was 245 per 1000 hospitalizations, dropping below 132 per 1000 hospitalizations at the beginning of 2022, and to less than 69 per 1000 hospitalizations by the end of 2023 (Figure 8). At the beginning of 2024, there was an increase in this rate, rising to above 191 per 1000 hospitalizations in March, and later declining to 137 per 1000 hospitalizations in mid-October 2024. Note that due to limited reporting this does not suggest a global increase in the rate of new hospitalizations requiring intensive care. The number of countries reporting both ICU admissions and hospitalizations continues to decline, and a downward trend of admissions is observed in most of the reporting countries (Table 3 and 4). The combination of these two factors facilitates the fluctuations in the global trend driven by only one or two countries.

The deaths per 1000 hospitalization showed a consistent decline from June 2021 when it reached 253 per 1000 hospitalizations to a low level of 59 per 1000 hospitalizations in August 2023. Since January 2024, the rate has continued to decline reaching 37 deaths per 1000 hospitalizations by mid-October 2024 (Figure 9).

Please note that the causes for these trends cannot be directly interpreted from these data, but likely include a combination of increases or decreases in infection-derived or vaccine-derived immunity, improvements in early diagnosis and clinical care, reduced strain on health systems, and other factors. It is not possible to infer a changed intrinsic virulence amongst newer SARS-CoV-2 variants from these data.

Figure 9. COVID-19 ICU per 1000 hospitalization and death per 1000 hospitalization, from 04 May 2020 to 13 October 2024 (A), and 5 February 2024 to 13 October 2024 (B)



Note: Recent weeks are subject to reporting delays and should not be interpreted as a declining trend. The ICU ratio figure is created from the data of the countries that reported both new hospitalizations and new ICU admissions. The death ratio figure is created from the data of the countries that reported both new hospitalization and new deaths.

Source: WHO COVID-19 Detailed Surveillance Dashboard

COVID-19 Vaccination Updates

For ease of reference, the vaccination updates from the prior edition remain unchanged. Data on third-quarter vaccinations across countries is presently being gathered.

On 23 September 2024, WHO published the COVID-19 Vaccination Insights Report analysing and presenting data covering the first and second quarters of 2024 (Q1/Q2 2024) (January-June). As of the end of Q2 2024, 16.6 million individuals were reported as having received a COVID-19 vaccine dose so far this year, from 79 MS containing 25% of the global population. Of those, 6.4 million individuals received a COVID-19 vaccine dose during quarter 2 2024. Among older adults, 9.4 million individuals were reported as having received a dose so far this year, across the 63 MS reporting on uptake in this group, corresponding to an uptake rate of 0.81%. This is 5.4 million more individuals than as of end of quarter 1. Among healthcare workers, 462 000 individuals were reported as having received a dose so far this year, across the 42 MS reporting on uptake in this group, corresponding to an uptake rate of 0.35%. This is 171.2K more individuals than as of end of quarter 1.

Table 5: COVID-19 vaccine uptake in select target groups during quarters 1 and 2 of 2024

Population group	Number of MS having reported at least once #	Quarter 1 uptake, January – March 2024 # (% of pop.)	Quarter 2 uptake, April – June 2024 # (% of pop.)	Cumulative 2024 uptake, January – June 2024 # (% of pop.)
Older adults	63	4.02M (0.34%)	5.42M (0.46%)	9.44M (0.81%)
Health and care workers	42	0.29M (0.22%)	0.17M (0.13%)	0.46M (0.35%)
All population groups ¹²	79	10.2M	6.37M	16.61M

Source: WHO-UNICEF electronic Joint Reporting Form COVID-19 module & WHO regional reporting systems.

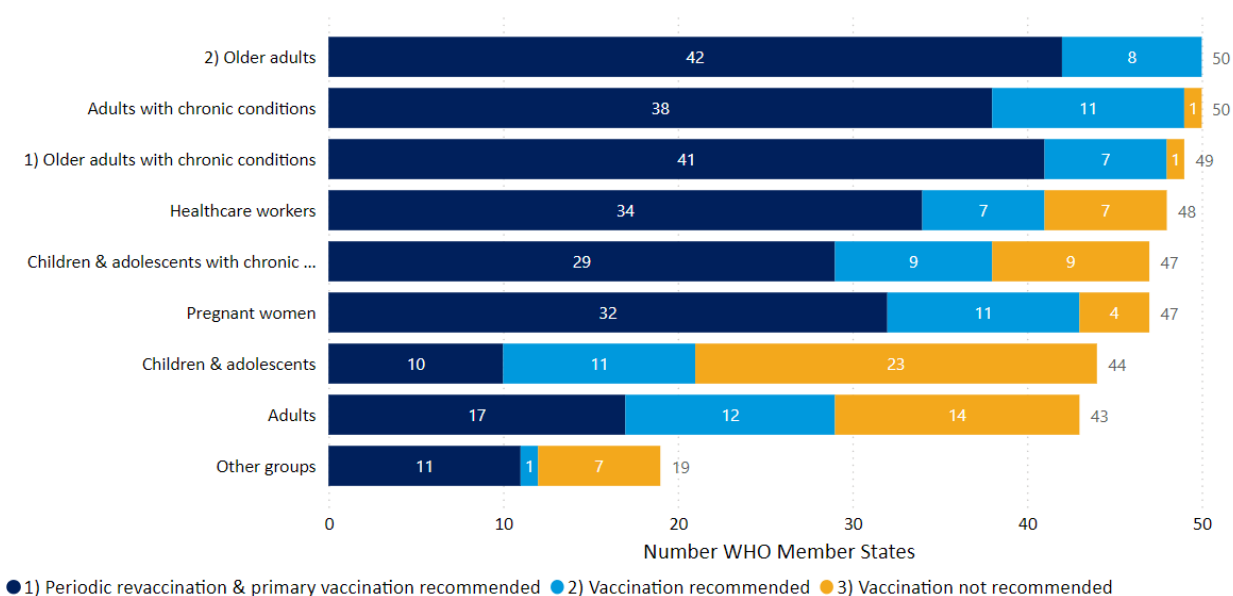
Strong variations in uptake are observed across regions and income strata in all population groups. Across all groups, uptake in the AMR and EUR regions and in high- and upper middle-income MS was greater than in other regions and income groups. In older adults, uptake in EUR (2.2%) and AMR (1.8%) was considerably more than in other regions, all between 0.0-0.3% uptake. Also in older adults, HICs had an uptake rate of 2.1%, as compared with 0.37% in LICs. In healthcare workers, again, uptake in AMR (1.07%) and EUR (0.14%) was more than in the other regions, all between 0.0 and 0.06% uptake. Uptake in healthcare workers varied between income groups, with UMICs and HICs featuring

