COVID-19 Weekly Epidemiological Update

Edition 60, published 5 October 2021

In this edition:

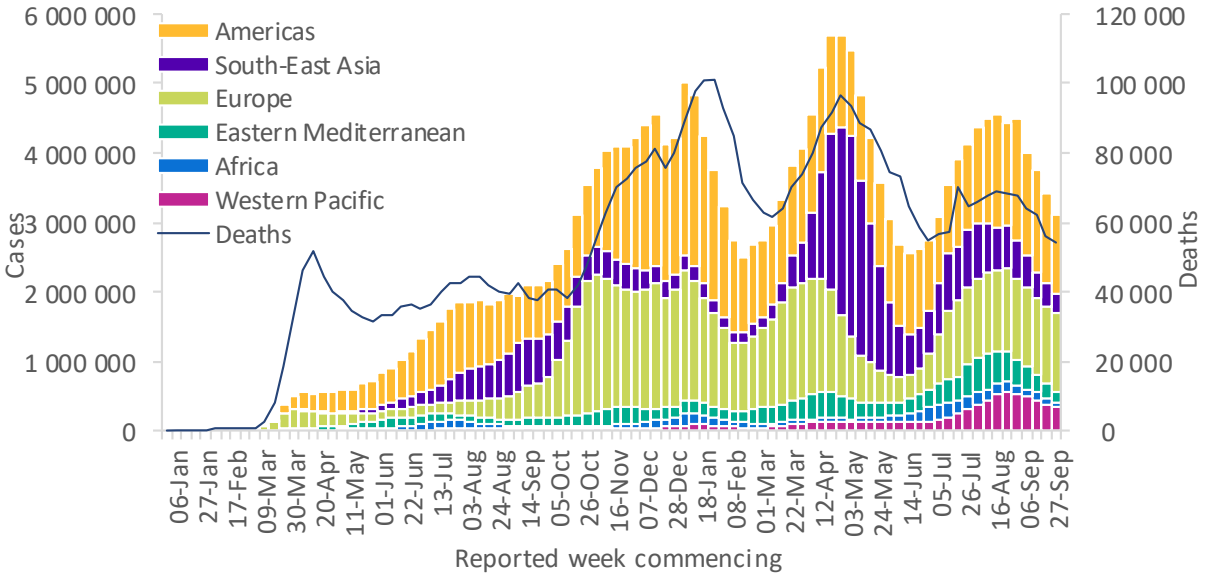
Global overview

Data as of 3 October 2021

Globally, the numbers of weekly COVID-19 cases and deaths continued to decline. This is a trend that has been observed since August (Figure 1). Over 3.1 million new cases and just over 54 000 new deaths were reported during the week of 27 September to 3 October 2021. Cases this week decreased by 9% as compared to the previous week, while the number of deaths remained similar to that of the past week (Table 1). All regions reported a decline in the number of new cases this week apart from the European Region which reported a number similar to that of the previous week. The largest decrease in new weekly cases was reported from the African Region (43%), followed by the Eastern Mediterranean Region (21%), the South-East Asia Region (19%), the Region of the Americas (12%) and the Western Pacific (12%). The cumulative number of confirmed cases reported globally is now over 234 million and the cumulative number of deaths is just under 4.8 million.

The number of new weekly deaths reported showed a large (>10%) decline for all regions except for the Regions of the Americas and Europe, which both reported a similar number of weekly deaths as compared to previous week. The largest decline in weekly deaths was reported from the African Region, with a 25% decline as compared to the previous week.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 3 October 2021**



**See *Annex 2: Data, table and figure notes*

The regions reporting the highest weekly case incidence rates per 100 000 population were the European Region (123.1 new cases per 100 000 population) and the Region of the Americas (109.5 new cases per 100 000 population), while the same two regions reported this highest weekly incidence in deaths per 100 000 population; the Region of the Americas (2.4 new cases per 100 000 population) and the European Region (1.6 new cases per 100 000 population).

The highest numbers of new cases were reported from the United States of America (760 571 new cases; similar to the number reported in the previous week), the United Kingdom (239 781 new cases; similar to the number reported in the previous week), Turkey (197 277 new cases; similar to the number reported in the previous week), the Russian Federation (165 623 new cases; 13% increase), and India (161 158 new cases; 21% decrease).

Globally, cases of the Alpha variant have been reported in 195 countries, territories or areas (hereafter countries; two new countries added since last week), while 145 countries (3 new country since last week) have reported cases of the Beta variant; and 99 countries have reported cases of the Gamma variant (4 new countries since last week, with 1 report of the Gamma variant from last week being discarded upon sequencing) . The Delta variant has been reported in 192 countries (seven new countries since last week: 2 under verification and 5 verified), across all six WHO regions as of 5 October.

Table 1. Newly reported and cumulative COVID-19 cases and deaths, by WHO Region, as of 3 October 2021**

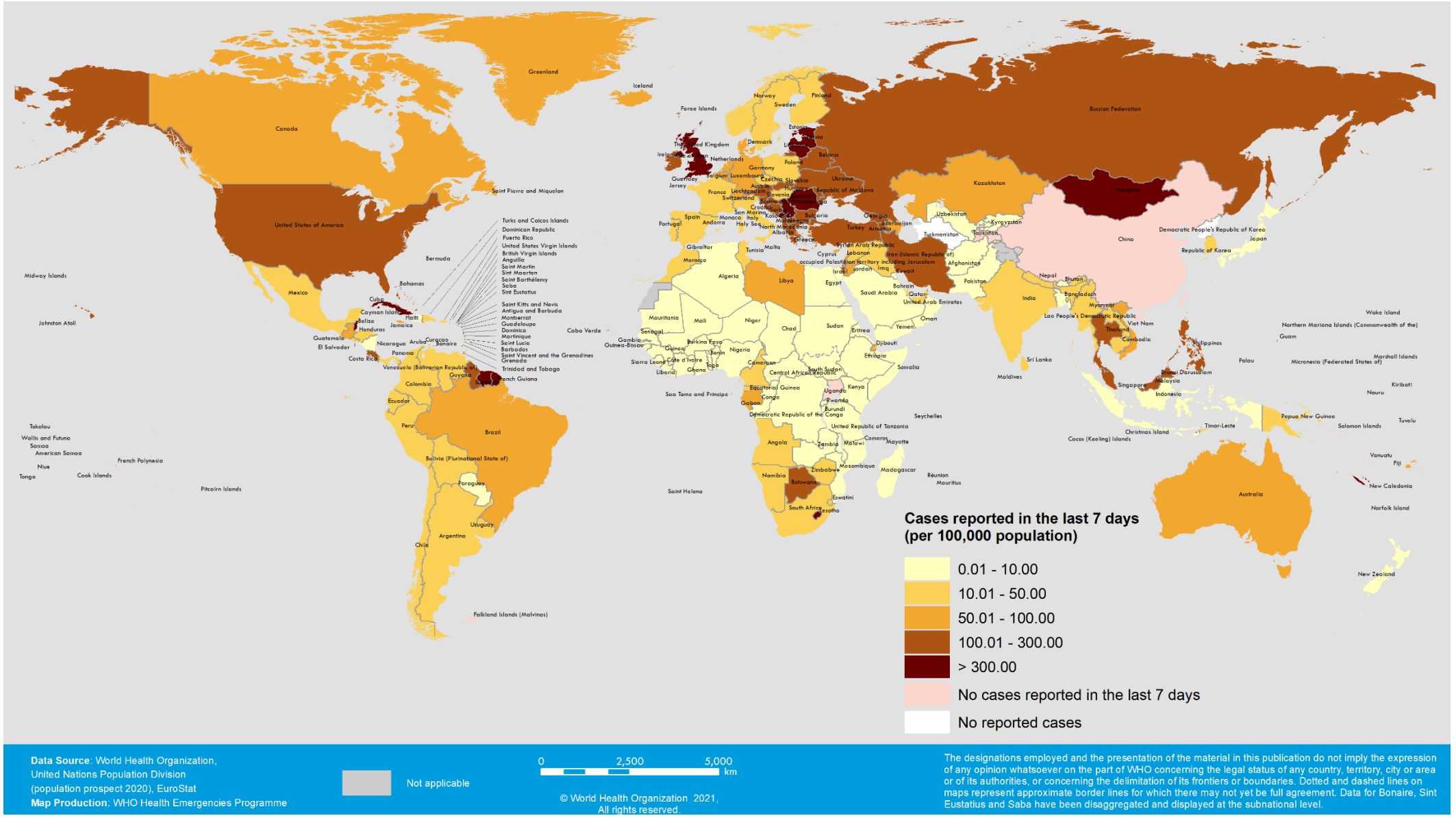
WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Americas	1 120 999 (36%)	-12%	90 357 809 (39%)	24 311 (45%)	2%	2 220 453 (46%)
Europe	1 164 750 (37%)	5%	70 589 709 (30%)	15 403 (28%)	2%	1 342 600 (28%)
South-East Asia	278 657 (9%)	-19%	43 121 902 (18%)	4 318 (8%)	-18%	678 035 (14%)
Eastern Mediterranean	166 068 (5%)	-21%	15 825 445 (7%)	3 567 (7%)	-17%	290 562 (6%)
Western Pacific	338 603 (11%)	-12%	8 609 714 (4%)	4 725 (9%)	-10%	117 705 (2%)
Africa	49 333 (2%)	-43%	6 048 196 (3%)	1 897 (3%)	-25%	146 854 (3%)
Global	**3 118 410 (100%)**	**-9%**	**234 553 539 (100%)**	**54 221 (100%)**	**-4%**	**4 796 222 (100%)**

Percent change in the number of newly confirmed cases/deaths in past seven days, compared to seven days prior
**See *Annex 2: Data, table and figure notes*

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

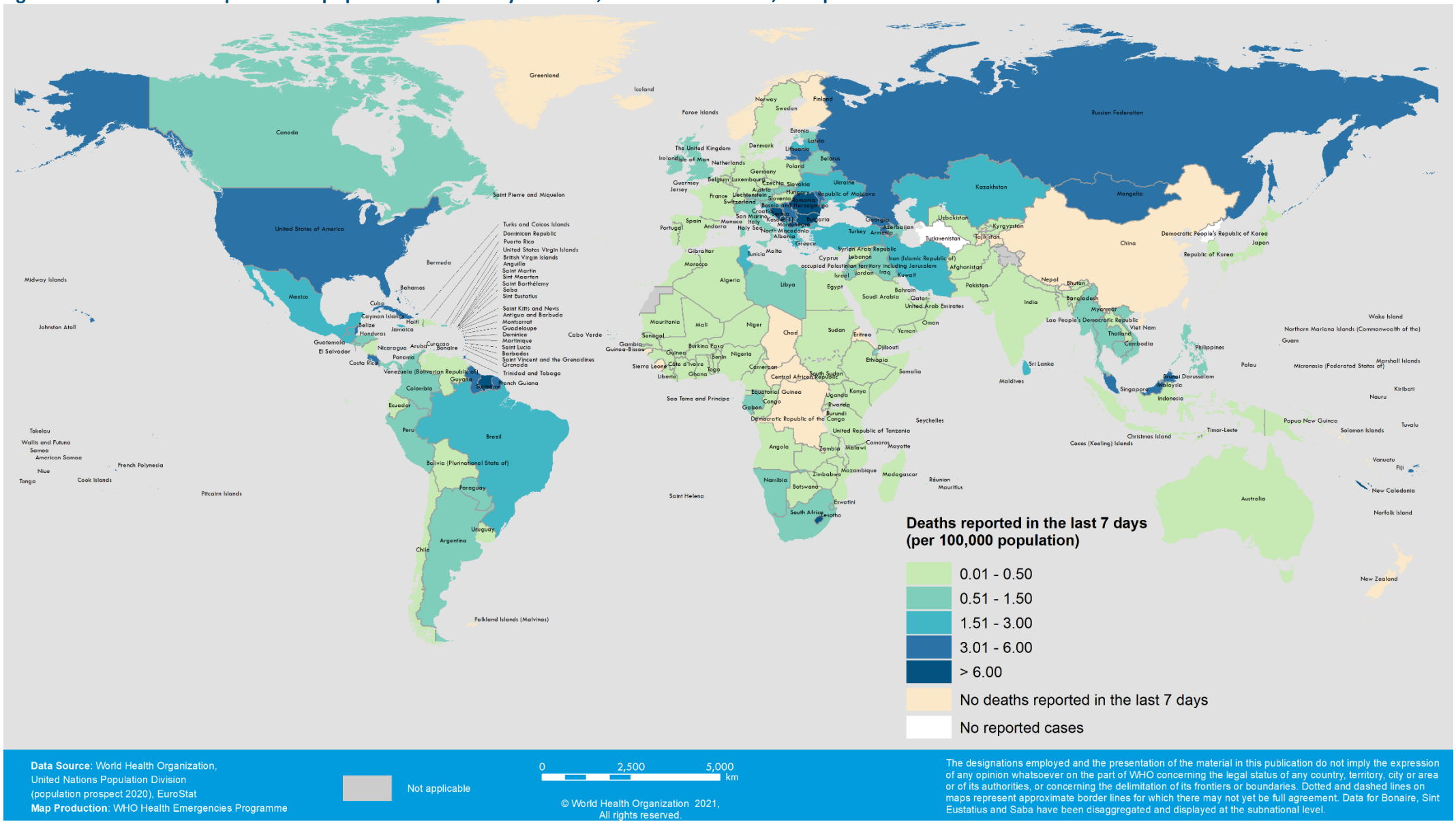
- WHO COVID-19 Dashboard
- WHO COVID-19 Weekly Operational Update and previous editions of the Weekly Epidemiological Update

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 27 September-3 October 2021**



**See *Annex 2: Data, table and figure notes*

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 27 September-3 October 2021**



**See *Annex 2: Data, table and figure notes*

Special Focus: Update on SARS-CoV-2 Variants of Interest and Variants of Concern

WHO, in collaboration with national authorities, institutions and researchers, routinely assesses if variants of SARS-CoV-2 alter transmission or disease characteristics, or impact effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied by national authorities to control disease spread. "Signals" of potential Variants of Concern (VOCs) or Variants of Interest (VOIs) are detected and assessed based on the risk posed to global public health. National authorities may choose to designate other variants of local interest/concern and are encouraged to investigate and report on impacts of these variants.

Updates to the WHO SARS-CoV-2 variant tracking website

Given the continuous need to understand the epidemiological and clinical impacts of VOCs and VOIs, WHO regularly monitors and reviews circulation of variants. The changes in the rise of new variants are being monitored in light of other co-circulating variants, such as Delta.

This may mean that Variants of Interest (VOIs) or Variants of Concern (VOCs) may be outcompeted by newly emerging variants, such as VOC Delta. As evidence becomes available, we will revise classifications accordingly. These revisions reflect the continuous evolution of circulating variants and their changing epidemiology (see criteria for variant classification here).

Geographic distribution

As surveillance activities to detect SARS-CoV-2 variants are strengthened at national and subnational levels, including through the strengthening of genomic sequencing capacities, the number of countries/areas/territories (hereafter countries) reporting VOCs continues to increase (Figure 4, Annex 1). This distribution should nonetheless be interpreted with due consideration of surveillance limitations, including differences in sequencing capacities and sampling strategies between countries.

Phenotypic characteristics

A recent peer-reviewed study evaluating persons infected with the Delta variant in France measured and compared the relative viral load with three other SARS-CoV-2 variants: Alpha, Beta and the non-VOC (20A.EU2) SARS-CoV-2 variant, collected from four hospital laboratories in the Paris area.[1] A total of 738 real time polymerase chain reaction (RT-PCR) SARS-CoV-2 positive nasopharyngeal samples collected from newly diagnosed COVID-19 cases, were screened to determine SARS-CoV-2 viral lineages and measure viral load. The results showed significant differences in the relative viral loads between Delta and other variants: viral loads of 2.5-fold higher were observed compared to Beta (median 7.26 [6.10–8.37]) ($p < 0.05$) and to the non-VOC variant; while infections with Alpha and Delta variants had similar viral loads.

A cross-sectional study (not yet peer reviewed), focusing on demographic characteristics, including severity of the illness and mortality rate, was conducted in India among COVID-19 cases caused by the non-VOC (B.1) variant and the Delta variant (B.1.617.2).[2] Using viral genomic sequences from 9500 COVID-19 patients, the study found an increased number of infections among younger age groups (0-19 years) and women, a lower mean age for infection and symptomatic illness/hospitalization, higher

mortality, and more frequent incidences of post-vaccination infections with Delta variant compared to the non-VOC (B.1) variant.

A retrospective cohort study conducted in the United States of America between 1 December 2020 and 30 July 2021 used sentinel surveillance to estimate the risk of hospitalization following infection with VOC or VOI, adjusting for age, sex, and vaccination status.[3] Of the 27 814 cases identified, 23 170 (83.3%) samples were sequenced through sentinel surveillance, of which 726 (3.1%) were hospitalized due to COVID-19. A higher hospitalization risk was found for infections with Gamma (HR 3.17, 95% CI 2.15-4.67), Beta (HR: 2.97, 95% CI 1.65–5.35), Delta (HR: 2.30, 95% CI 1.69-3.15), and Alpha (HR 1.59, 95% CI 1.26–1.99) compared to infections with a non-VOC variant. Following infection with a VOC, unvaccinated patients showed a higher hospitalization risk when compared to patients with non-VOC infections. Additionally, vaccinated patients showed an overall lower risk of hospitalization when compared to unvaccinated patients although there was no increased risk in these groups when comparing VOC and non-VOC infections.

Table 2: Summary of phenotypic impacts* of Variants of Concern

WHO label	Alpha	Beta	Gamma	Delta
Transmissibility	Increased transmissibility[4]	Increased transmissibility[5,6]	Increased transmissibility[6,7]	Increased transmissibility and secondary attack rate[6,8]
Disease severity	Increased risk of hospitalization[9], possible increased risk of severity and mortality[10,11]	Not confirmed, possible increased risk of in-hospital mortality[12]	possible increased risk of hospitalization[13],risk of severity [14]	Increased risk of hospitalization[15,16]
Risk of reinfection	Neutralizing activity retained[17], risk of reinfection remains similar[18]	Reduction in neutralizing activity reported; T cell response elicited by D614G virus remains effective[19]	Moderate reduction in neutralizing activity reported[20]	Reduction in neutralizing activity reported[21–23]
Impacts on diagnostics	Limited impact – S gene target failure (SGTF); no impact on overall result from multiple target RT-PCR, No impact on Ag RDTs observed[24]	No impact on RT-PCR or Ag RDTs observed[23]	None reported to date	None reported to date

**Generalized findings as compared to previously/co-circulating variants. Based on emerging evidence, including non-peer-reviewed preprint articles and reports, all subject to ongoing investigation and revision.*

Table 3. Summary of vaccine performance against Variants of Concern

	WHO Emergency Use Listing (EUL) Qualified Vaccines							Vaccines without WHO EUL+			
	AstraZeneca-Vaxzevria/SII-Covishield	Beijing CNBG-BBIBP-CorV	Janssen-Ad26.COV 2.5	Moderna-mRNA-1273	Moderna-mRNA-1273/ Pfizer BioN BioNTech-Comirnaty	Pfizer BioNTech-Comirnaty	Sinovac-CoronaVac	Anhui ZL-Recombinant	Bharat-Covaxin	Gamaleya-Sputnik V	Novavax-Covavax
Alpha[25,26]											
Summary of VE*	Protection retained against all outcomes										
- Severe disease	↔2	-	-	↔1	↔1	↔5	-	-	-	-	-
- Symptomatic disease	↔ to ↓5	-	-	↔1	↔1	↔4	-	-	-	-	↓1
- Infection	↔ to ↓3	-		↔1	-	↔2	-	-	-	-	-
Neutralization	↔ to ↓5	↔1	↔3	↔ to ↓11	↓1	↔ to ↓38	↔ to ↓5	↔2	↔2	↔3	↓1
Beta[27–30]											
Summary of VE*	Protection retained against severe disease; reduced protection against symptomatic disease; limited evidence										
- Severe disease	-	-	↔1	-	-	↔2	-	-	-	-	-
- Symptomatic disease	↓↓↓1	-	↔1	-	-	↔1	-	-	-	-	↓↓↓1
- Infection	-	-	-	↔1	-	↓1	-	-	-	-	-
Neutralization	↓ to ↓↓6	↔ to ↓2	↓ to ↓↓5	↓ to ↓↓13	↓↓↓1	↓ to ↓↓37	↓ to ↓↓5	↔ to ↓3	↓2	↓ to ↓↓3	↓↓↓1
Gamma											
Summary of VE*	Unclear impact; very limited evidence										
- Severe disease	-	-	-	-	-	-	-	-	-	-	-
- Symptomatic disease	-	-	-	-	-	-	-	-	-	-	-
- Infection	-	-	-	-	-	-	↔1	-	-	-	-
Neutralization	↓2	-	↓2	↓6	-	↔ to ↓21	↔ to ↓4	↔1	-	↓2	-
Delta[31]											
Summary of VE*	Protection retained against severe disease; possible reduced protection against symptomatic disease and infection; limited evidence										
- Severe disease	↔2	-	-	↔1	-	↔4	-	-	-	-	-
- Symptomatic disease	↓ to ↓↓4	-	-	-	-	↔ to ↓4	-	-	↓1	-	-
- Infection	↔ to ↓2	-	-	-	-	↓1	-	-	-	-	-
Neutralization	↓ to ↓↓7	-	↓3	↓4	↓↓1	↔ to ↓14	↓ to ↓↓↓3	↔ to ↓2	↔ to ↓3	↓2	-

VE refers to vaccine effectiveness and vaccine efficacy

+As of submission of this update

*Summary of VE: indicates the general conclusions but only for the vaccines evaluated against the specific variant. Arrows generalize the magnitude of reduction in VE or neutralization: "↔" <10% reduction in VE, or VE >90% with no comparator, or that there was a <2-fold reduction in neutralization; "↓" 10 to <20% reduction in VE, or 2 to <5-fold reduction in neutralization; "↓↓" 20 to <30%

reduction in VE, or 5 to <10-fold reduction in neutralization; "↓↓↓" ≥30% reduction in VE, or ≥10-fold reduction in neutralization. When more than one neutralization study is available, the interquartile range (25th and 75th percentiles) of fold-reductions across all studies for specific vaccine/variant was used.

"Moderna-mRNA-1273/Pfizer BioNTech-Comirnaty" indicates that both vaccines were evaluated together in study.

The number of studies is shown as subscripts: vaccine effectiveness and neutralization studies informing this table can be found on the VIEW-hub Resources page (https://view-hub.org/resources). For individual vaccine effectiveness studies, see 'COVID-19 Vaccine Effectiveness Results Summary', reference numbers noted with a '#'. For a list of all neutralization studies, see 'COVID-19 Vaccine Neutralization Studies Table'.

References indicated by superscripts next to VOC name in column 1 are vaccine efficacy results from randomized controlled trials informing this table and are included in the reference section below.

Additional notes on VOC impacts on vaccines

- Studies reporting VOC-specific vaccine efficacy or effectiveness (VE) estimates for full vaccination (≥ 7 days post final dose) are assessed against a comparator VE estimate for that vaccine product to determine level of reduction in VE. For symptomatic disease, VOC VE is compared against phase 3 randomised RCT results from non-VOC settings. For severe disease and infection, due to instability or lack of phase 3 RCT estimates for these outcomes, VOC VE is compared to non-VOC VE estimates from the same study when available (or to Alpha VE from same study when assessing Beta, Gamma, or Delta); with an exception for AstraZeneca Vaxzevria for infection (when a phase 3 estimate of VE against infection due to non-VOC is available and used as comparator). In some instances, a study may be included for severe disease or infection outcome even without a comparator if a very high VE estimate is reported against a VOC (i.e., >90%).
- It is also important to note that studies vary in population, outcome definitions, study design and other methodological considerations, which may in part explain differences when comparing VE estimates for a product between different studies. In addition, the reductions summarized in the table represent VE point estimates and do not represent the uncertainty intervals around these estimates which vary substantially across studies. The reductions in VE noted should be interpreted with these limitations in mind.
- Table 3 summarizes the impact of VOCs on COVID-19 vaccine performance in the absence of waning, and, therefore, does not include studies that only assess VE greater than four months post final dose.

Table 3 presents the impact of variants on product specific vaccine efficacy/effectiveness (VE) and quantifies the reduction in VE in the setting of variants compared to VE in non-VOC settings. Of note, reductions in VE do not necessarily mean loss of protection, as indicated by the absolute VE estimate. For example, a 10-percentage point reduction in VE against symptomatic disease for mRNA vaccines would still mean high vaccine effectiveness of approximately 85%. In addition, vaccines have shown higher VE against severe disease; thus, small reductions in VE against severe disease due to VOCs may still mean substantial protection overall, as is the case for the AstraZeneca-Vaxzevria vaccine.

Since the 21 September update, six notable new studies have provided evidence of COVID-19 vaccine performance after full vaccination against VOCs.

A pre-print study from the United Kingdom provided VOC-specific estimates of the effectiveness of COVID-19 vaccines. This study found that Pfizer BioNTech-Comirnaty provided similar levels of protection against infection due to Alpha (VE: 94%, 95% CI: 90-96%) and Delta (VE: 90%, 95%CI: 87-92%) 14 or more days post second dose, among household contacts of confirmed cases, with follow-up time since full vaccination up to ~20.5 weeks for Alpha cases and ~29 weeks for Delta cases.[32] AstraZeneca-Vaxzevria also had similar levels of protection against infection due to Alpha and Delta, with VE estimates of 71% (51-83%) and 72% (68-75%), respectively, with follow-up time since full vaccination up to ~8 weeks for Alpha cases and ~16 weeks for Delta cases.

A second study, not yet peer reviewed, evaluated the performance of Moderna-mRNA-1273 in the United States of America among persons who were included in a phase III randomized clinical trial of the vaccine, after study participants had been unblinded and persons in the placebo group were offered vaccination.[33] During the period from July to August 2021 (when Delta accounted for 97% of all cases sequenced), persons initially randomized to the vaccine arm and vaccinated between July and December 2020 experienced a higher incidence rate (IR) of symptomatic disease and severe disease (symptomatic disease IR: 77.1/1000 person-years; severe disease IR: 6.2/1000 person years) compared to persons initially assigned to the placebo group but vaccinated more recently between December 2020 and April 2021 (symptomatic disease

IR: 49.0/1000 person-years; severe disease IR: 3.3/1000 person years). This finding is suggestive of waning vaccine efficacy, although it was not possible to calculate an efficacy estimate using this case-only approach.

Two additional studies assessed performance of COVID-19 vaccines in outbreak settings. The first pre-print study evaluated the effectiveness of Pfizer BioNTech-Comirnaty in preventing infection and disease among residents and staff of a nursing home in Germany during an outbreak of the Alpha variant.[34] Two doses of the vaccine was 45% (0-69%), 68% (36-84%), and 88% (37-98%) effective at preventing infection, symptomatic disease, and hospitalization due to Alpha, respectively, seven or more days post second dose. The maximum follow-up after full vaccination was ~11 weeks. Authors also found that cycle threshold values at the time of SARS-CoV-2 detection were higher (suggesting lower viral load) among cases vaccinated more than 21 days prior compared to those vaccinated within 21 days of SARS-CoV-2 detection. Furthermore, the secondary attack rate was lower among household contacts of vaccinated cases (22.2%) than among household contacts of unvaccinated cases (66.7%). Another investigation of an outbreak of Delta in a prison in the USA found higher attack rates among unvaccinated (93%) persons as compared to those who had been vaccinated with Pfizer BioNTech-Comirnaty, Moderna-mRNA-1273, or Janssen-Ad26.COV 2.5, combined (70%).[35] In addition, higher attack rates were observed among persons vaccinated ≥ 4 months prior to the outbreak (89%) compared to those vaccinated within two weeks to two months prior to the outbreak (61%). Among those vaccinated, 66% had received Pfizer BioNTech-Comirnaty, 27% had received Moderna-mRNA-1273, and 7% had received Janssen-Ad26.COV 2.5; all persons vaccinated ≥ 4 months prior to the outbreak had received Pfizer BioNTech-Comirnaty.

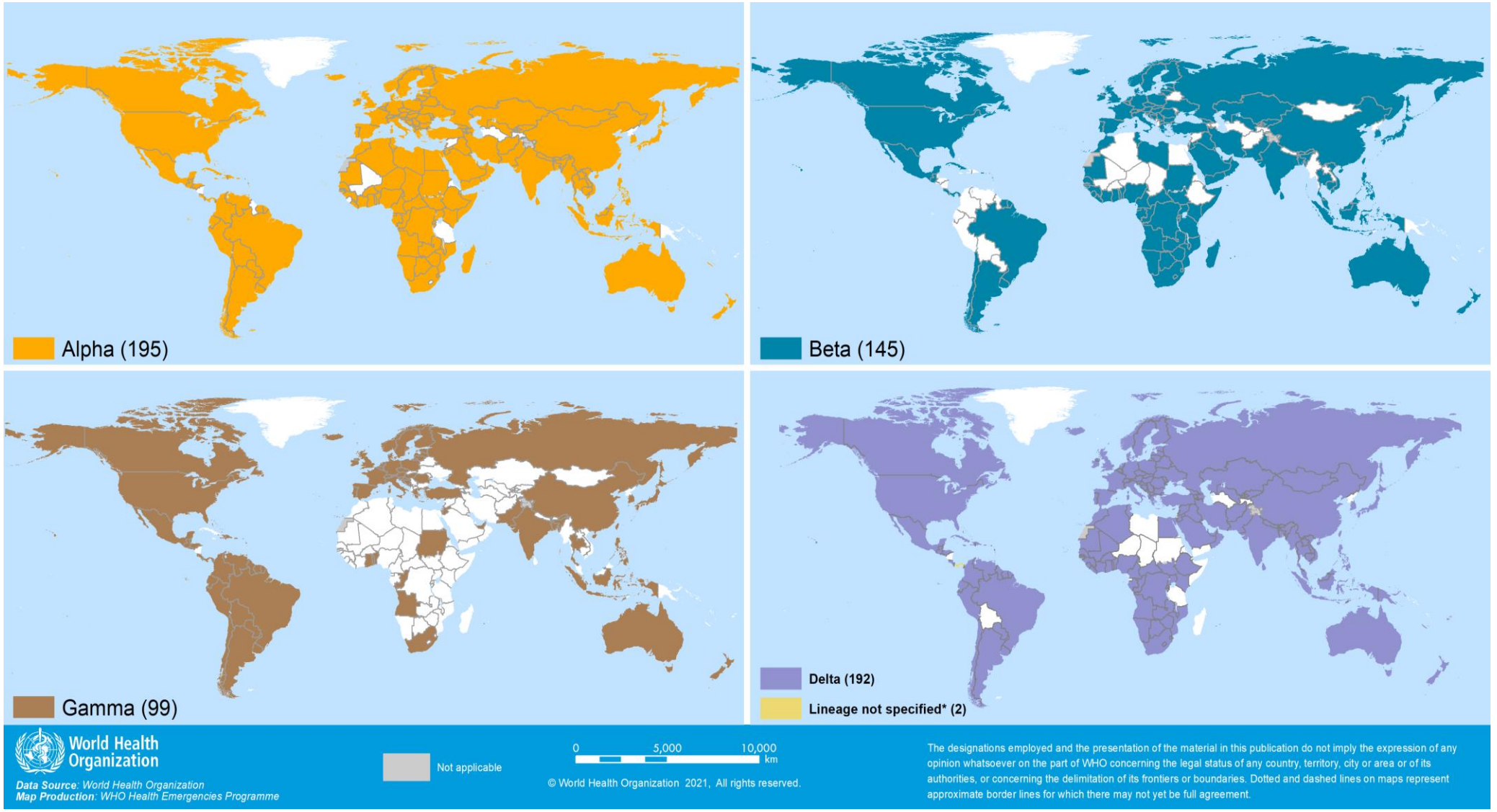
Finally, two retrospective cohort studies from Israel provide further data on the effectiveness of the Pfizer BioNTech-Comirnaty vaccine. The first, a peer-reviewed study, conducted during a period of high Alpha prevalence, found that the vaccine was over 95% effective for each at preventing infection, symptomatic disease, hospitalization, and death 22-28 days post receipt of the second dose among persons 16 years and older.[36] The second study, a pre-print, conducted during a time of high Delta prevalence, found Pfizer BioNTech-Comirnaty to be 91.5% (88.2-93.9%) effective against SARS-CoV-2 infection 8-28 days post second dose in children 12-15 years of age.[37]

Together these studies provide further evidence of high effectiveness of the mRNA vaccines and AstraZeneca-Vaxzevria vaccine against SARS-CoV-2 infection, and symptomatic and severe COVID-19 disease due to Alpha and Delta variants, although there remains some indication of decreasing effectiveness against infection and symptomatic disease as time since complete vaccination.

Additional resources

- Tracking SARS-CoV-2 Variants
- COVID-19 new variants: Knowledge gaps and research
- Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health
- Considerations for implementing and adjusting public health and social measures in the context of COVID-19

Figure 5. Countries, territories and areas reporting variants Alpha, Beta, Gamma and Delta, as of 5 October 2021**



**Includes countries/territories/areas reporting the detection of B.1.617 without further specification of lineage at this time. These will be reallocated as further details become available.*

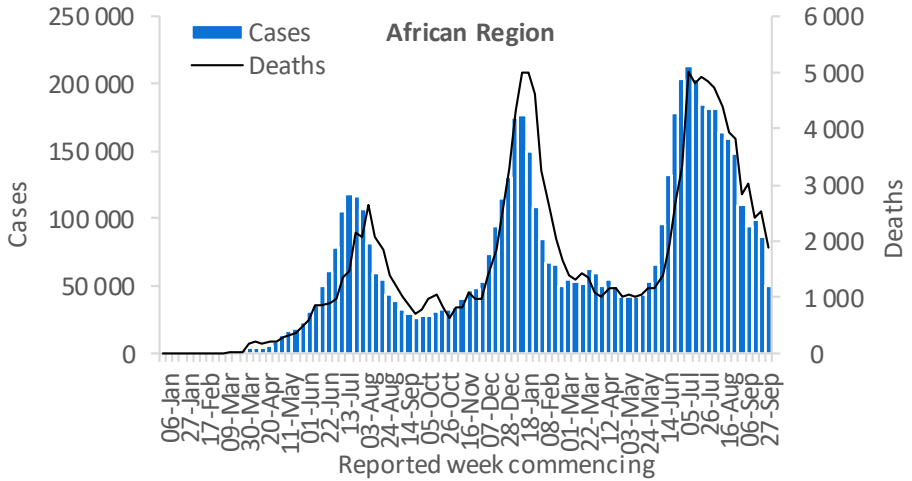
***Countries/territories/areas highlighted include both official and unofficial reports of VOC detections, and do not presently differentiate between detections among travellers (e.g., at Points of Entry) or local community cases. Please see Annex 2 for further details*

WHO regional overviews Epidemiological week 27 September-3 October 2021

African Region

The African Region reported over 49 000 new cases and just under 1900 new deaths, decreases of 43% and 25% respectively as compared to the previous week. The declining trend in cases reported in the region and observed since early July continued this week. While this trend is true for most countries in the region, in the past week, seven countries reported increases of over 20% in new cases as compared to the previous week.

The highest numbers of new cases were reported from South Africa (9637 new cases; 16.2 new cases per 100 000 population; a 38% decrease), Ethiopia (7127 new cases; 6.2 new cases per 100 000; a 19% decrease), and Lesotho* (6943 new cases; 324.1 new cases per 100 000). The highest numbers of new deaths were reported from South Africa (752 new deaths; 1.3 new deaths per 100 000 population; a 15% decrease), Ethiopia (306 new deaths; <1 new death per 100 000; a 20% increase), and Lesotho* (231 new deaths; 10.8 new deaths per 100 000).



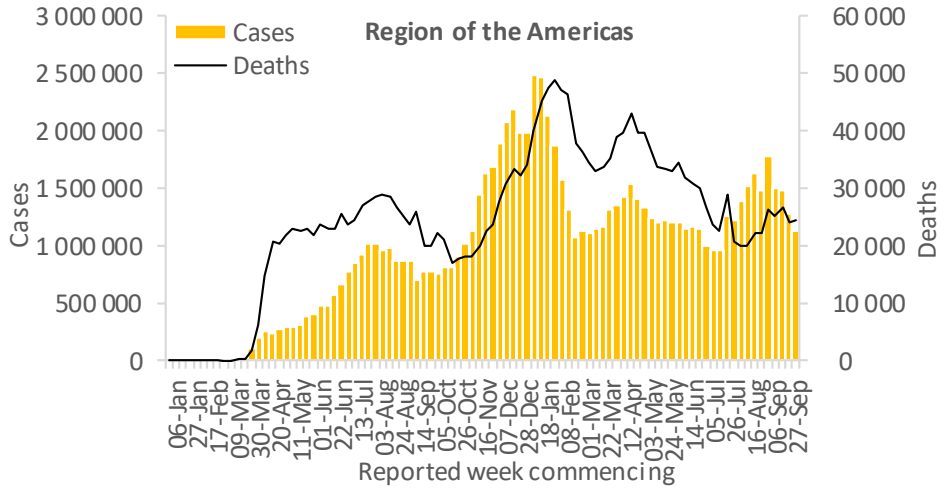
Updates from the African Region

* This marked increase was reported by Lesotho on 30 September 2021 as a batch number for both cases and deaths and will be reviewed as more information becomes available.

Region of the Americas

The Region of the Americas reported over 1.1 million new cases, a 12% decrease as compared to the previous week, and just over 24 000 new deaths, which was similar to the number reported the previous week. Overall, while the region has been reporting declining trends in both cases and deaths over the past month, the weekly incidence remains at levels below the peak seen in March.

The highest numbers of new cases were reported from the United States of America (760 571 new cases; 229.8 new cases per 100 000; similar to last week), Brazil (131 501 new cases; 61.9 new cases per 100 000; a 47% decrease), and Mexico (52 496 new cases; 40.7 new cases per 100 000; a 21% decrease). The highest numbers of new deaths were reported from the United States of America (13 736 new deaths; 4.1 new deaths per 100 000; a 12% increase), Brazil (4060 new deaths; 1.9 new deaths per 100 000; similar to last week), and Mexico (3275 new deaths; 2.5 new deaths per 100 000; a 21% decrease).

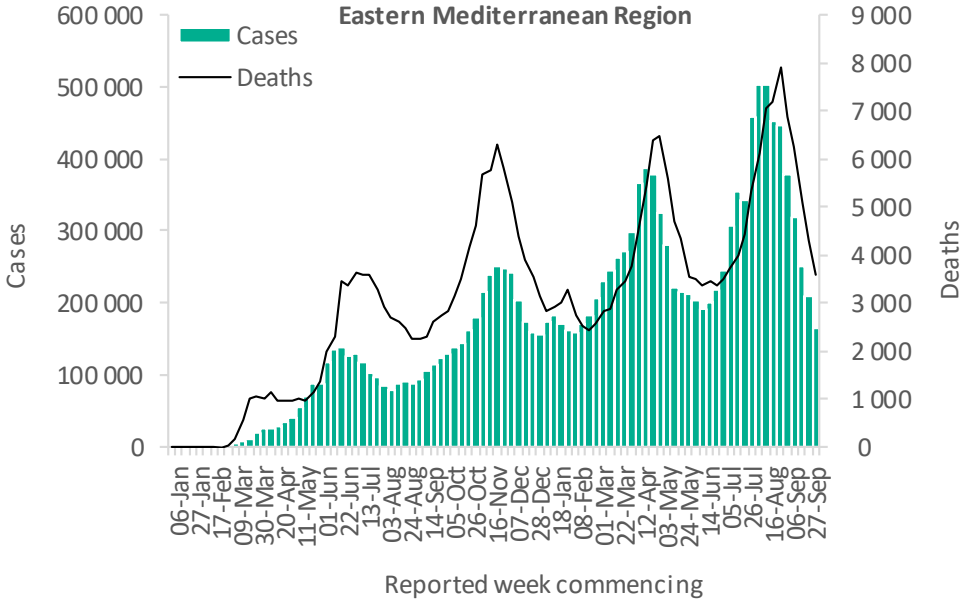


Updates from the Region of the Americas

Eastern Mediterranean Region

Since a peak in incidence in both cases and deaths in early August this year, weekly cases and deaths have continued to consistently decline in the Eastern Mediterranean Region. This week, the region reported over 166 000 new cases and over 3500 new deaths, decreases of 21% and 17% respectively as compared to the previous week. The highest numbers of new cases were reported from the Islamic Republic of Iran (91 972 new cases; 109.5 new cases per 100 000; a 17% decrease), Iraq (15 599 new cases; 38.8 new cases per 100 000; an 18% decrease), and Pakistan (11 314 new cases; 5.1 new cases per 100 000; a 28% decrease).

The highest numbers of new deaths were reported from the Islamic Republic of Iran (1808 new deaths; 2.2 new deaths per 100 000; a 21% decrease), Pakistan (307 new deaths; <1 new death per 100 000; a 21% decrease), and Iraq (272 new deaths; <1 new death per 100 000; an 8% decrease).