¹² Uptake figures are not calculated for 'All population groups' given unknown denominator composition and poor denominator quality for many countries.

uptake rates of 0.57% and 0.3%, respectively, as compared with 0.2% and 0.04% in LICs and LMICs, respectively.

During Q2 2024, 74 WHO MS reported on current national COVID-19 vaccination policies for at least one population group. Among those 74 MS, 58 reported recommending periodic revaccination in at least one population group. Across target groups, older adults are most reported as being recommended to be periodically revaccinated against COVID-19. Adults with chronic conditions are also frequently targeted under national policies for repeated vaccination, with over half of responding MS reporting this. Children and adolescents, and adults were the groups most frequently not recommended for vaccination with 52% (23/44) and 33% (14/43) of responding MS reporting not administering doses to this group, respectively.

Figure 10: National policies on COVID-19 vaccination & periodic revaccination per population group, across reporting WHO Member States (74)



Source: WHO-UNICEF electronic Joint Reporting Form COVID-19 module & WHO regional reporting systems.

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

Geographic spread and prevalence

Globally, during the 28-day period from 16 September to 13 October 2024, 24 694 SARS-CoV-2 sequences were shared through GISAID. In comparison, in the two previous 28-day periods, there were 39 101 and 46 631 sequences shared, respectively. The data are retrospectively updated periodically to include sequences with earlier collection dates, so the number of submissions in a given time period may change.

WHO is currently tracking several SARS-CoV-2 variants, including:

- Variants of interest (VOIs): BA.2.86 and JN.1
- Variants under monitoring (VUMs): JN.1.7, JN.1.18, KP.2, KP.3, KP.3.1.1, LB.1 and XEC

Table 6 shows the number of countries reporting VOIs and VUMs, and their prevalence from epidemiological week 38 (16 to 22 September 2024) to week 41 (7 to 13 October 2024). The VOIs and VUMs exhibiting increasing trends are highlighted in yellow, those that have remained stable are highlighted in blue, and those with decreasing trends are highlighted in green.

Globally, JN.1 is the most reported VOI (now reported by 144 countries), accounting for 12.2% of sequences in week 41 and having declined from a prevalence of 17.2% in week 38 (Figure 12, Table 6). Its parent lineage, BA.2.86, continues to show very low prevalence, accounting for 0.1-0.2% of sequences in each week between week 38 and week 41 (Figure 12, Table 6).

The seven listed VUMs are all JN.1 descendent lineages. KP.3.1.1 and XEC (the most recently listed VUM) are showing increasing prevalence globally, albeit at different rates, while all the remaining are declining. KP.3 accounted for 10.9% of sequences in week 41 compared to 13.0% in week 38, KP.2 accounted for 2.9% of sequences in week 41 compared to 7.0% in week 38, there were no JN.1.7 sequences in week 41 compared to 0.1% in week 38, JN.1.18 accounted for 2.1% of sequences in week 41 compared to 1.9% in week 38, LB.1 accounted for 1.7% in week 41 compared to 4.6% in week 38, KP.3.1.1 accounted for 51.1% of sequences in week 41 compared to 45.2% in week 38, and XEC accounted for 17.2% of sequences in week 41 compared to 8.9% in week 38.

The dynamics of KP.3.1.1 and XEC show notable regional differences, for regions with sufficient data, as seen in Figure 11. Between weeks 38 and 41, KP.3.1.1 exhibited robust growth in the region of the Americas (10.6%) and the Western Pacific region (10.0%), and a slight decrease in the European region (1.8%). XEC had increases in all three regions: 8.5% in the region of the Americas, 7.0% in the European region, and 7.4% in the Western Pacific region.

With rates of testing and sequencing declining globally (Figure 12), it is increasingly challenging to estimate the severity impact of emerging SARS-CoV-2 variants. There are currently no reported laboratory or epidemiological reports indicating any association between VOIs/VUMs and increased disease severity. As shown in Figure 11 and Figure 12, low and unrepresentative levels of SARS-CoV-2 genomic surveillance continue to pose challenges in adequately assessing the variant landscape.

Table 6. Weekly prevalence of SARS-CoV-2 VOIs and VUMs, week 38 to week 41 of 2024

Lineage*	Countries [§]	Sequences [§]	2024-38	2024-39	2024-40	2024-41
VOIs						
BA.2.86	106	24398	0.2	0.1	-	-
JN.1	144	276377	17.2	15.3	14.0	12.2
VUMs						
JN.1.7	70	9608	0.1	0.1	0.1	-
KP.2	85	31333	7.0	4.7	3.5	2.9
KP.3	74	51545	13.0	12.1	11.7	10.9
KP.3.1.1	64	46878	45.2	49.1	50.1	51.1
JN.1.18	97	7321	1.9	1.9	1.4	2.1
LB.1	79	14966	4.6	3.5	2.8	1.7
XEC	42	5199	8.9	11.5	14.9	17.2
Recombinant	145	492509	1.9	1.8	1.6	1.8
Unassigned	66	4100	0.1	0.0	-	-
Others	92	12452	0.0	0.1	0.1	0.0

[§] Number of countries and sequences are since the emergence of the variants. Note, however, that this does not apply to recombinants, unassigned and the other variants categories, and only from 1 June 2023.

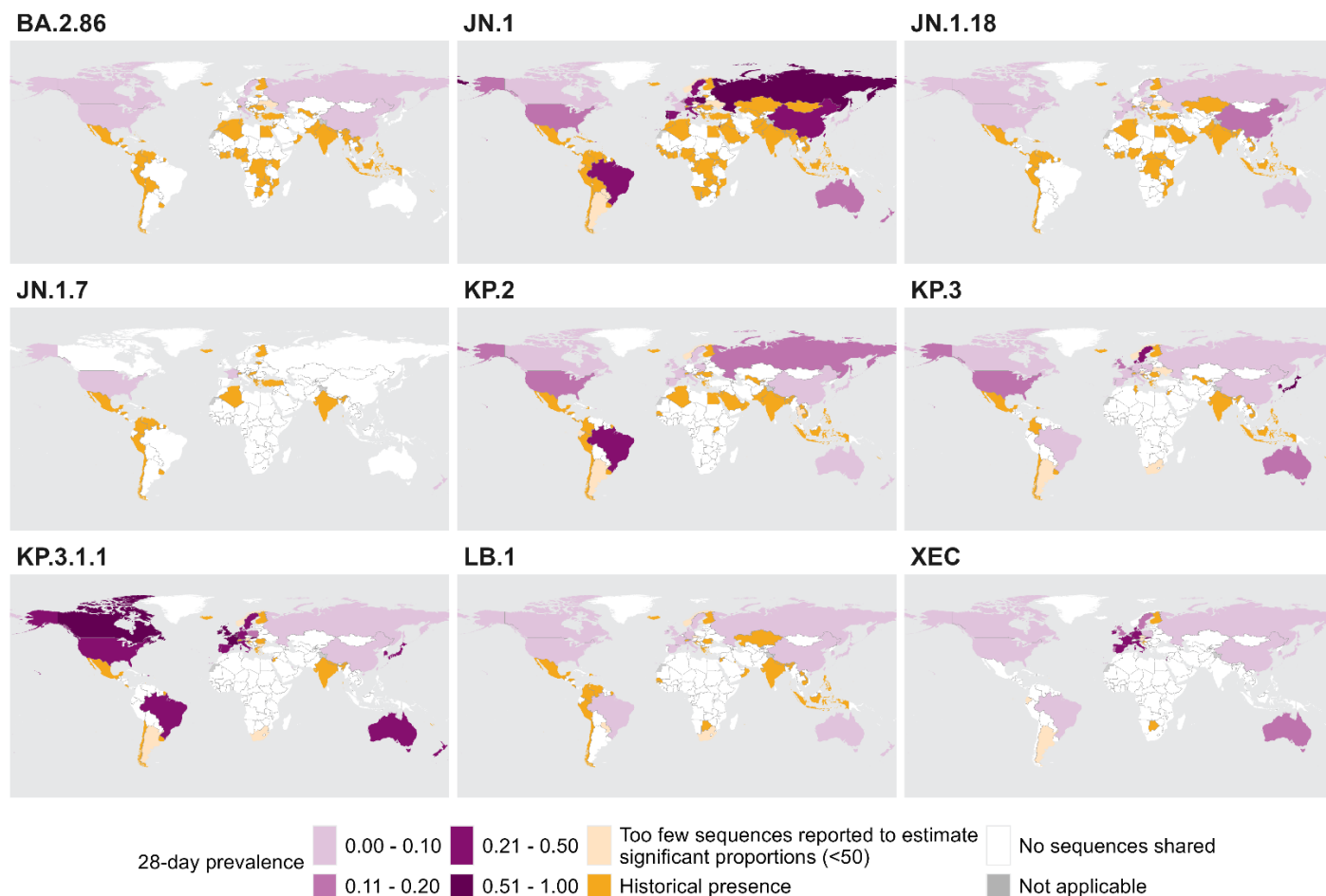
* Includes descendant lineages, except those individually specified elsewhere in the table. For example, JN.1* does not include JN.1.7, JN.1.18, KP.2, KP.3, KP.3.1.1 and LB.1 and Recombinant* does not include XEC.

Additional resources

- [Tracking SARS-CoV-2 Variants](#)
- [WHO statement on updated tracking system on SARS-CoV-2 variants of concern and variants of interest](#)
- [SARS-CoV-2 variant risk evaluation framework, 30 August 2023](#)
- [WHO JN.1 Updated Risk Evaluation, 9 February 2024](#)
- [WHO BA.2.86 Initial Risk Evaluation, 21 November 2023](#)

Figure 11. Global 28-day prevalence of VOIs (BA.2.86 and JN.1) and VUMs (JN.1.18, JN.1.7, KP.2, KP.3, KP.3.1.1, LB.1, and XEC), 16 September to 13 October 2024*

Global 28-day prevalence of VOIs and VUMs as of 13 October, 2024



* Reporting period to account for delay in sequence submission to GISAID.