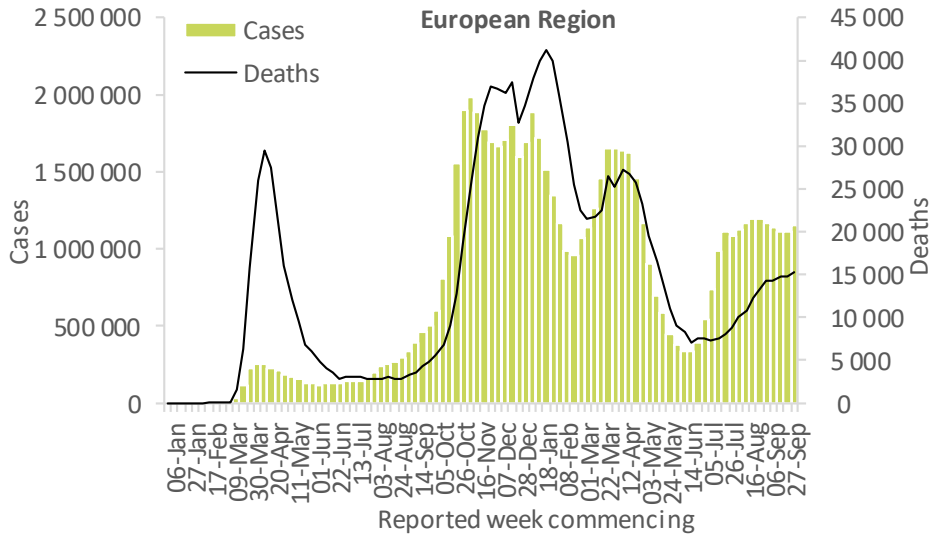


Updates from the Eastern Mediterranean Region

European Region

The European Region reported over 1.1 million new cases and over 15 000 new deaths, with both numbers similar to the numbers reported in the previous week. Following sharp declines in the incidence in both cases and deaths between March and June this year, numbers in the European Region spiked again in July and have since remained at higher but more stable levels (≤5% change) for the past three months. The highest numbers of new cases were reported from the United Kingdom (239 781 new cases; 353.2 new cases per 100 000; similar to previous week), Turkey (197 277 new cases; 233.9 new cases per 100 000; a number similar to that of the previous week), and the Russian Federation (165 623 new cases; 113.5 new cases per 100 000; a 13% increase).

The highest numbers of new deaths were reported from the Russian Federation (6018 new deaths; 4.1 new deaths per 100 000; a 6% increase), Turkey (1529 new deaths; 1.8 new deaths per 100 000; a number similar to that of previous week), and Ukraine (1149 new deaths; 2.6 new deaths per 100 000; a 53% increase).

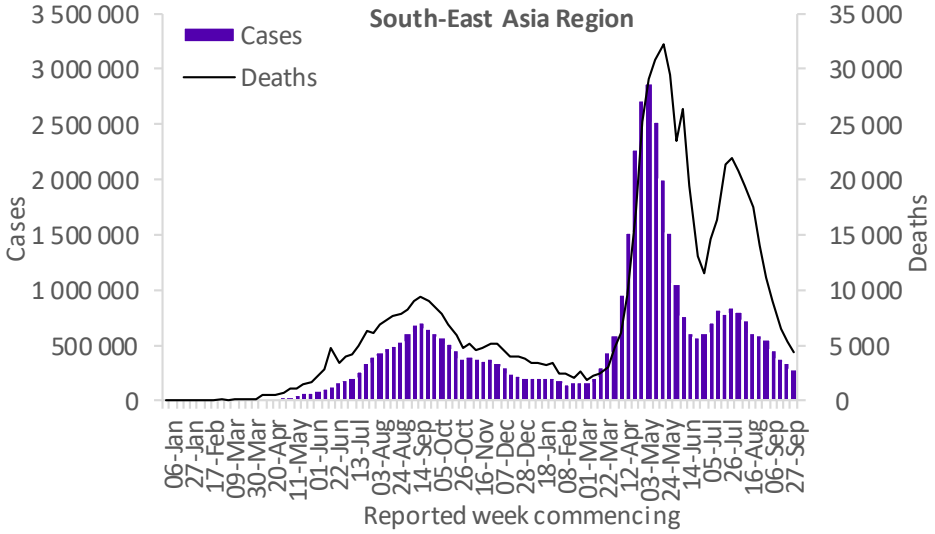


Updates from the European Region

South-East Asia Region

The South-East Asia Region reported over 278 000 new cases and over 4300 new deaths, decreases of 19% and 18% respectively as compared to the previous week. This sustained regional decline in both cases and deaths has been observed since late July. This week, only one country- Bhutan - reported an increase in cases - although absolute numbers reported remain low. Similarly, Nepal was the only country to report an increase in the number of new deaths this week (68 new deaths; a 21% increase). The highest numbers of new cases were reported from India (161 158 new cases; 11.7 new cases per 100 000; a 21% decrease), Thailand (75 794 new cases; 108.6 new cases per 100 000; an 11% decrease), and Indonesia (11 271 new cases; 4.1 new cases per 100 000; a 35% decrease).

The highest numbers of new deaths were reported from India (1899 new deaths; <1 new death per 100 000; a 9% decrease), Thailand (746 new deaths; 1.1 new deaths per 100 000; an 18% decrease), and Indonesia (706 new deaths; <1 new death per 100 000; a 29% decrease).

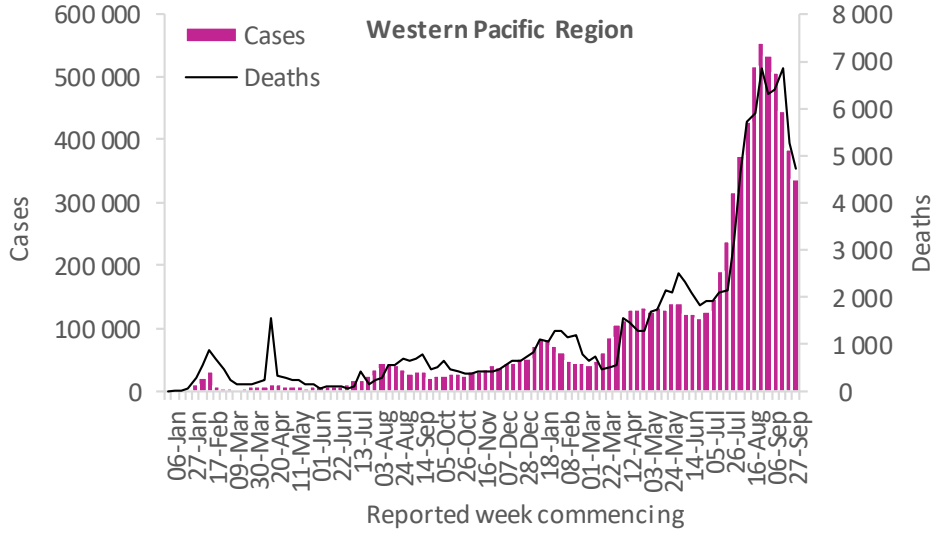


Updates from the South-East Asia Region

Western Pacific Region

The Western Pacific Region reported over 338 000 new cases and over 4700 new deaths, decreases of 12% and 10% respectively as compared to the previous week. After a sustained period of relatively stable numbers of both weekly cases and deaths, both began to rapidly increase from late June this year. However, this has been followed by consistent decreases in new cases and deaths observed in the region for over a month now and this is largely driven by declines in the Philippines and Malaysia. The highest numbers of new cases were reported from the Philippines (110 023 new cases; 100.4 new cases per 100 000; a 10% decrease), Malaysia (83 368 new cases; 257.6 new cases per 100 000; an 18% decrease), and Viet Nam (56 524 new cases; 58.1 new cases per 100 000; a 19% decrease).

The highest numbers of new deaths were reported from Malaysia (1406 new deaths; 4.3 new deaths per 100 000; a 33% decrease), the Philippines (1251 new deaths; 1.1 new deaths per 100 000; a 52% increase), and Viet Nam (1201 new deaths; 1.2 new deaths per 100 000; a 22% decrease).



Updates from the Western Pacific Region

Summary of the COVID-19 Weekly Operational Update

The Weekly Operational Update (WOU) is a report provided by the COVID-19 Strategic Preparedness and Response Plan (SPRP) monitoring and evaluation team which aims to update on the ongoing global progress against the COVID-19 SPRP 2021 framework.

In this week's edition of the COVID-19 Weekly Operational Update, published on 4 October, highlights of country-level actions and WHO support to countries include:

- Nearly a third of African countries hit 10% COVID-19 vaccination goal: support to accelerate vaccine rollouts
- Supporting national vaccine cold chain system in Islamic Republic of Iran
- WHO/Europe supports COVID-19 intensive care in Georgia
- Fourth Intra-Action Review (IAR) Meeting to strengthen Indonesia's COVID-19 response
- Working together in Nicaragua to bring training to the front lines
- Progress on a subset of indicators from the SPRP 2021 Monitoring and Evaluation Framework
- Updates on WHO's financing to support countries in SPRP 2021 implementation and provision of critical supplies.

For more information, see the Weekly operational update on COVID-19

Annex

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.

Annex 1. List of countries/territories/areas reporting Variants of Concern as of 5 October 2021

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Afghanistan	●	-	-	●	-
Albania	●	-	-	○	-
Algeria	●	-	-	●	-
Andorra	○	○	-	○	-
Angola	●	●	●	●	-
Anguilla	●	-	-	●	-
Antigua and Barbuda	●	●	●	●	-
Argentina	●	●	●	●	-
Armenia	●	-	-	●	-
Aruba	●	●	●	●	-
Australia	●	●	●	●	-
Austria	●	●	●	●	-
Azerbaijan	●	-	-	○	-
Bahamas	●	-	●	●	-
Bahrain	●	●	●	●	-
Bangladesh	●	●	○	●	-
Barbados	●	-	●	●	-
Belarus	●	-	-	○	-
Belgium	●	●	●	●	-
Belize	●	-	●	●	-
Benin	●	-	●*	-	-
Bermuda	●	●	-	●	-
Bhutan	●	●	-	●	-
Bolivia (Plurinational State of)	●	-	●	-	-
Bonaire	●	-	●	●	-
Bosnia and Herzegovina	●	●	●	○	-
Botswana	○	●	-	●	-
Brazil	●	●	●	●	-
British Virgin Islands	●	-	●	●	-
Brunei Darussalam	●	●	-	●	-
Bulgaria	●	●	-	●	-
Burkina Faso	●	-	-	●*	-
Burundi	●	●	-	●	-
Cabo Verde	●	-	-	●	-
Cambodia	●	●	-	●	-
Cameroon	●	●	-	●*	-
Canada	●	●	●	●	-
Cayman Islands	●	●	●	●	-
Central African Republic	●	●	-	●	-
Chad	●	-	-	-	-
Chile	●	●	●	●	-
China	●	●	●	○	-
Colombia	●	-	●	●	-
Comoros	-	●	-	-	-
Congo	●	○	●*	●	-
Costa Rica	●	●	●	●	-
Croatia	●	●	●	○	-
Cuba	●	●	-	●	-
Curaçao	●	●	●	●	●
Cyprus	●	●	-	○	-
Czechia	●	●	●	●	-
Côte d'Ivoire	●	●	-	○	-
Democratic Republic of the Congo	●	●	-	●	-
Denmark	●	●	●	●	-
Djibouti	●	●	-	-	-
Dominica	●	-	-	●	-
Dominican Republic	●	-	●	●	-
Ecuador	●	-	●	●	-
Egypt	●	-	-	●	-
El Salvador	●	-	●	●	-
Equatorial Guinea	●	●	-	-	-
Estonia	●	●	○	○	-
Eswatini	○	●	-	●	-
Ethiopia	●	-	-	●	-
Falkland Islands (Malvinas)	●	●	-	-	-
Faroe Islands	●	-	●	-	-
Fiji	-	-	-	●	-
Finland	●	●	●	●	-
France	●	●	●	●	-
French Guiana	●	●	●	●	-
French Polynesia	●	●	●	●	-
Gabon	●	●	-	●*	-
Gambia	●	-	-	●	-
Georgia	●	○	-	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Germany	●	●	●	●	-
Ghana	●	●	●*	●	-
Gibraltar	●	-	-	○	-
Greece	●	●	●	●	-
Grenada	●	-	-	●	-
Guadeloupe	●	●	●	●	-
Guam	●	●	●	●	-
Guatemala	●	●	●	●	-
Guinea	●	●	-	●	-
Guinea-Bissau	●	●	-	●	-
Guyana	-	-	●	●	-
Haiti	●	-	●	●	-
Honduras	●	-	●	●	-
Hungary	●	○	●	○	-
Iceland	●	●	●	●	-
India	●	●	●	●	-
Indonesia	●	●	○	●	-
Iran (Islamic Republic of)	●	●	-	●	-
Iraq	●	●	-	●	-
Ireland	●	●	●	●	-
Israel	●	●	●	●	-
Italy	●	●	●	●	-
Jamaica	●	-	-	●	-
Japan	●	●	●	●	-
Jordan	●	●	●	●	-
Kazakhstan	●	○	-	●	-
Kenya	●	●	-	●	-
Kosovo[1]	●	○	-	○	-
Kuwait	●	●	-	●	-
Kyrgyzstan	●	●	-	●	-
Lao People's Democratic Republic	●	-	-	●	-
Latvia	●	●	●	○	-
Lebanon	●	-	-	●	-
Lesotho	-	●	-	○	-
Liberia	●	●*	-	●	-
Libya	●	●	-	-	-
Liechtenstein	●	-	-	○	-
Lithuania	●	●	●	○	-
Luxembourg	●	●	●	●	-
Madagascar	●*	●	-	-	-
Malawi	●	●	-	●	-
Malaysia	●	●	-	●	-
Maldives	●	-	-	●	-
Mali	-	-	-	●*	-
Malta	●	○	●	○	-
Martinique	●	●	●	●	-
Mauritania	●	●	-	●	-
Mauritius	●	●	-	●	-
Mayotte	●	●	-	-	-
Mexico	●	●	●	●	-
Monaco	●	●	-	●	-
Mongolia	●	-	-	●	-
Montenegro	●	-	○	○	-
Montserrat	●	-	●	●	-
Morocco	●	●	-	●	-
Mozambique	●	●	-	●	-
Myanmar	●	-	-	●	-
Namibia	●	●	-	●	-
Nepal	●	-	-	●	-
Netherlands	●	●	●	●	-
New Caledonia	●	-	-	●	-
New Zealand	●	●	○	○	-
Niger	●	-	-	-	-
Nigeria	●	●	-	●	-
North Macedonia	●	●	-	○	-
Northern Mariana Islands (Commonwealth of the)	○	-	-	●	-
Norway	●	●	●	●	-
Occupied Palestinian Territory	●	●	-	●	-
Oman	●	●	-	●	-
Pakistan	●	●	●	●	-
Panama	●	●	●	●	●
Papua New Guinea	-	-	-	●	-
Paraguay	●	-	●	●	-
Peru	●	-	●	●	-
Philippines	●	●	●	●	-
Poland	●	○	●	●	-
Portugal	●	●	●	●	-
Puerto Rico	●	●	●	●	-
Qatar	●	●	-	●	-
Republic of Korea	●	●	●	●	-
Republic of Moldova	●	-	-	●	-
Romania	●	●	●	●	-
Russian Federation	●	●	○	●	-
Rwanda	●	●	-	●	-
Réunion	●	●	●	○	-
Saba	-	-	-	●	-
Saint Barthélemy	●	-	-	●	-
Saint Kitts and Nevis	-	-	-	●	-
Saint Lucia	●	-	-	●	-
Saint Martin	●	●	-	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Saint Pierre and Miquelon	-	-	-	●	-
Saint Vincent and the Grenadines	-	-	●	●	-
Sao Tome and Principe	●	-	-	○	-
Saudi Arabia	●	●	-	●	-
Senegal	●	●	-	●	-
Serbia	●	-	-	●	-
Seychelles	●	●	-	●	-
Sierra Leone	-	●*	-	●	-
Singapore	●	●	●	●	-
Sint Maarten	●	●	●	●	-
Slovakia	●	●	-	●	-
Slovenia	●	●	●	●	-
Somalia	●	●	-	-	-
South Africa	●	●	○	●	-
South Sudan	●	●	-	●	-
Spain	●	●	●	●	-
Sri Lanka	●	●	-	●	-
Sudan	●	●	●	-	-
Suriname	●	●	●	●	-
Sweden	●	●	●	●	-
Switzerland	●	●	●	●	-
Syrian Arab Republic	-	-	-	○	-
Thailand	●	●	●	●	-
Timor-Leste	●	-	-	●	-
Togo	●	●	●*	●	-
Trinidad and Tobago	●	-	●	●	-
Tunisia	●	●	-	●	-
Turkey	●	●	●	●	-
Turks and Caicos Islands	●	-	●	●	-
Uganda	●	●	-	●	-
Ukraine	●	○	-	○	-
United Arab Emirates	●	●	●	●	-
United Kingdom	●	●	●	●	-
United Republic of Tanzania	-	●	-	-	-
United States Virgin Islands	●	●	-	●	-
United States of America	●	●	●	●	-
Uruguay	●	●	●	●	-
Uzbekistan	●	●	-	○	-
Venezuela (Bolivarian Republic of)	●	-	●	●	-
Viet Nam	●	●	-	●	-
Wallis and Futuna	●	-	-	-	-
Yemen	●	●	-	-	-
Zambia	●	●	-	●	-
Zimbabwe	●*	●*	-	●	-

**Newly reported in this update.*
"Unspecified B.1.617" reflects countries/territories/areas reporting detection of B.1.617 without further specification of lineage at this time. These will be reallocated as further details become available.
"●" indicates that information for this variant was received by WHO from official sources.
"○" indicates that information for this variant was received by WHO from unofficial sources and will be reviewed as more information become available.
***Includes countries/territories/areas reporting the detection of VOCs among travelers (e.g., imported cases detected at points of entry), or local cases (detected in the community). Excludes countries, territories, and areas that have never reported the detection of a variant of concern.*
See also Annex 2: Data, table and figure notes.

Annex 2. Data, table and figure notes

Data presented are based on official laboratory-confirmed COVID-19 case 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 incidence, and variable delays to reflecting these data at 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. Due to public health authorities conducting data reconciliation exercises which remove large numbers of cases or deaths from their total counts, negative numbers may be displayed in the new cases/deaths columns as appropriate. When additional details become available that allow the subtractions to be suitably apportioned to previous days, graphics will be updated accordingly.

A record of historic data adjustment made is available upon request by emailing epi-data-support@who.int. Please specify the country(ies) of interest, time period(s), 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.

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

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

Technical guidance and other resources

- WHO technical guidance
- WHO COVID-19 Dashboard
- WHO Weekly Operational Updates on COVID-19
- WHO COVID-19 case definitions
- COVID-19 Supply Chain Inter-Agency Coordination Cell Weekly Situational Update
- Research and Development
- OpenWHO courses on COVID-19 in official UN languages and in additional national languages
- WHO Academy COVID-19 mobile learning app
- The Strategic Preparedness and Response Plan (SPRP) outlining the support the international community can provide to all countries to prepare and respond to the virus
- Recommendations and advice for the public:
  - Protect yourself
  - Questions and answers
  - Travel advice
- EPI-WIN: tailored information for individuals, organizations and communities

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COVID-19 Weekly Epidemiological Update

Edition 61, published 13 October 2021

In this edition:

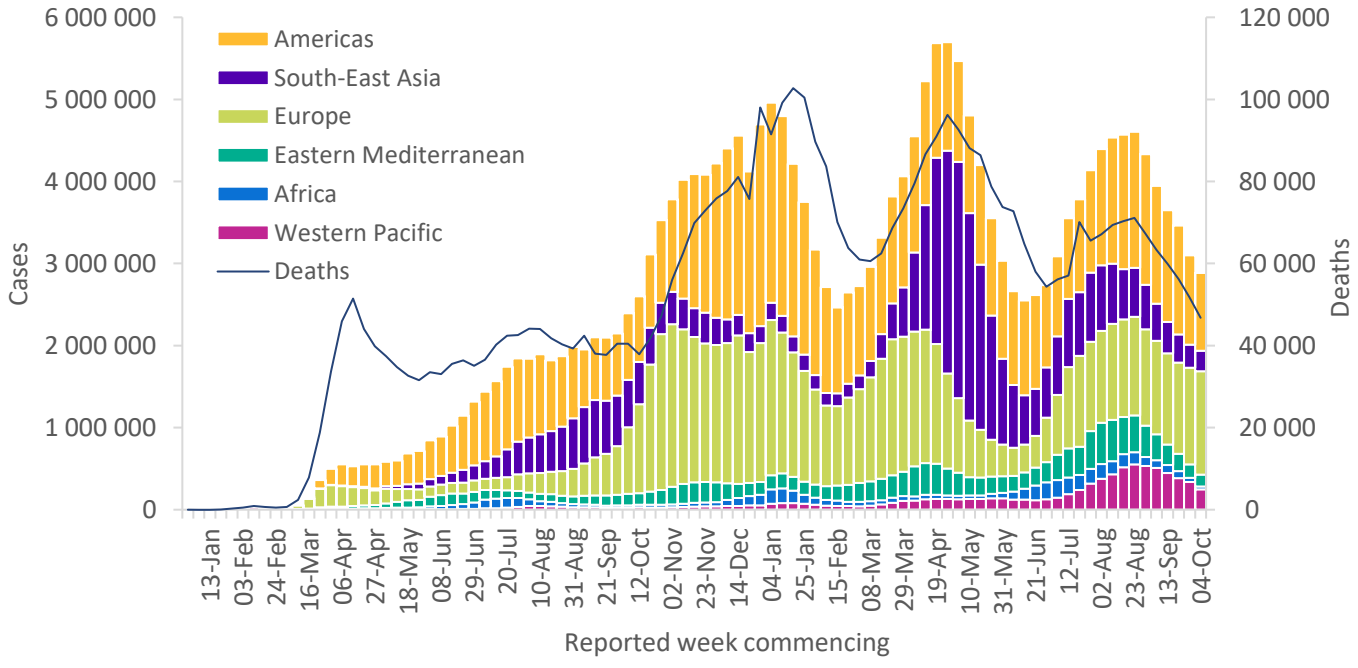
Global overview

Data as of 10 October 2021

Globally, the numbers of weekly COVID-19 cases and deaths have continued to decline since late August (Figure 1). Over 2.8 million new cases and over 46 000 new deaths were reported during the week of 4 to 10 October 2021, representing decreases of 7% and 10% respectively, as compared to the previous week (Table 1). Apart from the European Region, which reported a 7% increase in the number of new weekly cases as compared to the previous week, all the other regions reported declines in new weekly cases. The largest decrease in new weekly cases was reported from the African Region (32%), followed by the Western Pacific Region (26%). The cumulative number of confirmed cases reported globally is now over 237 million and the cumulative number of deaths is over 4.8 million.