+ Historical presence indicates countries previously reporting sequences of VOIs and VUMs but have not been reported within the period from 19 August to 15 September 2024

Figure 12. The distribution of SARS-CoV-2 variants in available sequence data from different time periods

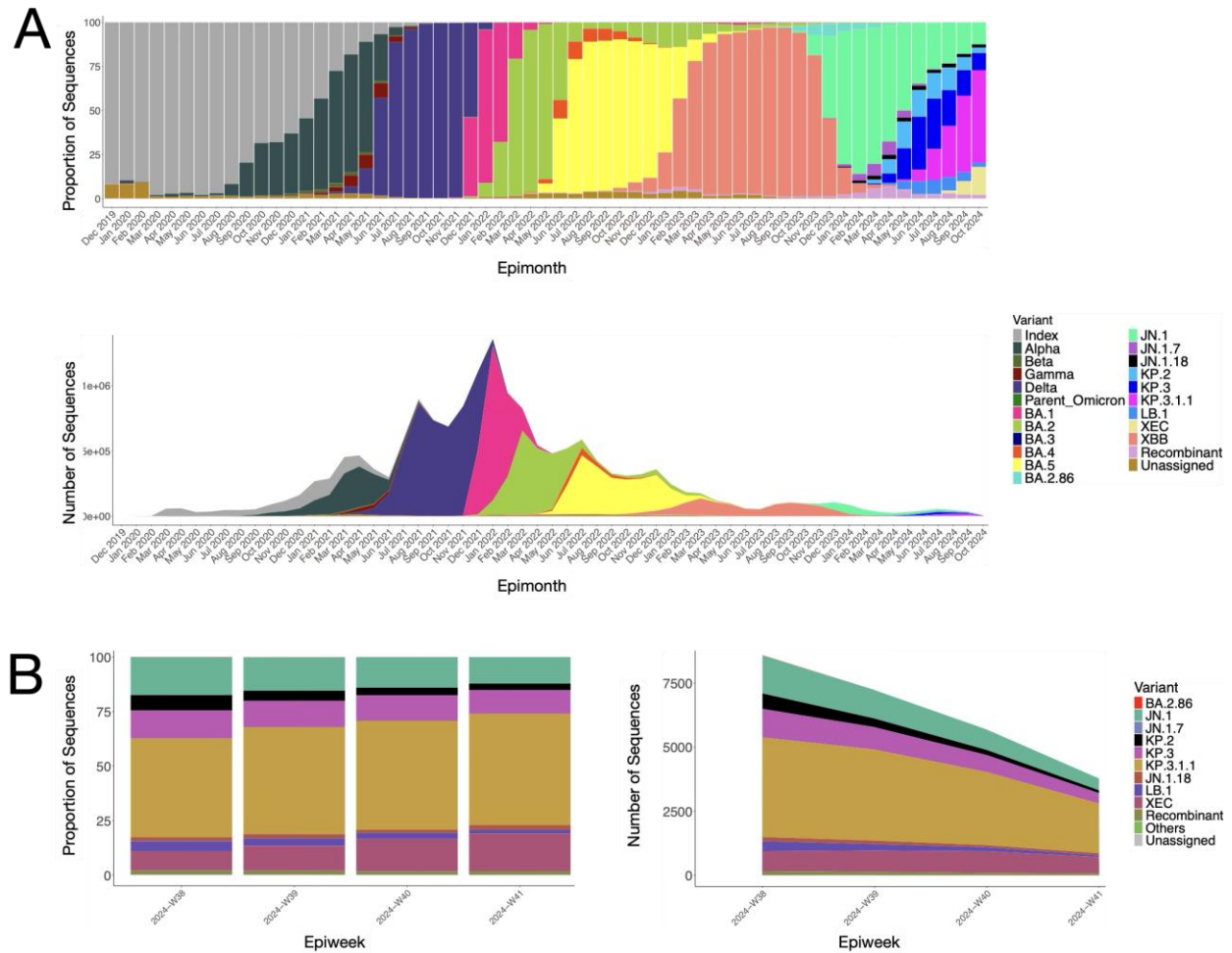


Figure 12. (A) The proportion (top panel) and number (bottom panel) of sequences belonging to each major SARS-CoV-2 variant in each month since the start of the pandemic. **(B)** The proportion (left panel) and number (right panel) of sequences belonging to each SARS-CoV-2 variant in each week from 16 September to 13 October 2024. The variants shown include all descendent lineages, except for the descendent lineage(s) that are listed separately, for example KP.3 includes all the lineages that descend from KP.3 with the exception of KP.3.1.1 and its descendent sublineages that are instead included within KP.3.1.1. The *Unassigned* category includes lineages pending for a PANGO lineage name designation, *Recombinant* includes all SARS-CoV-2 recombinant lineages not listed here, and the *Other* category includes lineages that are assigned but not listed here. Source: SARS-CoV-2 sequence data and metadata from GISAID, from 16 September to 13 October 2024, downloaded on 31st October 2024.

WHO regional overviews

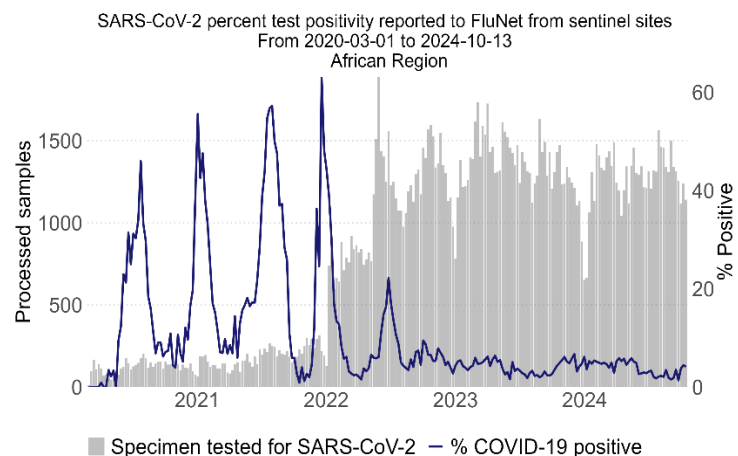
SAR-CoV-2 test positivity from sentinel sites and morbidity and mortality trends