The number of new weekly deaths reported showed a large (>10%) decline for all regions except for the European Region, which reported an 11% increase as compared to the previous week. The largest decline in weekly deaths was reported from the Western Pacific and the African Regions, with both showing declines of 34% as compared to the previous week.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 10 October 2021**



**See *Annex 2: Data, table and figure notes*

The regions reporting the highest weekly case incidence rates per 100 000 population were the European Region (135.1 new cases per 100 000 population) and the Region of the Americas (92.8 new cases per 100 000 population), and the same two regions reported the highest weekly incidence in deaths, with both reporting 1.8 per 100 000 population.

The highest numbers of new cases were reported from the United States of America (653 837 new cases; 12% decrease), the United Kingdom (249 699 new cases; similar to the number reported in the previous week), Turkey (205 266 new cases; similar to the number reported in the previous week), the Russian Federation (188 829 new cases; 14% increase), and India (139 572 new cases; 13% decrease).

Globally, no new countries, territories or areas (hereafter countries) reported cases with VOCs in the past week. As of 12 October, cases of Alpha variant have been reported from 195 countries, Beta variant from 145 countries, Gamma variant from 99 countries, and Delta variant from 191 countries across all six WHO regions.

Table 1. Newly reported and cumulative COVID-19 cases and deaths, by WHO Region, as of 10 October 2021**

WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Americas	949 371 (33%)	-13%	91 325 885 (38%)	18 565 (40%)	-14%	2 241 923 (46%)
Europe	1 260 455 (44%)	7%	71 863 813 (30%)	17 198 (37%)	11%	1 360 102 (28%)
South-East Asia	247 814 (9%)	-11%	43 369 716 (18%)	3 636 (8%)	-16%	681 671 (14%)
Eastern Mediterranean	144 710 (5%)	-13%	15 970 239 (7%)	3 002 (6%)	-16%	293 568 (6%)
Western Pacific	249 098 (9%)	-26%	8 858 812 (4%)	3 141 (7%)	-34%	120 846 (2%)
Africa	33 563 (1%)	-32%	6 081 759 (3%)	1 247 (3%)	-34%	148 101 (3%)
Global	**2 885 011 (100%)**	**-7%**	**237 470 988 (100%)**	**46 789 (100%)**	**-10%**	**4 846 224 (100%)**

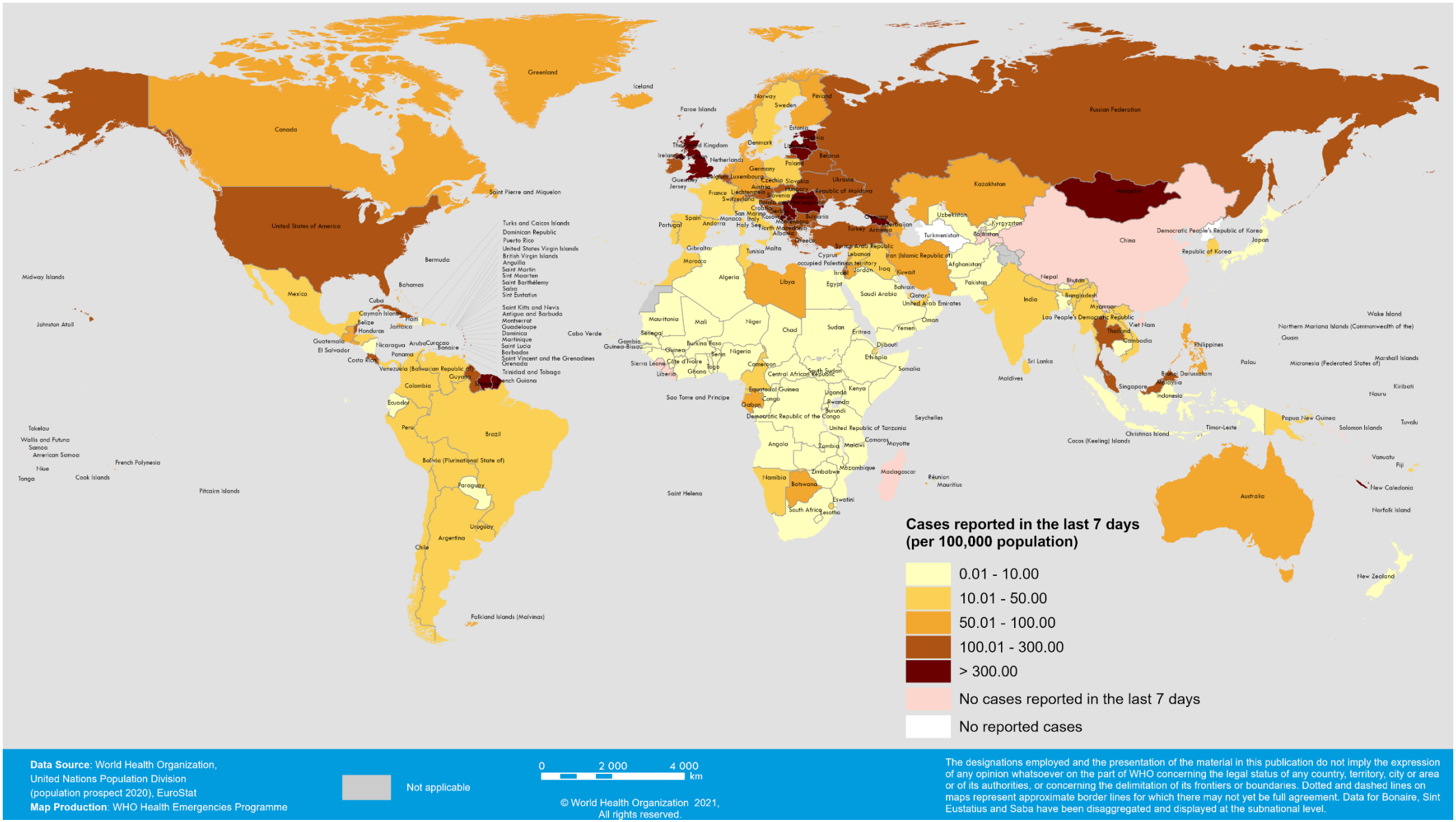
Percent change in the number of newly confirmed cases/deaths in past seven days, compared to seven days prior

**See *Annex 2: Data, table and figure notes*

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

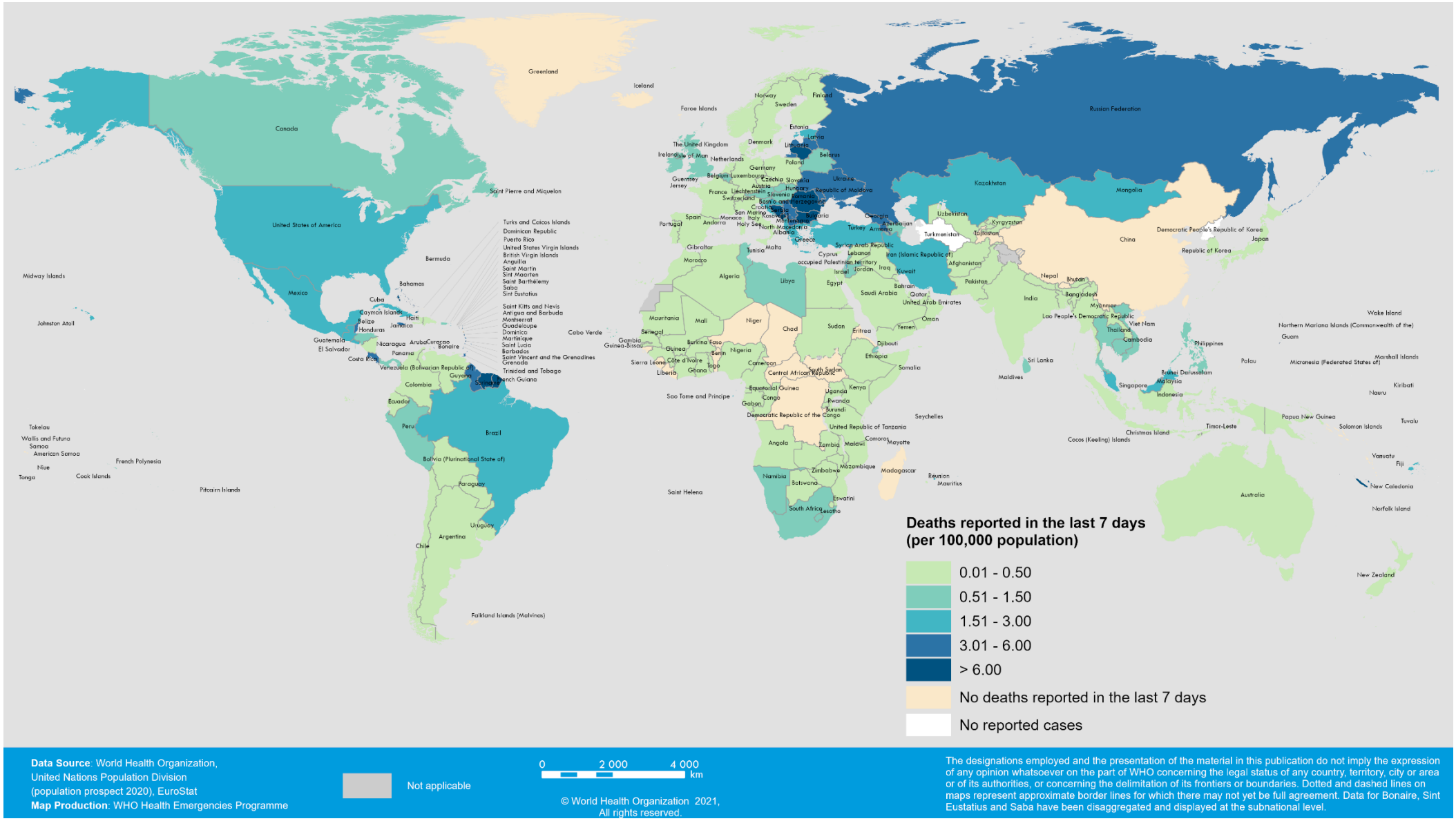
- WHO COVID-19 Dashboard
- WHO COVID-19 Weekly Operational Update and previous editions of the Weekly Epidemiological Update

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 4-10 October 2021**



**See *Annex 2: Data, table and figure notes*

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 4 -10 October 2021**



**See *Annex 2: Data, table and figure notes*

Special Focus: Update on SARS-CoV-2 Variants of Interest and Variants of Concern

WHO, in collaboration with national authorities, institutions and researchers, routinely assesses if variants of SARS-CoV-2 alter transmission or disease characteristics, or impact effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied by national authorities to control disease spread. "Signals" of potential Variants of Concern (VOCs) or Variants of Interest (VOIs) are detected and assessed based on the risk posed to global public health. As evidence becomes available, classification for VOIs or VOCs will be revised to reflect the continuous evolution of circulating variants and their changing epidemiology (see criteria for variant classification here). National authorities may choose to designate other variants of local interest/concern and are encouraged to investigate and report on the impacts of these variants. National authorities may choose to designate other variants of local interest/concern and are encouraged to investigate and report on the impacts of these variants.

As these risks evolve, WHO will continue to update lists of global VOIs and VOCs to support setting priorities for surveillance and research, and ultimately guide response strategies (for more information, please see the Tracking SARS-CoV-2 variants website). The prevalence of different variants is being monitored in light of other co-circulating variants, such as Delta.

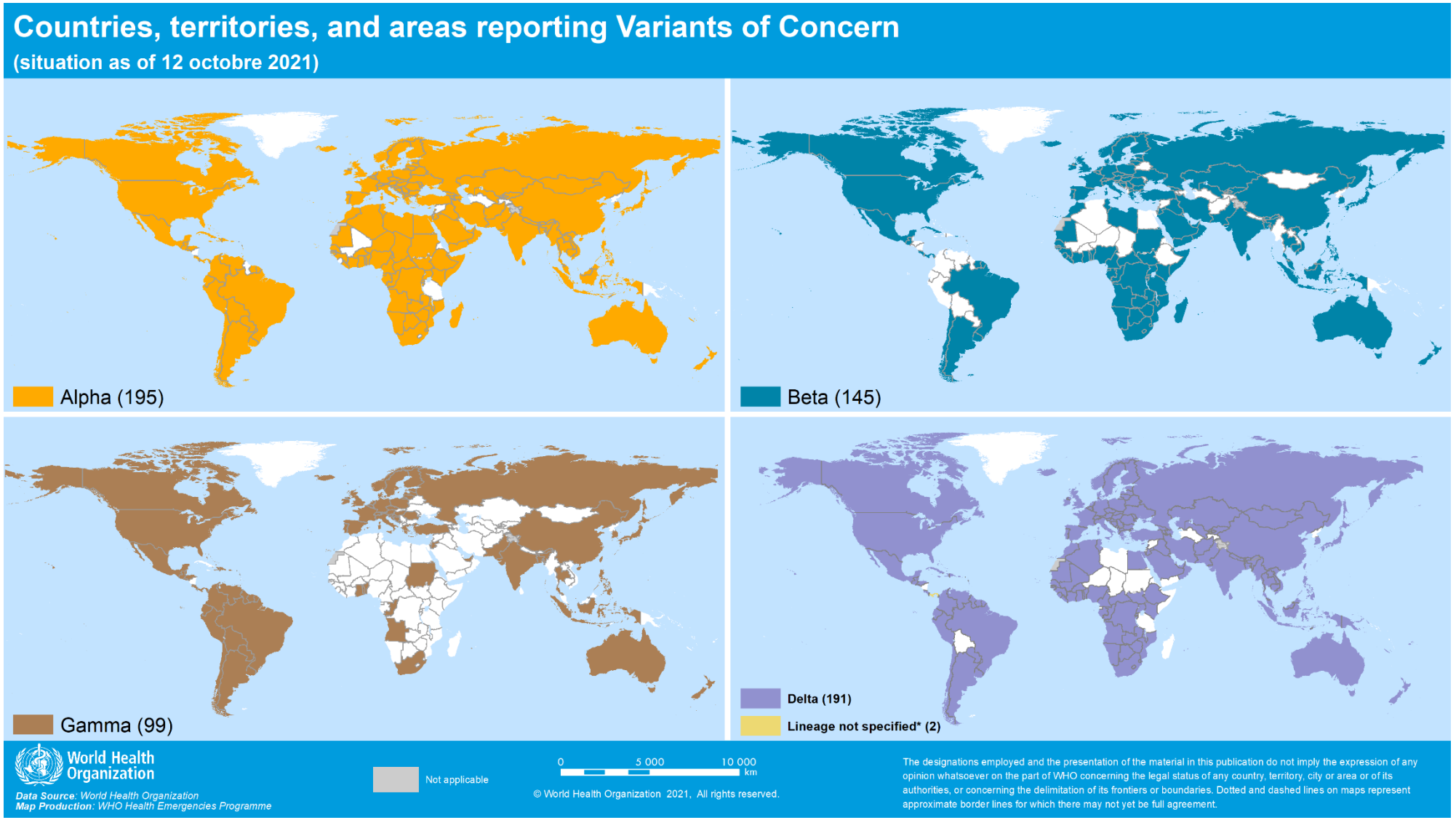
Globally, no new countries reported cases with VOCs in the past week (Figure 4, Annex 1). The current global epidemiology can be characterized by a predominance of the Delta variant, with declining prevalence of other VOCs among SARS-CoV-2 sequences reported to publicly available datasets. The global distribution should nonetheless be interpreted with due consideration of surveillance limitations, including differences in sequencing capacities, sampling strategies between countries and delays in reporting.

The inequitable access to vaccines increases the risk of emergence of new and even more threatening variants. As countries gradually resume non-essential international travel, the introduction of risk mitigation measures aiming to reduce travel-associated exportation, importation and onward transmission of SARS-CoV-2 should be based on thorough risk assessments conducted systematically and routinely.

Additional resources

- Tracking SARS-CoV-2 Variants
- COVID-19 new variants: Knowledge gaps and research
- Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health
- Considerations for implementing and adjusting public health and social measures in the context of COVID-19

Figure 4. Countries, territories and areas reporting variants Alpha, Beta, Gamma and Delta, as of 12 October 2021**



**Includes countries/territories/areas reporting the detection of B.1.617 without further specification of lineage at this time. These will be reallocated as further details become available.*

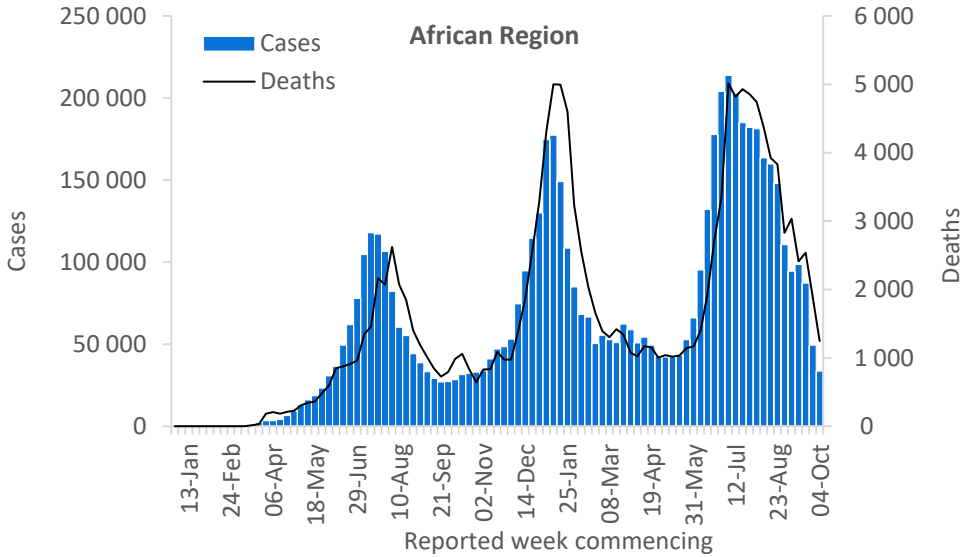
***Countries/territories/areas highlighted include both official and unofficial reports of VOC detections, and do not presently differentiate between detections among travellers (e.g., at Points of Entry) or local community cases. Please see Annex 2 for further details*

WHO regional overviews Epidemiological week 4-10 October 2021

African Region

Since mid-July, the African Region has shown a constant decline in the number of COVID-19 cases and deaths, with over 33 000 new cases and over 1200 new deaths reported last week, a 32% and a 34% decrease respectively as compared to the previous week. While the majority of countries (35/49; 71%) reported a decrease in new weekly cases, seven countries reported an increase, with Chad (by 54%) reporting the greatest increase. The highest numbers of new cases were reported from Ethiopia (6061 new cases; 5.3 new cases per 100 000; a 15% decrease), South Africa (5884 new cases; 9.9 new cases per 100 000; a 39% decrease), and Cameroon (3096 new cases; 11.7 new cases per 100 000; a 55% decrease).

Concerning new weekly deaths, 75% of countries in the Region reported a decline whereas there was a marked increase observed in Senegal (by 125%) and Mali (by 100%). The highest numbers of new deaths were reported from South Africa (539 new deaths; <1 new death per 100 000; a 28% decrease), Ethiopia (275 new deaths; <1 new death per 100 000; a 10% decrease), and Cameroon (58 new deaths; <1 new death per 100 000; a 36% decrease).