African Region

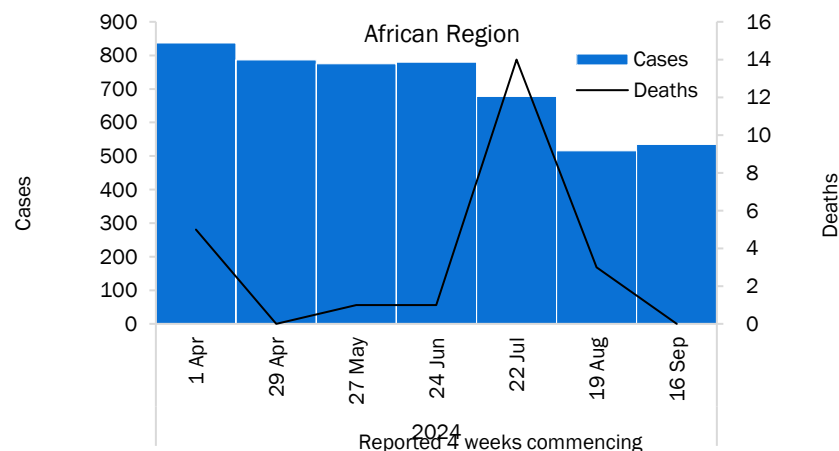
The SARS-CoV-2 weekly percent test positivity from sentinel sites in the African Region changed from 1.4% to 4.1% across 17 countries who reported at least once during the four-week period. Five countries reported an increase of more than 2.5% in percent test positivity during the four-week reporting period: Ghana (from 1.2% to 12.6%), Burkina Faso (from 0% to 6.2%), Democratic Republic of the Congo (from 0% to 4.6%), Mozambique (from 0% to 3.1%), and South Sudan (from 3.2% to 5.9%). One country showed elevated SARS-CoV-2 activity (10% or more) in the final week: Ghana (13%). During the reporting period, the weekly average number of specimens tested was 1188.

The African Region reported over 535 new cases, a 4% increase 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 South Sudan (17 vs four new cases; >100%), Ethiopia (13 vs four new cases; >100%), Guinea (seven vs three new cases; >100%), Ghana (83 vs 36 new cases; >100%), Algeria (14 vs seven new cases; +100%), and the United Republic of Tanzania (nine vs seven new cases; +29%). The highest numbers of new cases were reported from Mauritius (324 new cases; 25.5 new cases per 100 000; -3%), Ghana (83 new cases; <1 new case per 100 000; >100%), and South Sudan (17 new cases; <1 new case per 100 000; >100%).

The number of new 28-day deaths in the Region decreased by 100% as compared to the previous 28-day period, with no new deaths reported. No deaths have been reported during the reporting period.



Source: Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet; WHO



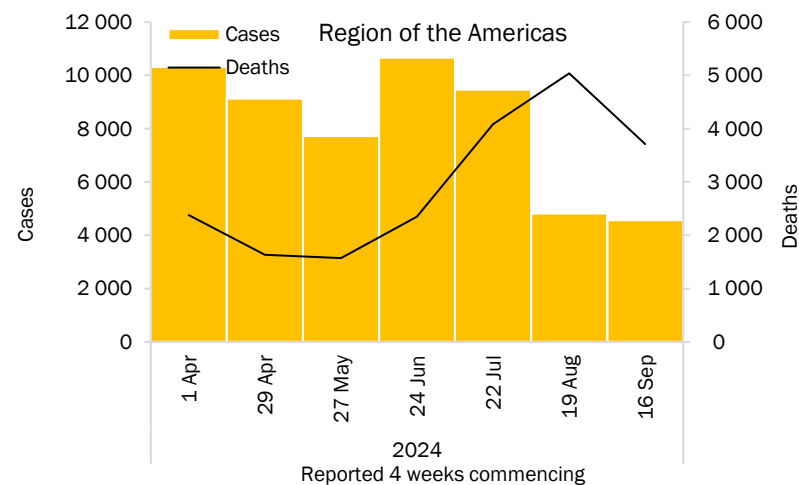
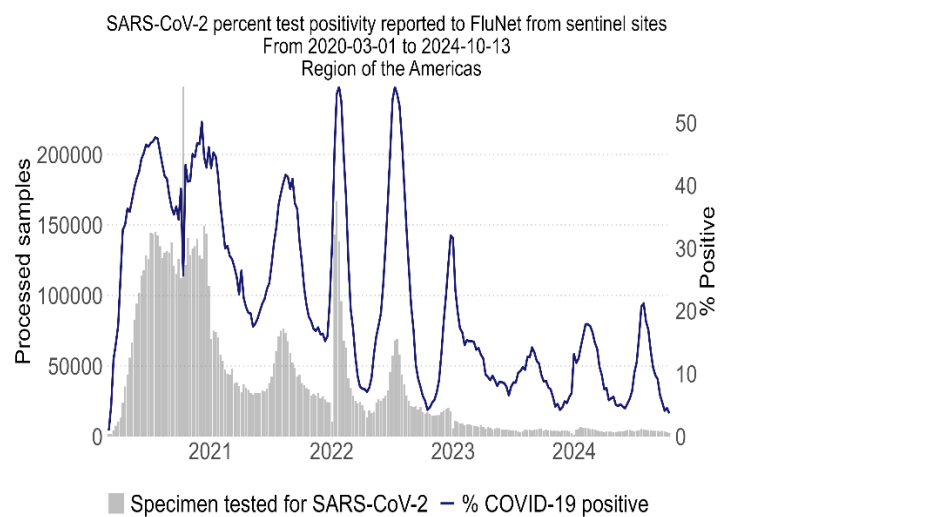
Updates from the [African Region](#)

Region of the Americas

The SARS-CoV-2 weekly percent test positivity from sentinel sites in the Region of the Americas changed from 5.4% to 4.5% across 19 countries who reported at least once during the four-week period. Three countries reported an increase of more than 2.5% in percent test positivity during the four-week reporting period: Saint Vincent and the Grenadines (from 0% to 7.7%), Chile (from 1.5% to 6.3%), and Argentina (from 2.9% to 7.0%). No country showed elevated SARS-CoV-2 activity (10% or more) in the final week. During the reporting period, the weekly average number of specimens tested was 3271.