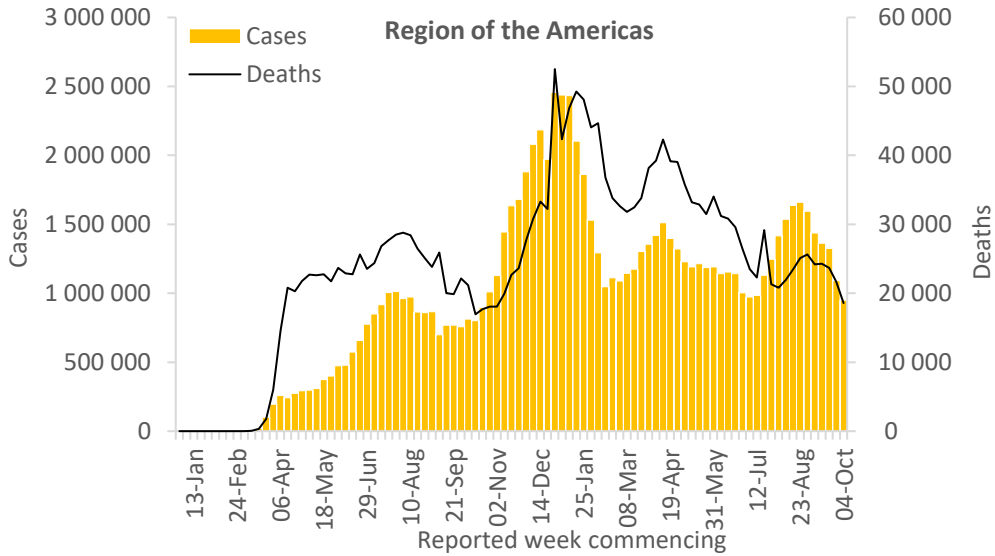


Updates from the African Region

Region of the Americas

Since the end of August, the Region of the Americas has been reporting a declining trend in COVID-19 cases, with over 949 000 new cases reported this week, a 13% decrease as compared to previous week. Despite the declining trend in cases, 30% (17 out of 56 countries) reported an increase, with Montserrat (absolute numbers remain low), Saint Kitts and Nevis, and Saint Martin reporting the highest increase. The highest numbers of new cases were reported from the United States of America (653 837 new cases; 197.5 new cases per 100 000; a 12% decrease), Brazil (105 079 new cases; 49.4 new cases per 100 000; an 11% decrease), and Mexico (42 781 new cases; 33.2 new cases per 100 000; a 19% decrease).

For new weekly deaths, over 18 000 new deaths were reported this week, a 14% decrease compared to the previous week. The highest numbers of new deaths were reported from the United States of America (9080 new deaths; 2.7 new deaths per 100 000; a 21% decrease), Mexico (3632 new deaths; 2.8 new deaths per 100 000; an 11% increase), and Brazil (3200 new deaths; 1.5 new deaths per 100 000; a 10% decrease).

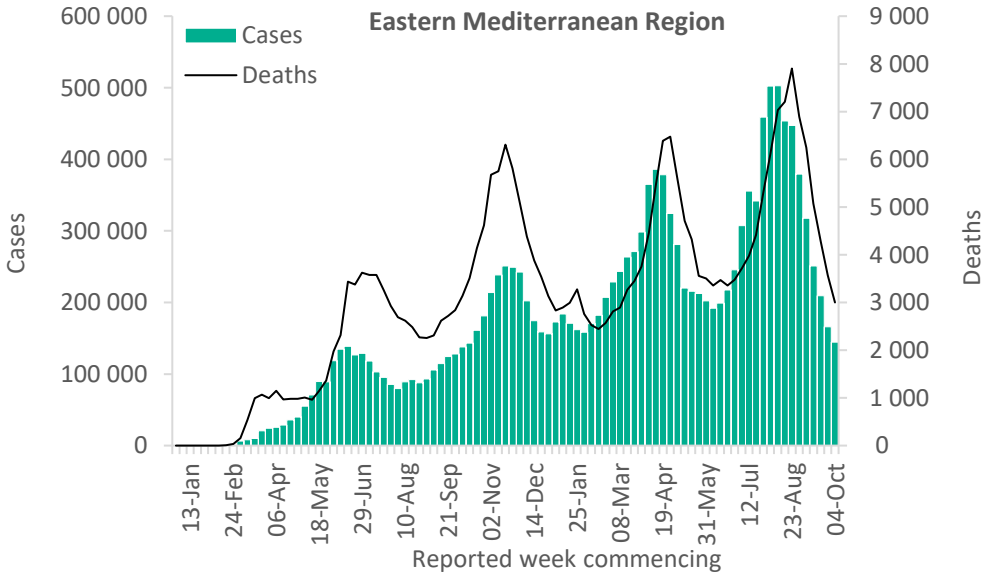


Updates from the Region of the Americas

Eastern Mediterranean Region

During this week, the Eastern Mediterranean Region reported over 144 000 new cases and over 3000 new deaths, a 13% and a 16% decrease respectively as compared to the previous week; this follows the decline observed since mid- August 2021. While most of the countries (16/22; 73%) reported a decrease in new weekly cases, with the greatest decrease reported from Tunisia, Sudan and Somalia reported large increases in case incidence as compared to the previous week. The highest numbers of new cases were reported from the Islamic Republic of Iran (79 934 new cases; 95.2 new cases per 100 000; a 13% decrease), Iraq (14 882 new cases; 37.0 new cases per 100 000; similar figures as last week), and Pakistan (8986 new cases; 4.1 new cases per 100 000; a 21% decrease).

While most countries (14/22; 64%) in the Region reported a decline in new weekly deaths last week as compared to the previous week, Libya, Somalia and Sudan reported an increase. The highest numbers of new deaths were reported from the Islamic Republic of Iran (1490 new deaths; 1.8 new deaths per 100 000; an 18% decrease), Egypt (259 new deaths; <1 new death per 100 000; similar figures as last week), and Pakistan (256 new deaths; <1 new death per 100 000; a 17% decrease).

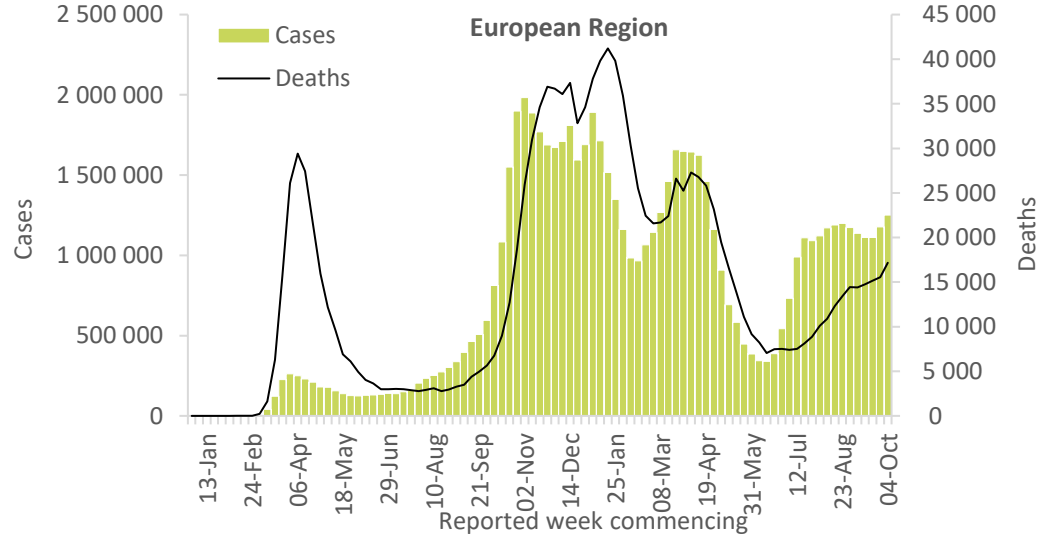


Updates from the Eastern Mediterranean Region

European Region

Following a plateau in new weekly COVID-19 cases since mid-July, the Region reported a 7% increase compared to the previous week, with over 1.2 million new cases reported this week. Forty-six percent (28/61) of the countries showed an increase in the number of new weekly cases. The highest numbers of new cases were reported from the United Kingdom (249 699 new cases; 367.8 new cases per 100 000; similar to last week's figures), Turkey (205 266 new cases; 243.4 new cases per 100 000; similar to last week's figures), and the Russian Federation (188 829 new cases; 129.4 new cases per 100 000; a 14% increase).

During this week, over 17 000 new deaths have been reported in the Region, an 11% increase as compared to the previous week; continuing a steady increase observed since the end of June. Several countries in Eastern Europe including Czechia, Estonia, Hungary, Kyrgyzstan, Romania and Ukraine reported the greatest increase in new weekly deaths. Overall, the highest numbers of new deaths were reported from the Russian Federation (6497 new deaths; 4.5 new deaths per 100 000; an 8% increase), Romania (1854 new deaths; 9.6 new deaths per 100 000; a 54% increase), and Ukraine (1718 new deaths; 3.9 new deaths per 100 000; a 50% increase).

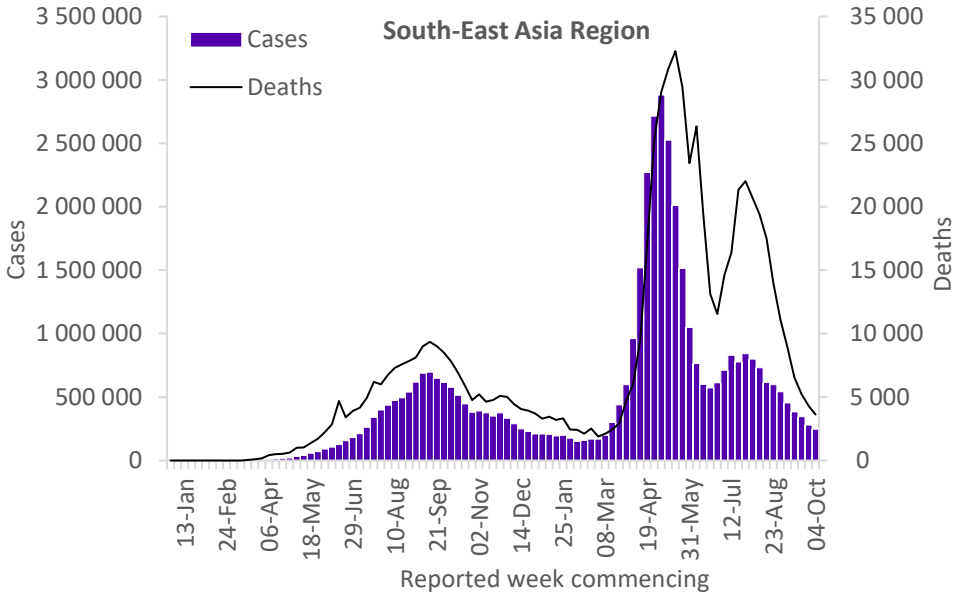


Updates from the European Region

South-East Asia Region

The South-East Asia Region reported over 247 000 new cases and over 3600 new deaths, an 11% and a 16% decrease, respectively as compared to the previous week. All countries reported a decrease in weekly new cases and weekly new deaths this week, with the greatest decrease reported from Timor-Leste. Overall, cases and deaths have continued to decline since early August. The highest numbers of new cases were reported from India (139 572 new cases; 10.1 new cases per 100 000; a 13% decrease), Thailand (73 452 new cases; 105.2 new cases per 100 000; similar to last week's figures), and Myanmar (10 188 new cases; 18.7 new cases per 100 000; similar to last week's figures).

The highest numbers of new deaths were reported from India (1772 new deaths; <1 new death per 100 000; a 7% decrease), Thailand (677 new deaths; <1 new deaths per 100 000; a 9% decrease), and Indonesia (478 new deaths; <1 new death per 100 000; a 32% decrease).

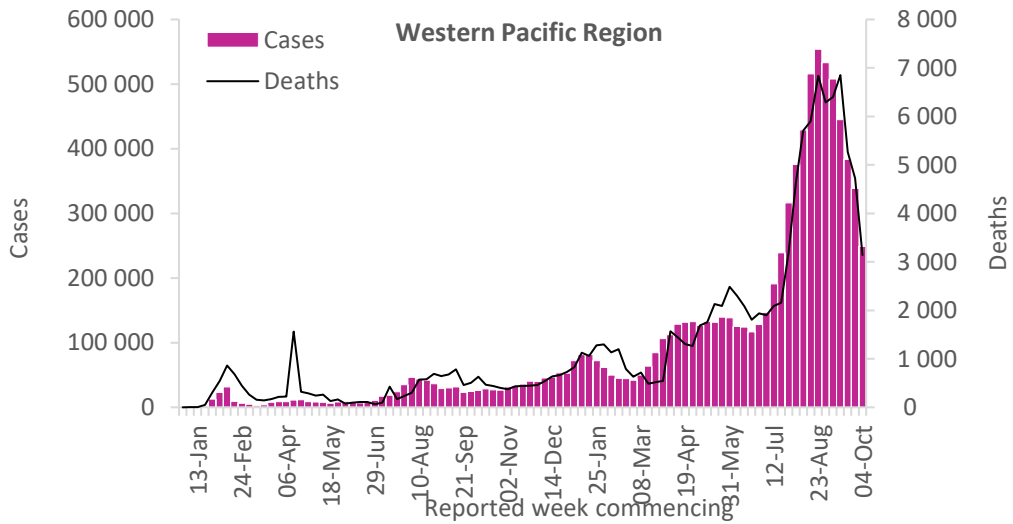


Updates from the South-East Asia Region

Western Pacific Region

Since late August, COVID-19 cases have continued to show a declining trend in the region, with over 249 000 new cases, a 26% decrease as compared to the previous week. While most of the countries reported a decline in weekly cases this week, New Zealand, Papua New Guinea, Singapore and Australia reported an increase in cases as compared to the previous week. The highest numbers of new cases were reported from the Philippines (74 277 new cases; 67.8 new cases per 100 000; a 32% decrease), Malaysia (63 722 new cases; 196.9 new cases per 100 000; a 24% decrease), and Viet Nam (32 932 new cases; 33.8 new cases per 100 000; a 42% decrease).

Deaths continue to decline since early September, with over 3100 new deaths reported this week, a 34% decrease as compared to the previous week. The highest numbers of new deaths were reported from the Philippines (849 new deaths; <1 new death per 100 000; a 32% decrease), Viet Nam (841 new deaths; <1 new death per 100 000; a 30% decrease), and Malaysia (700 new deaths; 2.2 new deaths per 100 000; a 50% decrease).



Updates from the Western Pacific Region

Summary of the COVID-19 Weekly Operational Update

The Weekly Operational Update (WOU) is a report provided by the COVID-19 Strategic Preparedness and Response Plan (SPRP) monitoring and evaluation team which aims to update on the ongoing global progress against the COVID-19 SPRP 2021 framework. In this week's edition, published on 13 October, highlights of country-level actions and WHO support to countries include:

- Scale-up to genomic sequencing capacities and monitoring of the evolution of SARS-CoV-2 in the African Region
- Supporting health workforce with personal protective equipment (PPE) in Yemen
- Support to national coordination through establishing Public Health Emergency Operations Centres in Armenia and Kyrgyzstan
- Progress on a subset of indicators from the SPRP 2021 Monitoring and Evaluation Framework
- Roll-out of COVID-19 vaccine in Lao People's Democratic Republic
- Translating training tools to support frontline workers in Timor-Leste
- Issuing the SPRP mid-term report and updated appeal for urgent priorities and funding requirements
- Updates on WHO's financing to support countries in SPRP 2021 implementation and provision of critical supplies.

Annex

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.

Annex 1. List of countries/territories/areas reporting Variants of Concern as of 12 October 2021

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif...
Afghanistan	●	-	-	●	-
Albania	●	-	-	○	-
Algeria	●	-	-	●	-
Andorra	○	○	-	○	-
Angola	●	●	●	●	-
Anguilla	●	-	-	●	-
Antigua and Barbuda	●	●	●	●	-
Argentina	●	●	●	●	-
Armenia	●	-	-	●	-
Aruba	●	●	●	●	-
Australia	●	●	●	●	-
Austria	●	●	●	●	-
Azerbaijan	●	-	-	○	-
Bahamas	●	-	●	●	-
Bahrain	●	●	●	●	-
Bangladesh	●	●	○	●	-
Barbados	●	-	●	●	-
Belarus	●	-	-	○	-
Belgium	●	●	●	●	-
Belize	●	-	●	●	-
Benin	●	●	●	●	-
Bermuda	●	●	-	●	-
Bhutan	●	●	-	●	-
Bolivia (Plurinational State of)	●	-	●	-	-
Bonaire	●	-	●	●	-
Bosnia and Herzegovina	●	●	●	○	-
Botswana	○	●	-	●	-
Brazil	●	●	●	●	-
British Virgin Islands	●	-	●	●	-
Brunei Darussalam	●	●	-	●	-
Bulgaria	●	●	-	●	-
Burkina Faso	●	-	-	●	-
Burundi	●	●	-	●	-
Cabo Verde	●	-	-	●	-
Cambodia	●	●	-	●	-
Cameroon	●	●	-	●	-
Canada	●	●	●	●	-
Cayman Islands	●	●	●	●	-
Central African Republic	●	●	-	●	-
Chad	●	-	-	-	-
Chile	●	●	●	●	-
China	●	●	●	○	-
Colombia	●	-	●	●	-
Comoros	-	●	-	-	-
Congo	●	○	●	●	-
Costa Rica	●	●	●	●	-
Croatia	●	●	●	○	-
Cuba	●	●	-	●	-
Curaçao	●	●	●	●	●
Cyprus	●	●	-	○	-
Czechia	●	●	●	●	-
Côte d'Ivoire	●	●	-	○	-
Democratic Republic of the Congo	●	●	-	●	-
Denmark	●	●	●	●	-
Djibouti	●	●	-	-	-
Dominica	●	-	-	●	-
Dominican Republic	●	-	●	●	-
Ecuador	●	-	●	●	-
Egypt	●	-	-	●	-
El Salvador	●	-	●	●	-
Equatorial Guinea	●	●	-	-	-
Estonia	●	●	○	○	-
Eswatini	○	●	-	●	-
Ethiopia	●	-	-	●	-
Falkland Islands (Malvinas)	●	●	-	-	-
Faroe Islands	●	-	●	-	-
Fiji	-	-	-	●	-
Finland	●	●	●	●	-
France	●	●	●	●	-
French Guiana	●	●	●	●	-
French Polynesia	●	●	●	●	-
Gabon	●	●	-	●	-
Gambia	●	-	-	●	-
Georgia	●	○	-	●	-
Germany	●	●	●	●	-
Ghana	●	●	●	●	-
Gibraltar	●	-	-	○	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif
Greece	●	●	●	●	-
Grenada	●	-	-	●	-
Guadeloupe	●	●	●	●	-
Guam	●	●	●	●	-
Guatemala	●	●	●	●	-
Guinea	●	●	-	●	-
Guinea-Bissau	●	●	-	●	-
Guyana	-	-	●	●	-
Haiti	●	-	●	●	-
Honduras	●	-	●	●	-
Hungary	●	○	●	○	-
Iceland	●	●	●	●	-
India	●	●	●	●	-
Indonesia	●	●	○	●	-
Iran (Islamic Republic of)	●	●	-	●	-
Iraq	●	●	-	●	-
Ireland	●	●	●	●	-
Israel	●	●	●	●	-
Italy	●	●	●	●	-
Jamaica	●	-	-	●	-
Japan	●	●	●	●	-
Jordan	●	●	●	●	-
Kazakhstan	●	○	-	●	-
Kenya	●	●	-	●	-
Kosovo[1]	●	○	-	○	-
Kuwait	●	●	-	●	-
Kyrgyzstan	●	●	-	●	-
Lao People's Democratic Republic	●	-	-	●	-
Latvia	●	●	●	○	-
Lebanon	●	-	-	●	-
Lesotho	-	●	-	○	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif
Liberia	●	●	-	●	-
Libya	●	●	-	-	-
Liechtenstein	●	-	-	○	-
Lithuania	●	●	●	○	-
Luxembourg	●	●	●	●	-
Madagascar	●	●	-	-	-
Malawi	●	●	-	●	-
Malaysia	●	●	-	●	-
Maldives	●	-	-	●	-
Mali	-	-	-	●	-
Malta	●	○	●	○	-
Martinique	●	●	●	●	-
Mauritania	●	●	-	●	-
Mauritius	●	●	-	●	-
Mayotte	●	●	-	-	-
Mexico	●	●	●	●	-
Monaco	●	●	-	●	-
Mongolia	●	-	-	●	-
Montenegro	●	-	○	○	-
Montserrat	●	-	●	●	-
Morocco	●	●	-	●	-
Mozambique	●	●	-	●	-
Myanmar	●	-	-	●	-
Namibia	●	●	-	●	-
Nepal	●	-	-	●	-
Netherlands	●	●	●	●	-
New Caledonia	●	-	-	●	-
New Zealand	●	●	○	○	-
Niger	●	-	-	-	-
Nigeria	●	●	-	●	-
North Macedonia	●	●	-	○	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif
Northern Mariana Islands (Commonwealth of the)	○	-	-	●	-
Norway	●	●	●	●	-
Occupied Palestinian Territory	●	●	-	●	-
Oman	●	●	-	●	-
Pakistan	●	●	●	●	-
Panama	●	●	●	●	●
Papua New Guinea	-	-	-	●	-
Paraguay	●	-	●	●	-
Peru	●	-	●	●	-
Philippines	●	●	●	●	-
Poland	●	○	●	●	-
Portugal	●	●	●	●	-
Puerto Rico	●	●	●	●	-
Qatar	●	●	-	●	-
Republic of Korea	●	●	●	●	-
Republic of Moldova	●	-	-	●	-
Romania	●	●	●	●	-
Russian Federation	●	●	○	●	-
Rwanda	●	●	-	●	-
Réunion	●	●	●	○	-
Saba	-	-	-	●	-
Saint Barthélemy	●	-	-	●	-
Saint Kitts and Nevis	-	-	-	●	-
Saint Lucia	●	-	-	●	-
Saint Martin	●	●	-	●	-
Saint Pierre and Miquelon	-	-	-	●	-
Saint Vincent and the Grenadines	-	-	●	●	-
Sao Tome and Principe	●	-	-	○	-
Saudi Arabia	●	●	-	●	-
Senegal	●	●	-	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif
Serbia	●	-	-	●	-
Seychelles	●	●	-	●	-
Sierra Leone	-	●	-	●	-
Singapore	●	●	●	●	-
Sint Maarten	●	●	●	●	-
Slovakia	●	●	-	●	-
Slovenia	●	●	●	●	-
Somalia	●	●	-	-	-
South Africa	●	●	○	●	-
South Sudan	●	●	-	●	-
Spain	●	●	●	●	-
Sri Lanka	●	●	-	●	-
Sudan	●	●	●	-	-
Suriname	●	●	●	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif
Sweden	●	●	●	●	-
Switzerland	●	●	●	●	-
Thailand	●	●	●	●	-
Timor-Leste	●	-	-	●	-
Togo	●	●	●	●	-
Trinidad and Tobago	●	-	●	●	-
Tunisia	●	●	-	●	-
Turkey	●	●	●	●	-
Turks and Caicos Islands	●	-	●	●	-
Uganda	●	●	-	●	-
Ukraine	●	○	-	○	-
United Arab Emirates	●	●	●	●	-
United Kingdom	●	●	●	●	-
United Republic of Tanzania	-	●	-	-	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecif
United States Virgin Islands	●	●	-	●	-
United States of America	●	●	●	●	-
Uruguay	●	●	●	●	-
Uzbekistan	●	●	-	○	-
Venezuela (Bolivarian Republic of)	●	-	●	●	-
Viet Nam	●	●	-	●	-
Wallis and Futuna	●	-	-	-	-
Yemen	●	●	-	-	-
Zambia	●	●	-	●	-
Zimbabwe	●	●	-	●	-