The Region of the Americas reported over 4565 new cases, a 5% decrease as compared to the previous 28-day period. 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 Argentina (2 301 vs 1 081 new cases; >100%), Uruguay (143 vs 69 new cases; >100%), and Chile (1 073 vs 679 new cases; +58%). The highest numbers of new cases were reported from Argentina (2301 new cases; 5.1 new cases per 100 000; +113%), Chile (1073 new cases; 5.6 new cases per 100 000; +58%), and Colombia (351 new cases; <1 new case per 100 000; -63%).

The number of new 28-day deaths in the Region decreased by 26% as compared to the previous 28-day period, with 3710 new deaths reported. The highest numbers of new deaths were reported from the United States of America (3657 new deaths; 1.1 new deaths per 100 000; -26%), Chile (20 new deaths; <1 new death per 100 000; +67%), and Mexico (17 new deaths; <1 new death per 100 000; -73%).



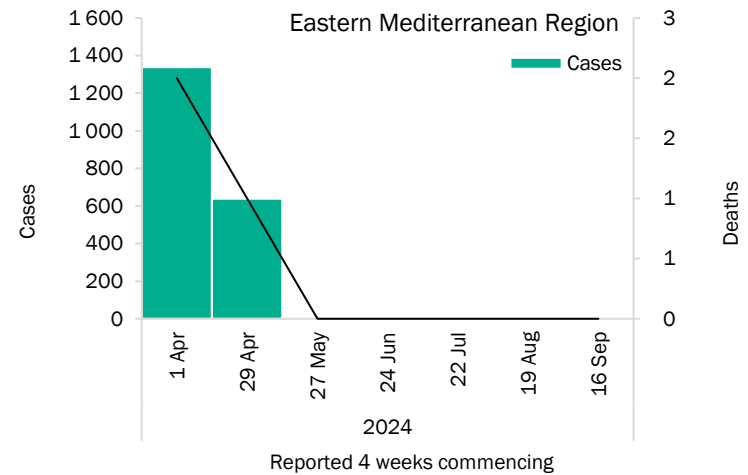
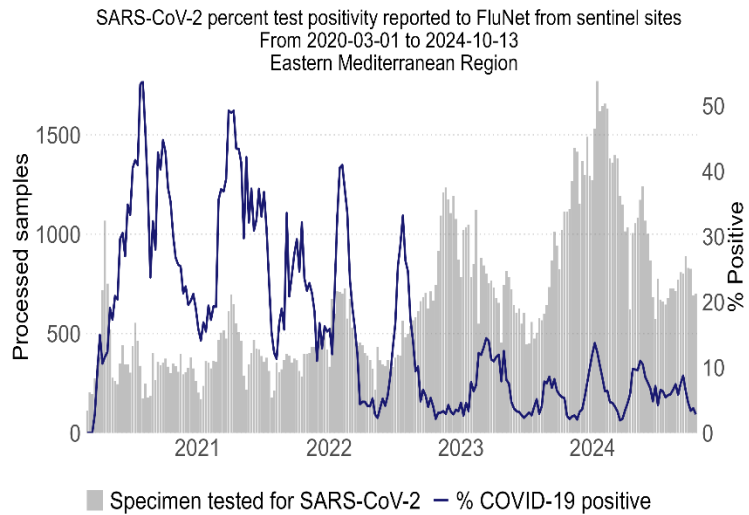
Source: Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet; WHO

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

Eastern Mediterranean Region

The SARS-CoV-2 weekly percent test positivity from sentinel sites in the Eastern Mediterranean Region changed from 4.6% to 2.9% across 7 countries who reported at least once during the four-week period. One country reported an increase of more than 2.5% in percent test positivity during the four-week reporting period: Lebanon (from 0% to 6.25%). One country showed elevated SARS-CoV-2 activity (10% or more) in the final week: Morocco (11%). During the reporting period, the weekly average number of specimens tested was 762.

The Eastern Mediterranean Region did not report data for cases and deaths during this period.



Source: Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet; WHO

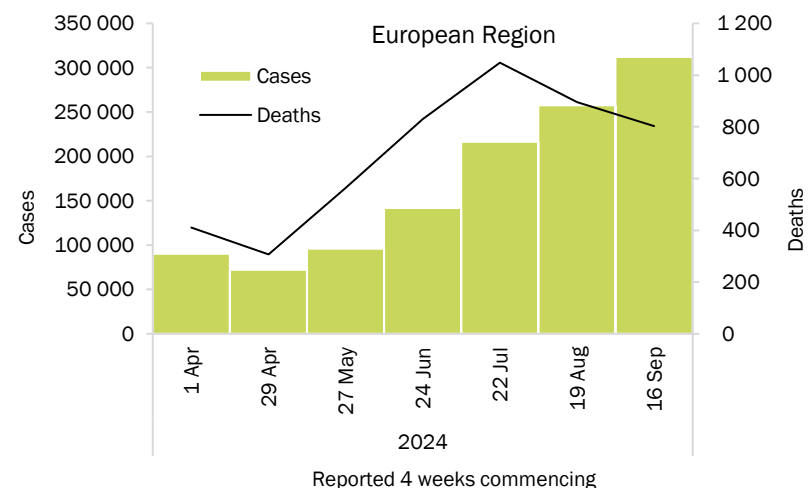
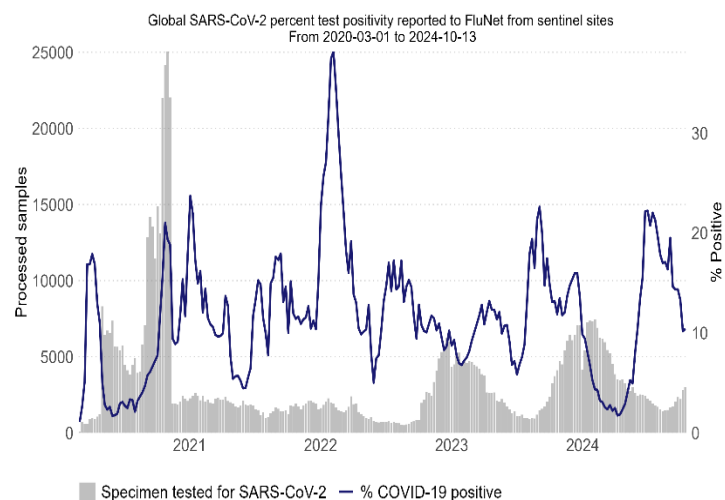
Updates from the [Eastern Mediterranean Region](#)