**Newly reported in this update.*
"Unspecified B.1.617" reflects countries/territories/areas reporting detection of B.1.617 without further specification of lineage at this time. These will be reallocated as further details become available.
"●" indicates that information for this variant was received by WHO from official sources.
"○" indicates that information for this variant was received by WHO from unofficial sources and will be reviewed as more information become available.
***Includes countries/territories/areas reporting the detection of VOCs among travelers (e.g., imported cases detected at points of entry), or local cases (detected in the community).*
Excludes countries, territories, and areas that have never reported the detection of a variant of concern.
-Kindly note that Delta has been discarded for Syrian Arab Republic upon verification.
See also Annex 2: Data, table and figure notes.

Annex 2. Data, table and figure notes

Data presented are based on official laboratory-confirmed COVID-19 case 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 incidence, and variable delays to reflecting these data at 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. Due to public health authorities conducting data reconciliation exercises which remove large numbers of cases or deaths from their total counts, negative numbers may be displayed in the new cases/deaths columns as appropriate. When additional details become available that allow the subtractions to be suitably apportioned to previous days, graphics will be updated accordingly.

A record of historic data adjustment made is available upon request by emailing epi-data-support@who.int. Please specify the country(ies) of interest, time period(s), 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.

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

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

Technical guidance and other resources

- WHO technical guidance
- WHO COVID-19 Dashboard
- WHO Weekly Operational Updates on COVID-19
- WHO COVID-19 case definitions
- COVID-19 Supply Chain Inter-Agency Coordination Cell Weekly Situational Update
- Research and Development
- OpenWHO courses on COVID-19 in official UN languages and in additional national languages
- WHO Academy COVID-19 mobile learning app
- The Strategic Preparedness and Response Plan (SPRP) outlining the support the international community can provide to all countries to prepare and respond to the virus
- Recommendations and advice for the public:
  - Protect yourself
  - Questions and answers
  - Travel advice
- EPI-WIN: tailored information for individuals, organizations and communities

COVID-19 Weekly Epidemiological Update

Edition 62, published 19 October 2021

In this edition:

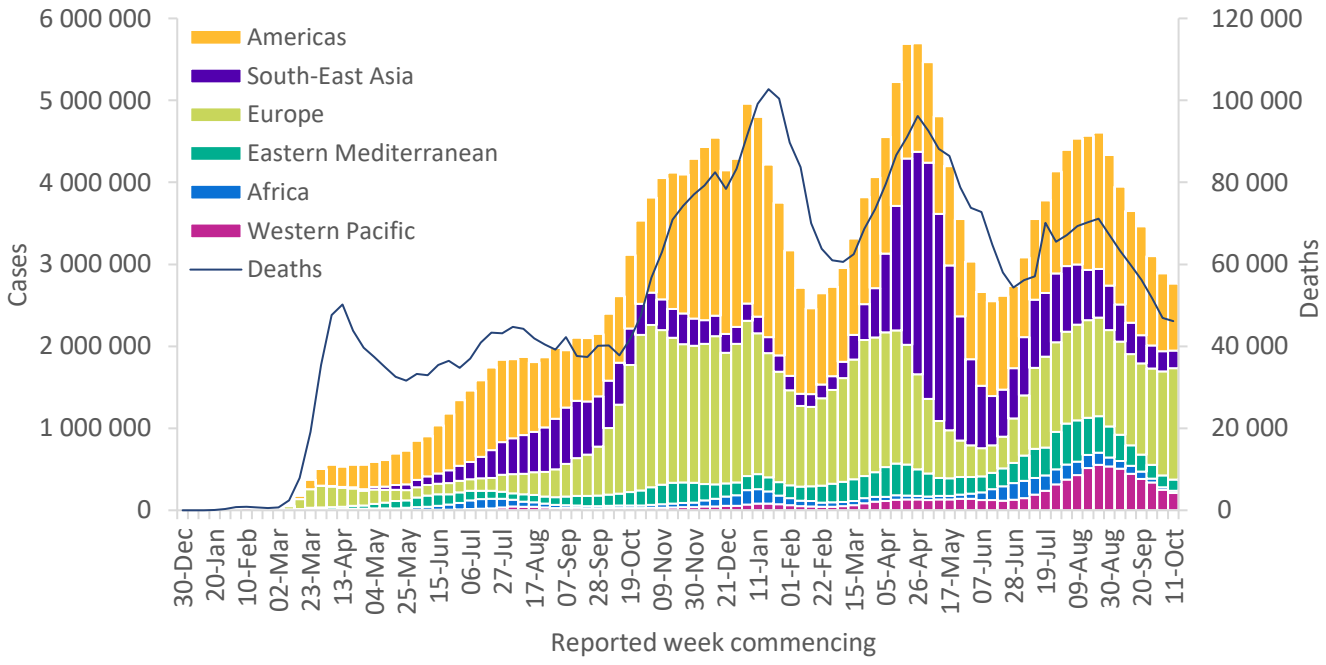
Global overview

Data as of 17 October 2021

With just over 2.7 million new cases and over 46 000 new deaths reported during the week of 11 to 17 October 2021, the global number of new cases and deaths remained similar to that of the previous week (Figure 1). Apart from the European Region, which reported a 7% increase in the number of new weekly cases when as compared to the previous week, all the other regions reported declines in new weekly cases (Table 1). The largest decrease in new weekly cases was reported from the African Region (18%), followed by the Western Pacific Region (16%). The cumulative number of confirmed cases reported globally is now over 240 million and the cumulative number of deaths is just under 4.9 million.

The African Region also reported the largest decline in weekly deaths (25%) followed by the South-East Asia and Eastern Mediterranean Regions with 19% and 8% declines, respectively. All other regions reported new deaths in numbers similar to those of the previous week.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 17 October 2021**



**See *Annex 3: Data, table and figure notes*

The regions reporting the highest weekly case incidence rates per 100 000 population were the European Region (145.6 new cases per 100 000 population) and the Region of the Americas (79.9 new cases per 100 000 population); the same two regions reported the highest weekly incidence in deaths, of 1.9 and 1.8 per 100 000 population, respectively.

The highest numbers of new cases were reported from the United States of America (582 707 new cases; 11% decrease), the United Kingdom (283 756 new cases; 14% increase), the Russian Federation (217 322 new cases; 15% increase), Turkey (213 981 new cases; similar to the number reported in the previous week) and India (114 244 new cases; 18% decrease).

Globally, three additional countries, territories or areas (hereafter countries) reported cases with VOCs in the past week. As of 19 October, cases of Alpha variant have been reported from 196 countries (one new country added), Beta variant from 145 countries (no new country added), Gamma variant from 99 countries, and Delta variant from 193 countries (two new countries added) across all six WHO regions.

Table 1. Newly reported and cumulative COVID-19 cases and deaths, by WHO Region, as of 17 October 2021**

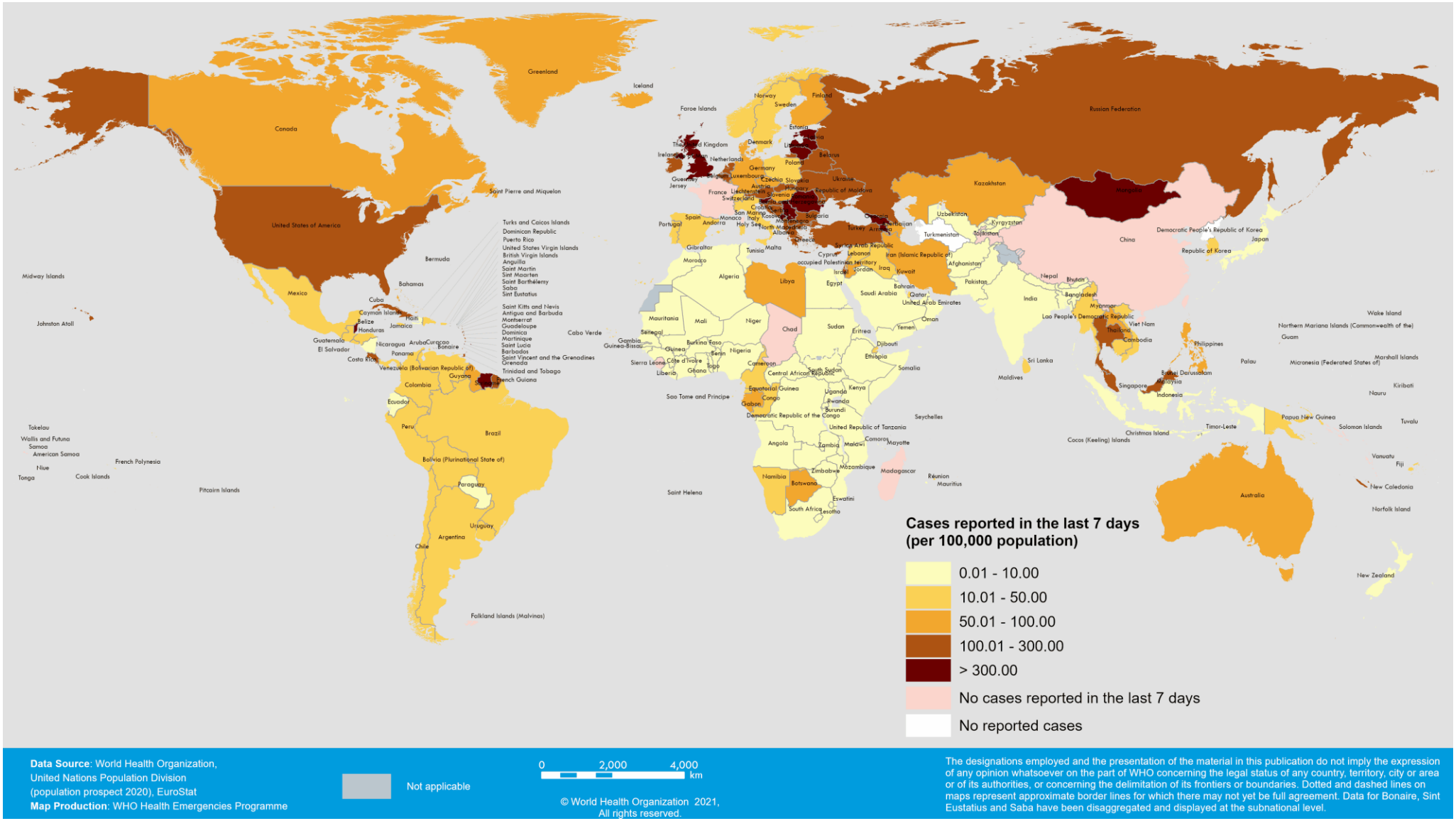
WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Africa	27 606 (1%)	-18%	6 109 365 (3%)	940 (2%)	-25%	149 041 (3%)
Americas	816 860 (30%)	-14%	92 142 897 (38%)	18 322 (40%)	-1%	2 260 259 (46%)
Eastern Mediterranean	136 074 (5%)	-6%	16 106 313 (7%)	2 769 (6%)	-8%	296 337 (6%)
Europe	1 358 284 (49%)	7%	73 226 218 (30%)	17 998 (39%)	4%	1 378 412 (28%)
South-East Asia	214 984 (8%)	-13%	43 584 700 (18%)	2 933 (6%)	-19%	684 604 (14%)
Western Pacific	210 149 (8%)	-16%	9 068 961 (4%)	3 178 (7%)	1%	124 024 (3%)
Global	**2 763 957 (100%)**	**-4%**	**240 239 218 (100%)**	**46 140 (100%)**	**-2%**	**4 892 690 (100%)**

**Percent change in the number of newly confirmed cases/deaths in past seven days, compared to seven days prior*
***See Annex 3: Data, table and figure notes*

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

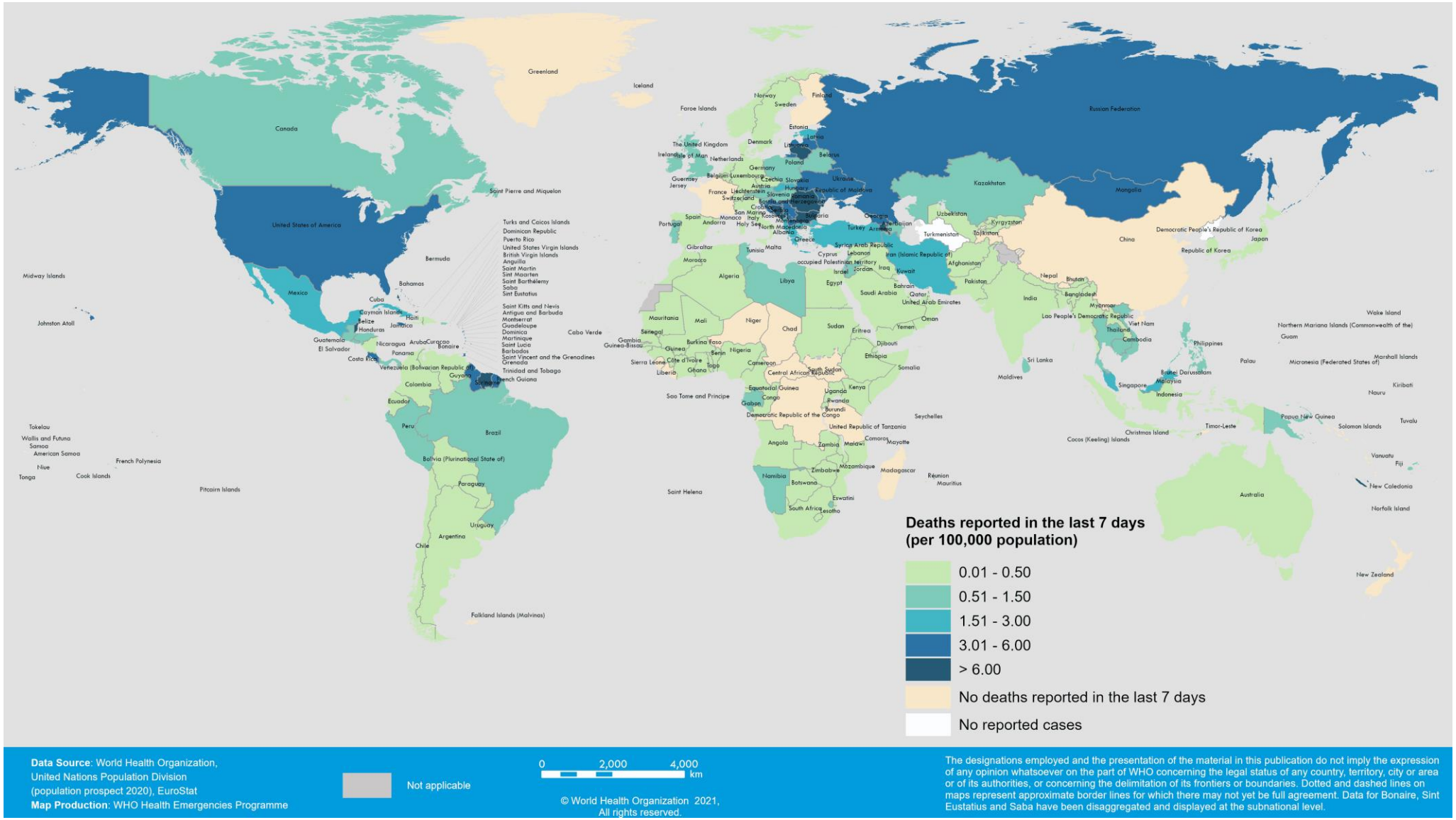
- WHO COVID-19 Dashboard
- WHO COVID-19 Weekly Operational Update and previous editions of the Weekly Epidemiological Update

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 11-17 October 2021**



**See *Annex 3: Data, table and figure notes*

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 11-17 October 2021**



**See *Annex 3: Data, table and figure notes*

Special Focus: Update on SARS-CoV-2 Variants of Interest and Variants of Concern

WHO, in collaboration with national authorities, institutions and researchers, routinely assesses if variants of SARS-CoV-2 alter transmission or disease characteristics, or impact effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied by national authorities to control disease spread. "Signals" of potential Variants of Concern (VOCs) or Variants of Interest (VOIs) are detected and assessed based on the risk posed to global public health. As evidence becomes available, classification for VOIs or VOCs will be revised to reflect the continuous evolution of circulating variants and their changing epidemiology. Criteria for variant classification and the current lists of VOCs, VOIs and other Variants Under Monitoring (VUMs) are available on the WHO Tracking SARS-Cov-2 variants website. National authorities may choose to designate other variants of local interest/concern and are encouraged to investigate and report on impacts of these variants.