European Region

The SARS-CoV-2 weekly percent test positivity from sentinel sites in the European Region changed from 14.4% to 10.4% across 34 countries who reported at least once during the four-week period. Four countries reported an increase of more than 2.5% in percent test positivity during the four-week reporting period: Switzerland (from 13.3% to 30.8%), Slovenia (from 10% to 18.2%), Germany (from 16.4% to 21.8%), and Norway (from 9.1% to 12.4%). Fourteen countries showed elevated SARS-CoV-2 activity (10% or more) in the final week: Slovakia (75%), Poland (50%), Switzerland (31%), Hungary (28%), Germany (22%), Lithuania (19%), Slovenia (18%), Netherlands (18%), Luxembourg (17%), Greece (16%), Armenia (13%), Czechia (12%), Norway (12%), and Estonia (11%). During the reporting period, the weekly average number of specimens tested was 2605.

The European Region reported over 312 000 new cases, a 21% increase as compared to the previous 28-day period. Fourteen (23%) 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 Armenia (219 vs 39 new cases; >100%), followed by Austria (225 vs 61 new cases; >100%), Slovakia (3 236 vs 993 new cases; >100%), Czechia (28 784 vs 9 050 new cases; >100%), Hungary (3 108 vs 1 179 new cases; >100%), among others. The highest numbers of new cases were reported from the Russian Federation (135 344 new cases; 92.7 new cases per 100 000; +41%), Poland (36 669 new cases; 96.6 new cases per 100 000; +1%), and Czechia (28 784 new cases; 269.2 new cases per 100 000; +218%).

The number of new 28-day deaths in the Region decreased by 10% as compared to the previous 28-day period, with 803 new deaths reported. The highest numbers of new deaths were reported from Sweden (200 new deaths; 1.9 new deaths per 100 000; -3%), the Russian Federation (138 new deaths; <1 new death per 100 000; +23%), and Greece (105 new deaths; 1 new death per 100 000; -27%).



Source: Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet; WHO

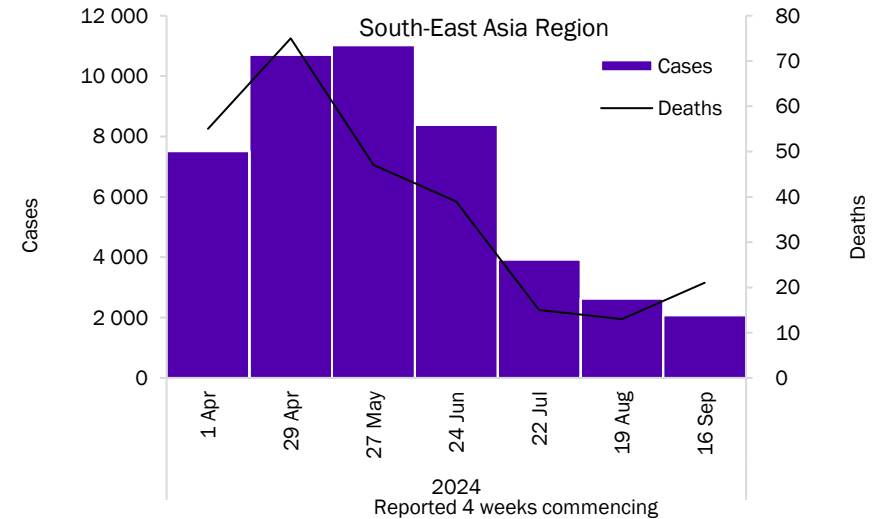
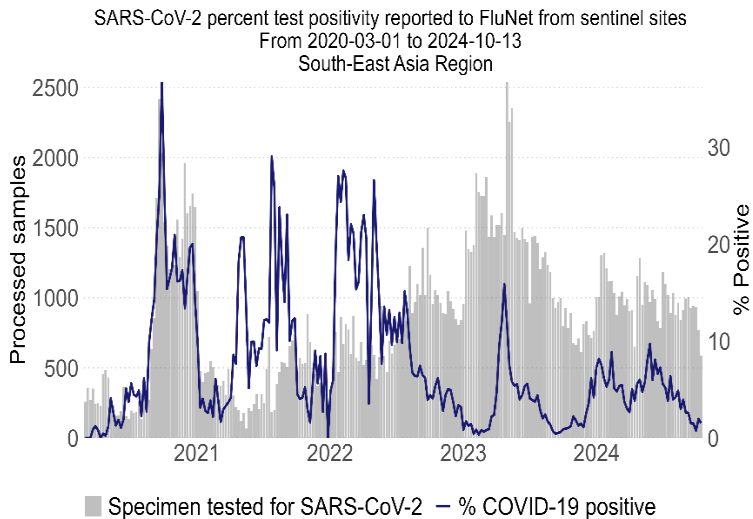
Updates from the [European Region](#)

South-East Asia Region

The SARS-CoV-2 weekly percent test positivity from sentinel sites in the South-East Asia Region changed from 1.5% to 2.0% across 6 countries who reported at least once during the four-week period. No country reported an increase of more than 2.5% in percent test positivity during the four-week reporting period. No country showed elevated SARS-CoV-2 activity (10% or more) in the final week. During the reporting period, the weekly average number of specimens tested was 808.

The South-East Asia Region reported over 2068 new cases, a 21% 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 Thailand (1159 new cases; 1.7 new cases per 100 000; -20%), India (721 new cases; <1 new case per 100 000; -21%), and Myanmar (103 new cases; <1 new case per 100 000; -39%).

The number of new 28-day deaths in the Region increased by 62% as compared to the previous 28-day period, with 21 new deaths reported. The highest numbers of new deaths were reported from India (13 new deaths; <1 new death per 100 000; +44%), and Thailand (8 new deaths; <1 new death per 100 000; +100%).



Source: [Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet](#); WHO

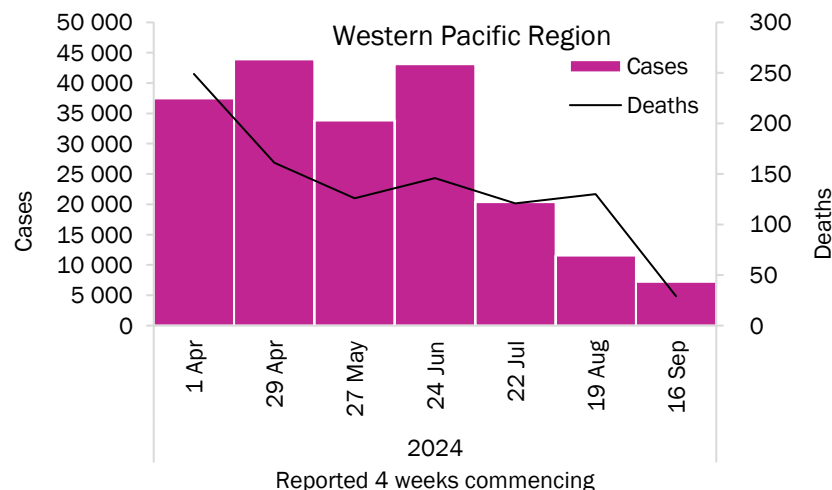
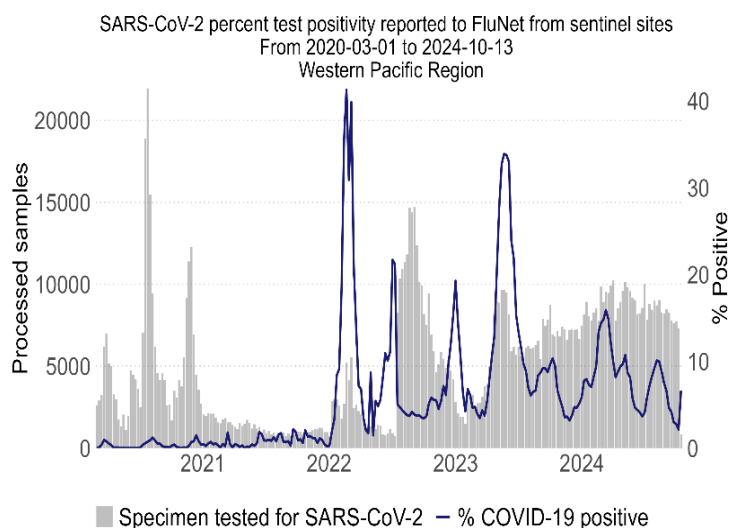
Updates from the [South-East Asia Region](#)

Western Pacific Region

The SARS-CoV-2 weekly percent test positivity from sentinel sites in the Western Pacific Region changed from 3.0% to 6.6% across 7 countries who reported at least once during the four-week period. Three countries reported an increase of more than 2.5% in percent test positivity during the four-week reporting period: New Caledonia (from 4.4% to 10.9%), Singapore (from 4.5% to 7.9%), and New Zealand (from 2.3% to 5.3%). Two countries showed elevated SARS-CoV-2 activity (10% or more) in the final week: Republic of Korea (11%) and New Caledonia (11%). During the reporting period, the weekly average number of specimens tested was 5873.

The Western Pacific Region reported over 7237 new cases, a 37% 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 New Zealand (3282 new cases; 68.1 new cases per 100 000; -32%), Malaysia (2768 new cases; 8.6 new cases per 100 000; 0%), and China (707 new cases; <1 new case per 100 000; -79%).

The number of new 28-day deaths in the Region decreased by 78% as compared to the previous 28-day period, with 29 new deaths reported. The highest numbers of new deaths were reported from China (15 new deaths; <1 new death per 100 000; -55%), and New Zealand (14 new deaths; <1 new death per 100 000; -85%).



Source: Influenza and SARS-CoV-2 surveillance data from GISRS reported to FluNet; WHO

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. Some countries (e.g., USA) are only reporting deaths and hospitalizations but not cases or vice versa and they might not necessarily be the same countries, and therefore number of deaths or hospitalizations may be greater than the cases in some regions (e.g., Region of the Americas)

Case detection, inclusion criteria, testing strategies, reporting practices, and data cut-off and lag times differ between countries/territories/areas. In some instances, reporting frequencies between national and subnational level might be different and retrospectively completed. Differences are to be expected between information products published by WHO, national public health authorities, and other sources.

A record of historic data adjustment 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.

'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.

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 current COVID-19 surveillance. 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.

Annex 3. SARS-CoV-2 test positivity

SARS-CoV-2 test positivity, as detected in integrated sentinel surveillance as part of the Global Influenza Surveillance and Response System (GISRS) and reported to FluNet, has fast become the most important measure of the circulation of the virus in communities with reduced surveillance activities.

Only data on respiratory specimens tested for SARS-CoV-2 and reported to FluNet from sentinel surveillance were included in the report. Countries may monitor respiratory virus activity using other surveillance approaches; however, those data were not included. Data reported to RespiMart from other sources of respiratory virus surveillance can be viewed [here](#).