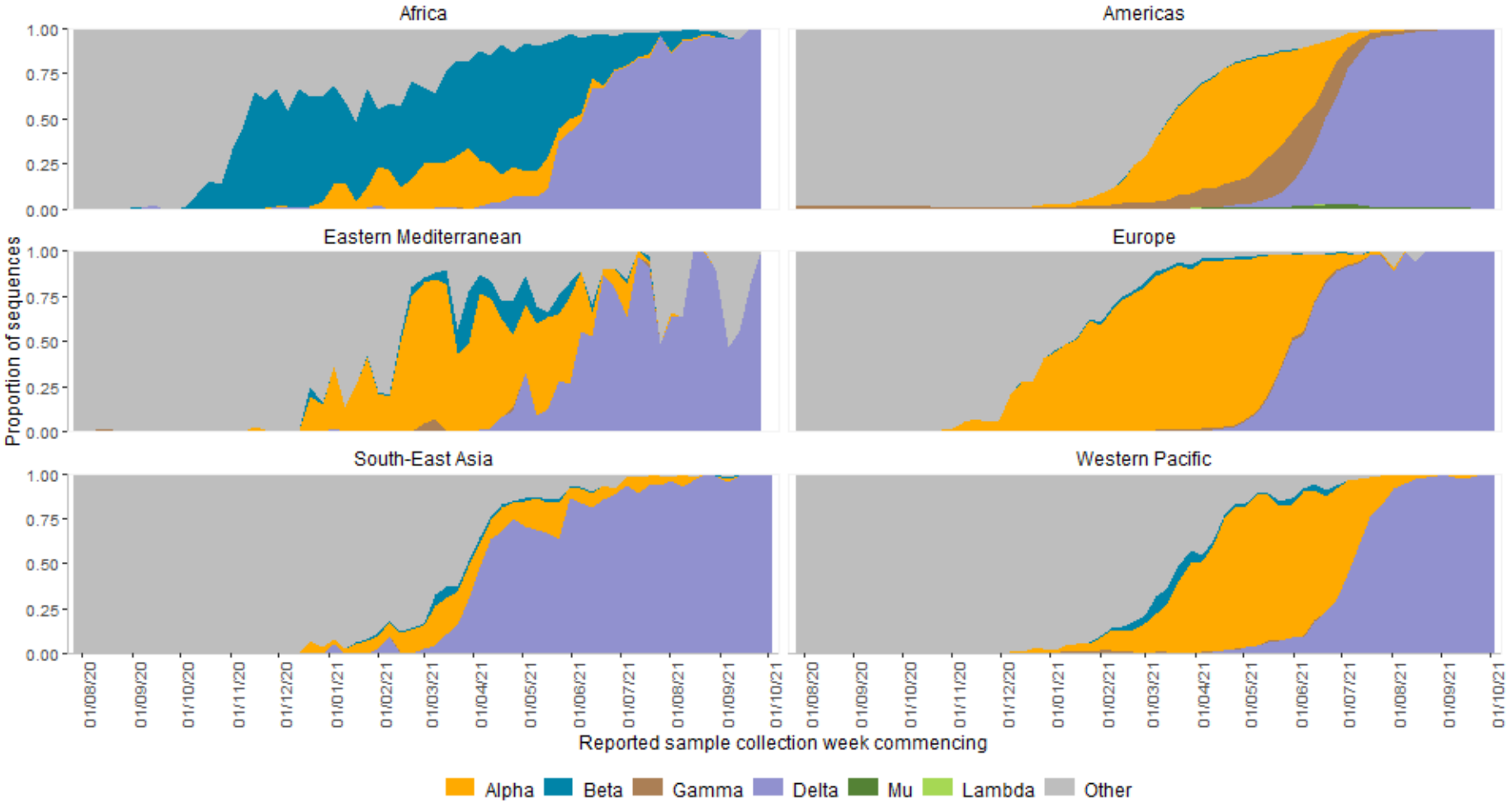
Geographic spread and prevalence of VOCs

The current global genetic epidemiology is characterized by a predominance of Delta variant, with declining prevalence of other variants among SARS-CoV-2 sequences submitted to publicly available datasets (Figure 4). Given its higher transmissibility, Delta has outcompeted other variants, including other VOCs, in many countries. Important sub-regional and country-level variation, nevertheless, continues to be observed; most notably within some South American countries, where the progression of the Delta variant has been more gradual than that observed in other regions, and other variants (e.g. Gamma, Mu) still contribute a large proportion of sequences samples.

To better reflect recent changes and the current geographic distribution of VOCs at a global level, we present here a revised set of global maps overlaying recent estimates of VOC prevalence, with data previously presented on detection of VOC reported officially or unofficially to WHO (Figure 5). Country-specific prevalence estimates were calculated as a proportion of total SARS-CoV-2 sequences uploaded to GISAID with a specimen collection date within the past 60 days, summarised into three groups to illustrate locations where the prevalence of VOCs is currently: dominant (>50% prevalence), moderate (11-50% prevalence) or low (≤10%). To ensure robustness of estimates, proportion estimates were limited to countries with 100 or more sequences uploaded during the reporting period. For countries with fewer than 100 sequences submitted, data on the detection or absence of submitted VOCs sequences, as well as previous reports of VOC detection are shown, and are detailed in Annex 2. Overall, these maps further highlight that in recent months, Delta is the most prevalent variant with widespread global circulation. Other VOCs and other variants are still circulating in some countries, however, largely at low levels.

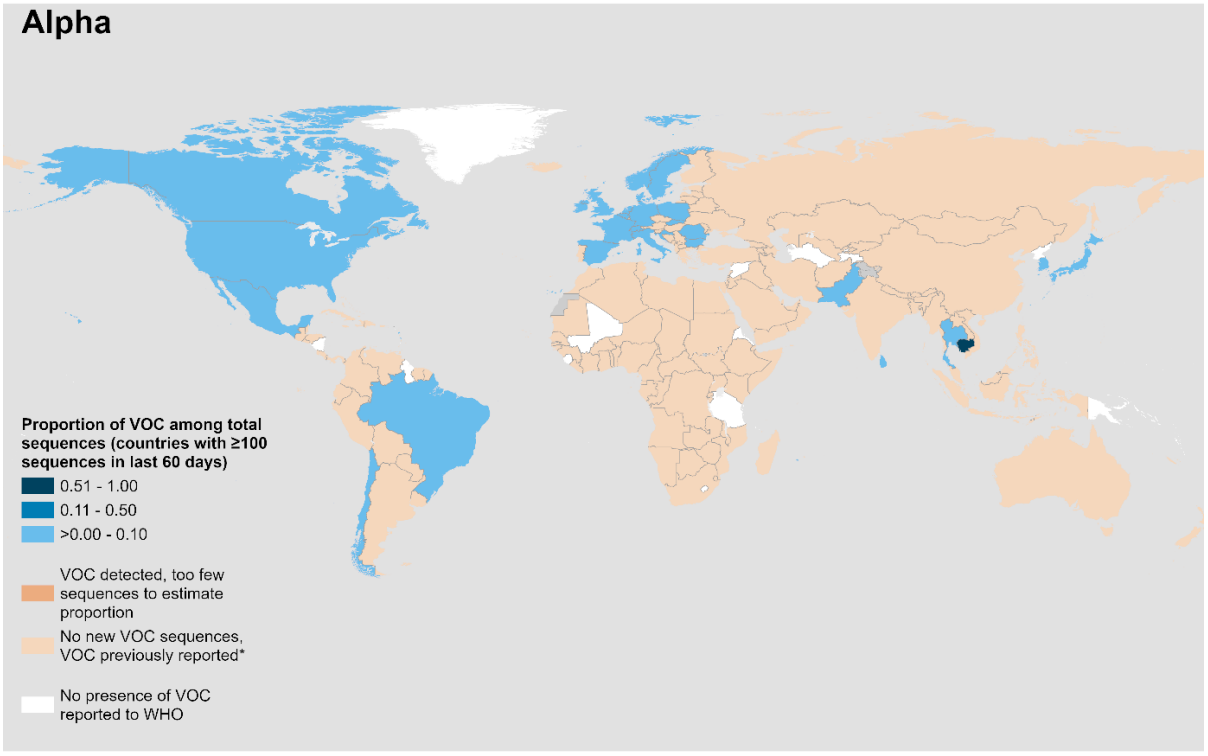
Global VOCs distribution should be interpreted with due consideration of surveillance limitations, including differences in sequencing capacities, sampling strategies between countries and delays in reporting. Current efforts are underway to strengthen genomic surveillance for SARS-CoV-2, including variants, in several regions and countries to enhance coverage of sequencing and detection of variants globally.

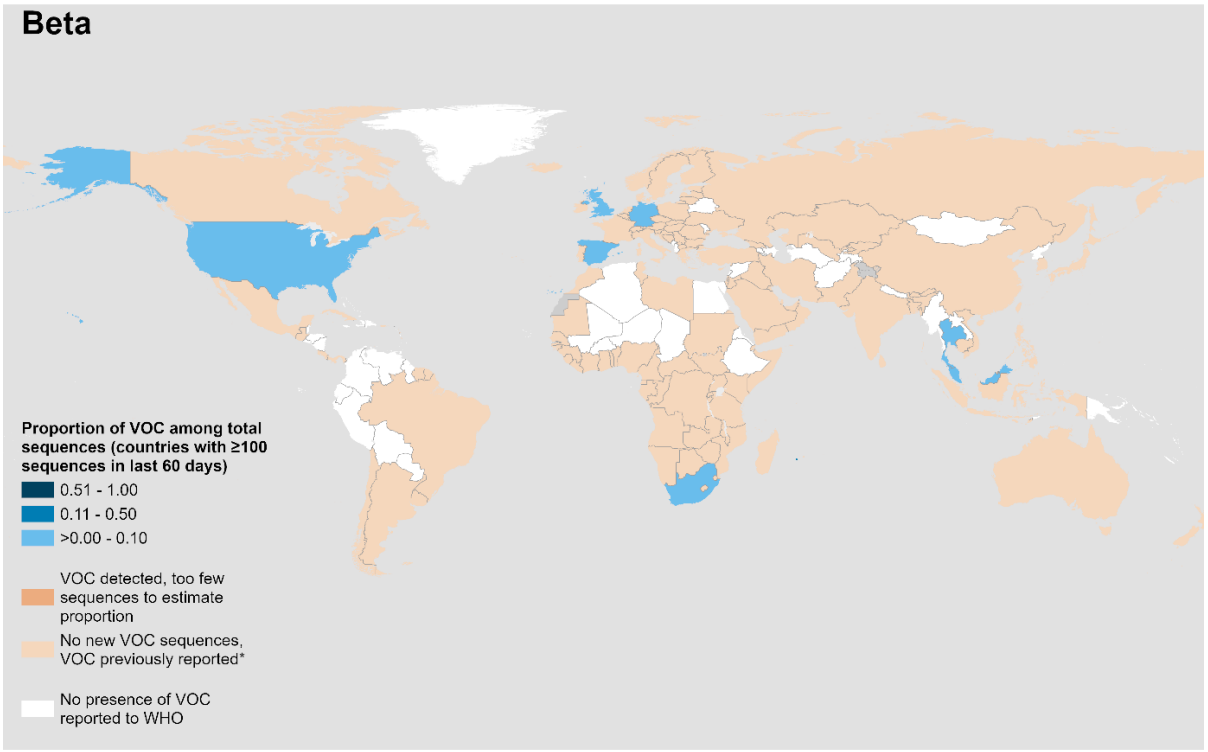
Figure 4: Proportion of current global VOC or VOI sequences reported among total sequences submitted over time by WHO Region, 1 August 2020 – 15 October 2021*



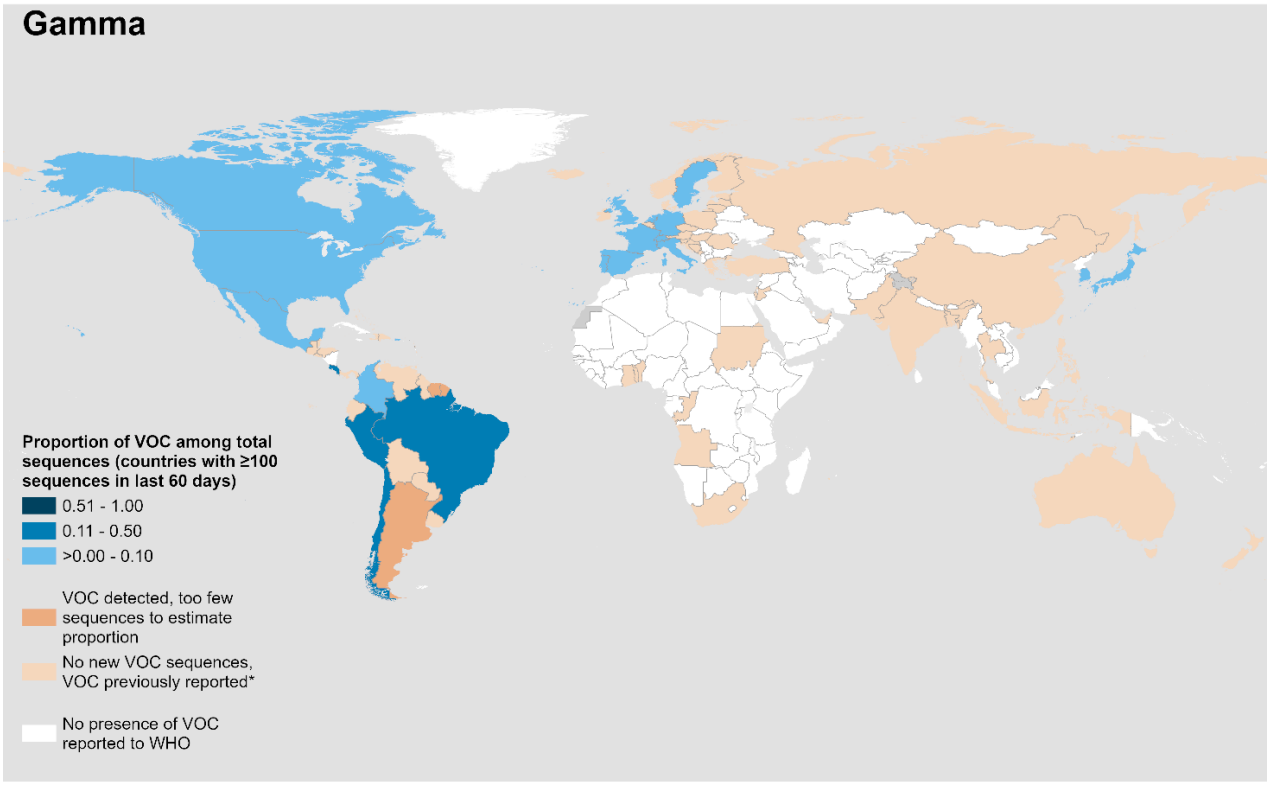
Data source: GISAID Initiative

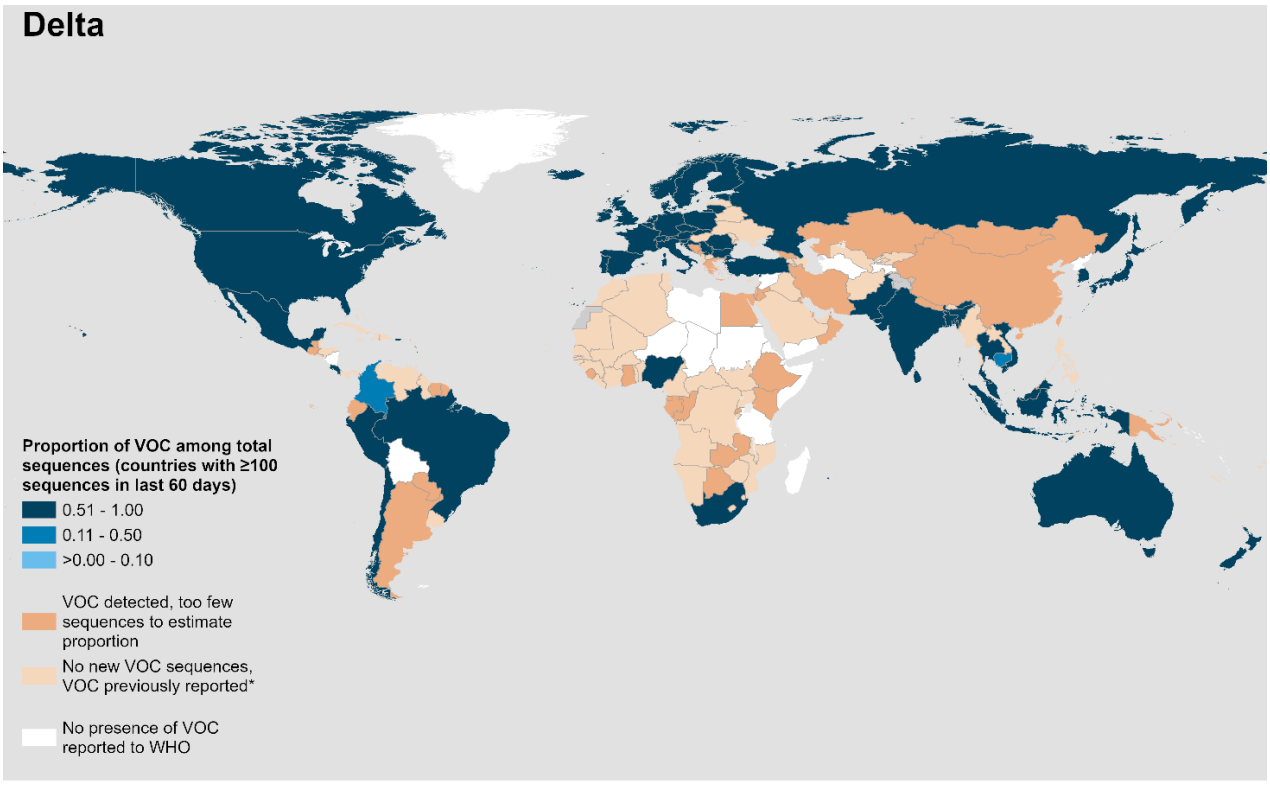
Figure 5. Countries, territories and areas reporting variants Alpha, Beta, Gamma and Delta and proportions of circulating VOCs, as of 19 October 2021[**]





**Includes both official and unofficial reports of VOC detections, and do not presently differentiate between detections among travellers (e.g., at Points of Entry) or local community cases. See Annex 2 for further details. **Prevalence estimates were calculated as a proportion of total sequence uploaded to GISAID with sample collection dates with the 60 day reporting period, limiting to countries with 100 or more total sequences uploaded during this period. Sequences were assigned to countries based upon the reported location of sampling; VOC sequences from travellers submitted by other countries were not included.*





**Includes both official and unofficial reports of VOC detections, and do not presently differentiate between detections among travellers (e.g., at Points of Entry) or local community cases. See Annex 2 for further details. **Prevalence estimates were calculated as a proportion of total sequence uploaded to GISAID with sample collection dates with the 60 day reporting period, limiting to countries with 100 or more total sequences uploaded during this period. Sequences were assigned to countries based upon the reported location of sampling; VOC sequences from travellers submitted by other countries were not included.*

Phenotypic characteristics

Available evidence on the phenotypic impacts of VOCs is summarized in Table 2, as well as in previous editions of the COVID-19 Weekly Epidemiological Updates. Since the last detailed update on 5 October, there are several new publications on the phenotypic characteristics of VOCs.

A prospective study, not yet peer reviewed, assessed the illness profiles (symptom prevalence, duration and burden), hospital presentation, and presence of long (≥28 days) illness among 1400 symptomatic school-aged children in two groups (younger children aged 5–11 years and older children aged 12–17 years) who tested positive for SARS-CoV-2. The study was conducted in the United Kingdom at a time when either Alpha (28 December 2020 to 6 May 2021) or Delta (26 May to 8 July 2021) were the predominant circulating SARS-CoV-2 variant.[1] Findings from the study suggested that disease in school-aged children due to Delta variant resembles illness due to the Alpha variant, with short duration and similar symptom burden. Median illness duration was short with either variant: 5 days (IQR 2–9.75) with Alpha, and 5 days (IQR 2-9) with Delta. The median symptom burden (number of symptoms) over the entire period of illness (28 days) was slightly greater among children infected with Delta compared to Alpha infection (in younger children, 3 (IQR 2–5) with Alpha, 4 (IQR 2–7) with Delta; in older children 5 (IQR 3–8) with Alpha and 6 (IQR 3–9) with Delta infection. The seven most prevalent symptoms were common to both variants and included headache, fatigue, fever, dysosmia (disordered smell perception), sneezing, rhinorrhoea, and sore throat; suggesting no meaningful clinical differences in the disease presentation with either variant. Only a small number of children infected with either variant presented to the hospital, and the presence of long (≥28 days) illness was reported to be low.

Findings in another pre-print study conducted in Indonesia[2], among adults, evaluated the impact of Delta variant versus non-Delta variant infections on the outcomes of COVID-19 patients. The study included 69 cases with confirmed isolation of the Delta variant compared with 92 cases of non-Delta variant. Analysis of associated individual variables showed no significant differences in hospitalization or mortality between patients with Delta and non-Delta variant infections (p=0.80 and 0.29, respectively). Additionally, multivariate analysis suggested that age ≥65 years (OR 11.5; 95% CI 1.3-102.6; P=0.028), obesity (OR 16.6; 95% CI 2.5-107.1; p=0.003), diabetes (OR 5.5; 95% CI 1.3-23.7; p=0.021), and hypertension OR 5.8; 95% CI 1.02-32.8; p=0.047), were prognostic factors for mortality in both groups. Conversely, no prognostic factors were found to be associated with the hospitalization of COVID-19 patients.

A peer-reviewed retrospective study[3] conducted in Ireland, analysed the effect of SARS-CoV-2 infection during pregnancy, and the impact of Alpha variant on neonatal clinical outcomes. The study included all liveborn neonates from mothers who tested positive for SAR-CoV-2 at any time during pregnancy and up to 24 hours post-partum. This included 133 neonates who were delivered between 1 March 2020 and 1 March 2021, of which 66 (49.6%) were born following maternal SARS-CoV-2 infection after 1 January 2021, corresponding to a time when Alpha was the dominant variant in circulation in Ireland. The findings suggested no increase in the incidence of preterm birth or neonatal intensive care unit admission when compared with 5-year, pre-pandemic hospital data. Maternal infection before and after Alpha variant circulation or maternal symptom status also did not influence neonatal outcomes. While this is a reassuring initial finding, further studies to evaluate the impact of VOC infections during pregnancy, particularly the Delta variant, are required.

Table 2: Summary of phenotypic impacts* of Variants of Concern

WHO label	Alpha	Beta	Gamma	Delta
Transmissibility	Increased transmissibility[4]	Increased transmissibility[5,6]	Increased transmissibility[6,7]	Increased transmissibility [6,8,9]
Disease severity	Possible increased risk of hospitalization[10,11], possible increased risk of severe disease and death[12,13]	Possible increased risk of hospitalization[11], possible increased in-hospital mortality[14]	Possible increased risk of hospitalization[11], possible increased risk of severe disease[15]	Possible increased risk of hospitalization[16,17]
Risk of reinfection	Neutralizing activity retained[18], risk of reinfection remains similar[19]	Reduction in neutralizing activity reported; T cell response elicited by D614G virus remains effective[20]	Moderate reduction in neutralizing activity reported[21]	Reduction in neutralizing activity reported[22–24]
Impacts on diagnostics	Limited impact – S gene target failure (SGTF), no impact on overall result from multiple target RT-PCR; No impact on Ag RDTs observed[25]	No impact on RT-PCR or Ag RDTs observed[24]	None reported to date	No impact on RT-PCR or Ag RDTs[26] observed

**Generalized findings as compared to previously/co-circulating variants. Based on emerging evidence, including non-peer-reviewed preprint articles and reports, all subject to ongoing investigation and revision.*

Table 3 presents the impact of variants on product specific vaccine efficacy/effectiveness (VE) and quantifies the reduction in VE in the setting of variants compared to VE in non-VOC settings. Of note, reductions in VE do not necessarily mean loss of protection, as indicated by the absolute VE estimate. For example, a 10-percentage point reduction in VE against symptomatic disease for mRNA vaccines would still mean high vaccine effectiveness of ~85%. In addition, vaccines have shown higher VE against severe disease; thus, small reductions in VE against severe disease due to VOCs may still mean substantial protection, as is the case for AstraZeneca-Vaxzevria.

Table 3. Summary of vaccine performance against Variants of Concern

	WHO Emergency Use Listing (EUL) Qualified Vaccines							Vaccines without WHO EUL[+]			
	AstraZeneca-Vaxzevria/SII - Covishield	Beijing CNBG-BBIBP-CorV	Janssen-Ad26.COV 2.S	Moderna-mRNA-1273	Moderna-mRNA-1273 / Pfizer BioN BioNTech-Comirnaty	Pfizer BioNTech-Comirnaty	Sinovac-CoronaVac	Anhui ZL-Recombinant	Bharat-Covaxin	Gamaleya-Sputnik V	Novavax-Covavax
Alpha[27,28]											
Summary of VE*	Protection retained against all outcomes										
- Severe disease	↔$_2$	-	-	↔$_2$	↔$_1$	↔$_5$	-	-	-	-	-
- Symptomatic disease	↔ to ↓$_5$	-	-	↔$_1$	↔$_1$	↔$_4$	-	-	-	-	↓$_1$
- Infection	↔ to ↓$_3$	-		↔$_2$	-	↔$_2$	-	-	-	-	-
Neutralization	↔ to ↓$_7$	↔$_1$	↔$_4$	↔ to ↓$_{12}$	↓$_1$	↔ to ↓$_{39}$	↔ to ↓↓$_6$	↔$_2$	↔$_2$	↔$_3$	↓$_1$
Beta[29–32]											
Summary of VE*	Protection retained against severe disease; reduced protection against symptomatic disease; limited evidence										
- Severe disease	-	-	↔$_1$	↔$_1$	-	↔$_3$	-	-	-	-	-
- Symptomatic disease	↔ to ↓↓↓$_2$	-	↔$_1$	↔$_1$	-	↔$_2$	-	-	-	-	↓↓↓$_1$
- Infection	-	-	-	↔$_1$	-	↓$_1$	-	-	-	-	-
Neutralization	↓ to ↓↓$_7$	↔ to ↓$_2$	↓ to ↓↓$_6$	↓ to ↓↓$_{14}$	↓↓↓$_1$	↓ to ↓↓$_{40}$	↓ to ↓↓↓$_6$	↔ to ↓$_3$	↓$_2$	↓ to ↓↓$_3$	↓↓↓$_1$
Gamma											
Summary of VE*	Unclear impact; very limited evidence										
- Severe disease	↔$_1$	-	-	↔$_1$	-	↔$_1$	-	-	-	-	-
- Symptomatic disease	↔$_1$	-	-	↔$_1$	-	↔$_1$	-	-	-	-	-
- Infection	-	-	-	-	-	-	↔$_1$	-	-	-	-
Neutralization	↔ to ↓$_3$	-	↓$_3$	↓$_7$	-	↔ to ↓$_{23}$	↔ to ↓$_4$	↔$_1$	-	↓$_2$	-
Delta[33]											
Summary of VE*	Protection retained against severe disease; possible reduced protection against symptomatic disease and infection; limited evidence										
- Severe disease	↔$_3$	-	-	↔$_2$	-	↔$_5$	-	-	-	-	-
- Symptomatic disease	↓ to ↓↓$_5$	-	-	↔$_1$	-	↔ to ↓$_4$	-	-	↓$_1$	-	-
- Infection	↔ to ↓$_3$	-	↓↓↓$_1$	↔$_2$	-	↓$_2$	-	-	-	-	-
Neutralization	↓$_7$	-	↔ to ↓↓$_5$	↓$_5$	↓↓$_1$	↔ to ↓$_{17}$	↓ to ↓↓↓$_4$	↔ to ↓$_2$	↔ to ↓$_3$	↓$_2$	-

VE refers to vaccine effectiveness and vaccine efficacy

[+]As of submission of this update

*Summary of VE: indicates the general conclusions but only for the vaccines evaluated against the specific variant

Arrows generalize the magnitude of reduction in VE or neutralization: "↔" <10% reduction in VE, or VE >90% with no comparator, or that there was a <2-fold reduction in neutralization; "↓" 10 to <20% reduction in VE, or 2 to <5-fold reduction in neutralization; "↓↓" 20 to <30% reduction in VE, or 5 to <10-fold reduction in neutralization; "↓↓↓" ≥30% reduction in VE, or ≥10-fold reduction in neutralization. When more than one neutralization study is available, the interquartile range (25th and 75th percentiles) of fold-reductions across all studies for specific vaccine/variant was used.

"Moderna-mRNA-1273/Pfizer BioNTech-Comirnaty" indicates that both vaccines were evaluated together in study.

The number of studies is shown as subscripts: vaccine effectiveness and neutralization studies informing this table can be found on the VIEW-hub Resources page (https://view-hub.org/resources). For individual vaccine effectiveness studies, see 'COVID-19 Vaccine Effectiveness Results Summary', reference numbers noted with a '#'. For a list of all neutralization studies, see 'COVID-19 Vaccine Neutralization Studies Table'.

References indicated by superscripts next to VOC name in column 1 are vaccine efficacy results from randomized controlled trials informing this table and are included in the Annex-1.

Since the 5 October update, four notable new studies have provided evidence of COVID-19 vaccine performance after full vaccination against Variants of Concern.

A test-negative case control study from the United States of America (not yet peer reviewed) evaluated the effectiveness of Moderna-mRNA-1273 against SARS-CoV-2 infection among members (4.6 million) of a large healthcare system in Southern California aged 18 years and older[34]. A total of 8, 153 cases were included in the study and 5 controls were matched to each case. Vaccination with Moderna-mRNA-1273 was found to be highly effective at preventing SARS-CoV-2 infection due to Delta 14-60 days post second dose (VE: 94.1%, 95% CI: 60.5-96.3), but declined to 80.0% (95% CI: 70.2-86.6%) at 151-180 days post second dose. VE against infection due to non-Delta variants showed a similar pattern with a VE against infection 14-60 days post second dose of 98.6% (97.3-99.3%) which reduced to 88.7% (73.2-95.2%) at 121-150 days .[34] VE against hospitalization due to Delta over the entire study period (≥ 14 days post second dose) was 97.6% (92.8-99.2%). VE estimates against infection over the entire study period (≥ 14 days post second dose) were 98.4% (96.9-99.1%), 95.5% (90.9-97.8%), and 90.4% (73.9-96.5%) for Alpha, Gamma, and Mu variants, respectively.

A second study from Canada (not yet peer-reviewed) provided updated results from a previous version of the pre-print.[35] The study evaluated VE of Pfizer BioNTech-Comirnaty, Moderna-mRNA-1273, and AstraZeneca-Vaxzevria vaccines against symptomatic disease and against hospitalization or death due to Alpha, Beta, Gamma, and Delta VOCs. All vaccines were highly effective at preventing both symptomatic disease as well as hospitalization or death 14 or more days post final vaccination (two doses). VE against symptomatic disease was ≥ 86% for each vaccine and against each VOC. VE against hospitalization or death was ≥ 92% for each vaccine against each VOC. These estimates include a follow-up time post full vaccination of up to 28 weeks, 25 weeks, and 3 weeks for Pfizer BioNTech-Comirnaty, Moderna-mRNA-1273, and AstraZeneca-Vaxzevria vaccines, respectively. Of note, VE of AstraZeneca-Vaxzevria against hospitalization or death due to Beta was not reported; several VE estimates were approximated to be 100% but could not be reliably assessed due to no cases in the vaccinated group.

A third peer-reviewed study from Spain, assessed the effectiveness of Pfizer BioNTech-Comirnaty, Moderna-mRNA-1273, AstraZeneca-Vaxzevria and Janssen-Ad26.COV 2.S vaccines in preventing SARS-CoV-2 infection due to Alpha and Delta variants based on the vaccine status of close contacts of index cases[36]. Moderna-mRNA-1273, Janssen-Ad26.COV 2.S Pfizer BioNTech-Comirnaty, and AstraZeneca-Vaxzevria were found to be 86% (56-95%), 77% (27-93%), 71% (61-78%), and 38% (-42-73%) effective at preventing infection among close contacts due to Alpha 14 or more days post final dose, respectively, with follow-up time since complete vaccination up to 28, 23, 31 and 16 weeks for each of the vaccines, respectively. VE against infection due to Delta was similar to Alpha for the mRNA vaccines [67% (59-74%) for Pfizer BioNTech-Comirnaty, 77% (63-85%) for Moderna-mRNA-1273]. However, VE against Delta infection was lower for Janssen-Ad26.COV2.S at 42% (18-59%) than that against Alpha, although with very wide confidence intervals for both VE estimates. The VE of AstraZeneca-Vaxzevria against Delta was 55% (39-67%); comparison to that of Alpha is hindered due to the very small numbers with Alpha infection. This study also evaluated the VE of one dose of AstraZeneca-Vaxzevria followed by a second dose of Pfizer BioNTech-Comirnaty vaccine against infection due to Delta. VE of this heterologous regimen against Delta infection 14 or more days post second dose was 86% (45-97%), with a follow-up time up to 21 weeks post full vaccination. The lower VE estimates from this study compared to estimates from other studies can possibly be explained by the fact that close contacts of index cases face frequent exposure and are, therefore, at higher risk of becoming infected even if vaccinated.

A fourth study from Israel (not yet peer reviewed) evaluated the effectiveness of a booster dose of Pfizer BioNTech-Comirnaty at preventing infection, severe disease, and death compared to two doses of the same vaccine during a time when Delta was the predominant variant[37]. Protection against confirmed infection was lower among individuals receiving a third booster dose relative to those who received two doses of the vaccines 5 or more months prior by a factor of 8.8-17.6 depending on age group. The rate of severe disease among individuals 60 years and older was 18.7-fold (95% CI 15.7-22.4) lower in the group who received a booster dose, as compared to the group who did not receive a booster dose, and among individuals 40-59 years old, was 22-fold (95% CI 10.3-47) lower . Among persons 60 years and older, the rate of death was lower in the group who received a booster dose by a factor of 14.7 (9.4-23.1) compared to the group who did not receive a booster dose. Follow up time post-booster ranged from 3.5 weeks for individuals 16-29 years to 8 weeks for persons 60 years and older.

WHO, with support of the Strategic Advisory Group of Experts (SAGE) on Immunization and its COVID-19 Vaccines Working Group, continues to review the emerging evidence on the need for and timing of a booster dose for the currently available COVID-19 vaccines which have received Emergency Use Listing (EUL). As concluded in the Interim Statement released 4 October 2021, introducing booster doses should be firmly evidence-driven and targeted to the population groups in greatest need. The rationale for implementing booster doses should be guided by evidence on waning vaccine effectiveness, in particular a decline in protection against severe disease in the general population and in high-risk populations, or due to a circulating VOC. To date, the evidence remains limited and still inconclusive on any widespread need for booster doses following a primary vaccination series. In the context of ongoing global vaccine supply constraints, broad-based administration of booster doses risks exacerbating inequities in vaccine access by driving up demand and diverting supply while priority populations in some countries, or in subnational settings, have not yet received a primary vaccination series. Focus remains on urgently increasing global vaccination coverage with the primary series driven by the objective to protect against severe disease.

Additional resources

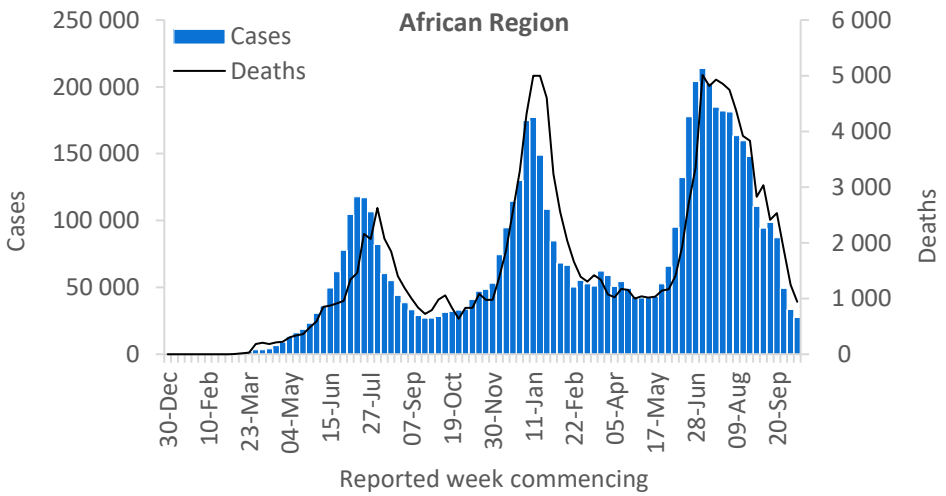
- Tracking SARS-CoV-2 Variants
- COVID-19 new variants: Knowledge gaps and research
- Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health
- Considerations for implementing and adjusting public health and social measures in the context of COVID-19

WHO regional overviews Epidemiological week 11-17 October 2021

African Region

The declining trend observed in the African Region since mid-July continued this week with over 27 000 new cases and over 900 new deaths reported, decreases of an 18% and a 25% decrease respectively as compared to the previous week. While this is reassuring, 13/49 countries (28%) in the Region reported increases of over 15% in the number of reported cases the past week. One third of the new weekly cases in the Region was reported by two countries: Ethiopia and South Africa. The highest numbers of new cases were reported from Ethiopia (4706 new cases; 4.1 new cases per 100 000 population; a 22% decrease), South Africa (4682 new cases; 7.9 new cases per 100 000; a 20% decrease), and Cameroon (3003 new cases; 11.3 new cases per 100 000; similar to previous week).

The highest numbers of new deaths were reported from South Africa (295 new deaths; <1 new death per 100 000 population; a 45% decrease), Ethiopia (247 new deaths; <1 new death per 100 000; a 10% decrease), and Nigeria (59 new deaths; <1 new death per 100 000; a 181% increase).

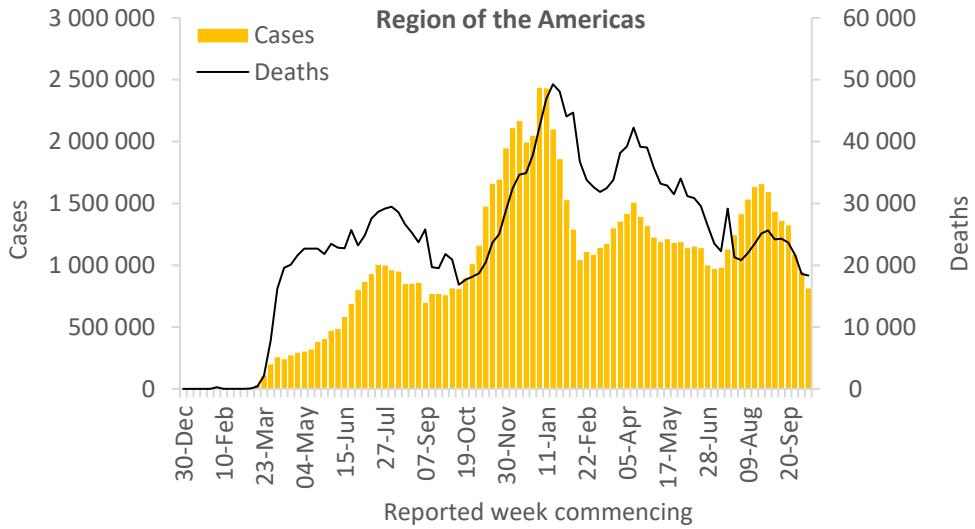


Updates from the African Region

Region of the Americas

The Region of the Americas reported over 816 000 new cases this week a 14% decline as compared to the previous week and a continuation of the declining trend in the region witnessed since the end of August. A small proportion (9/56; 16%) of the countries in the Region of the Americas reported increases in new cases in the past week. Just over 18 000 new deaths were reported this week, a similar incidence as compared to the previous week. The highest numbers of new cases were reported from the United States of America (582 707 new cases; 176.0 new cases per 100 000; an 11% decrease), Brazil (76 746 new cases; 36.1 new cases per 100 000; a 27% decrease), and Mexico (35 468 new cases; 27.5 new cases per 100 000; a 17% decrease).

The highest numbers of new deaths were reported from the United States of America (11 158 new deaths; 3.4 new deaths per 100 000; a 23% increase), Mexico (2398 new deaths; 1.9 new deaths per 100 000; a 34% decrease), and Brazil (2244 new deaths; 1.1 new deaths per 100 000; a 30% decrease).

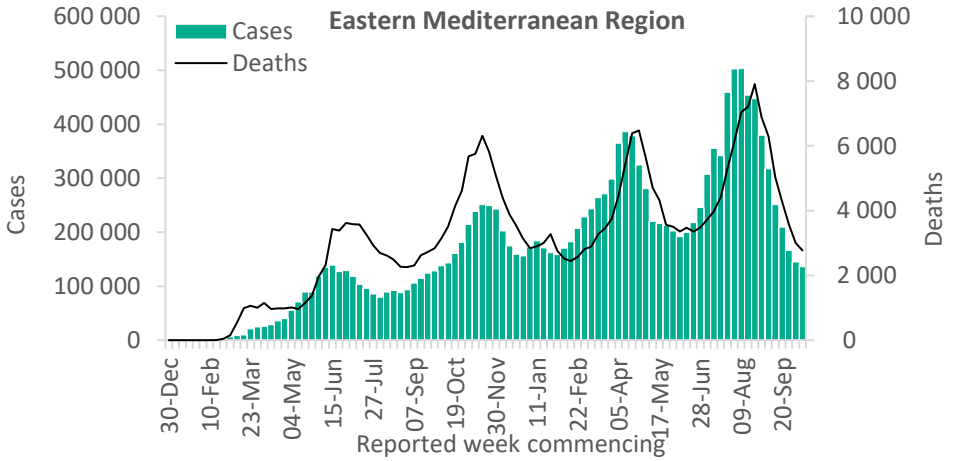


Updates from the Region of the Americas

Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 136 000 new cases and over 2700 new deaths, a 6% and an 8% decrease respectively as compared to the previous week. This follows the decline observed since mid-August 2021. While most of the countries (15/22; 68%) reported a decrease in new weekly cases, Sudan and Afghanistan reported the largest increase as compared to the previous week (22% and 34%, respectively). The highest numbers of new cases were reported from the Islamic Republic of Iran (81 785 new cases; 97.4 new cases per 100 000; similar numbers as those reported last week), Iraq (11 628 new cases; 28.9 new cases per 100 000; a 22% decrease), and Jordan (7718 new cases; 75.6 new cases per 100 000; an 8% increase).

The majority of the countries (17/22; 77%) in the Region reported a decline in new weekly deaths last week as compared to the previous week, with the exception of Afghanistan and Libya that reported an increase of 89% and 11%, respectively. The highest numbers of new deaths were reported from the Islamic Republic of Iran (1506 new deaths; 1.8 new deaths per 100 000; similar numbers as those reported last week), Egypt (268 new deaths; <1 new death per 100 000; similar numbers as those reported last week), and Iraq (201 new deaths; <1 new death per 100 000; similar numbers as those reported last week's).

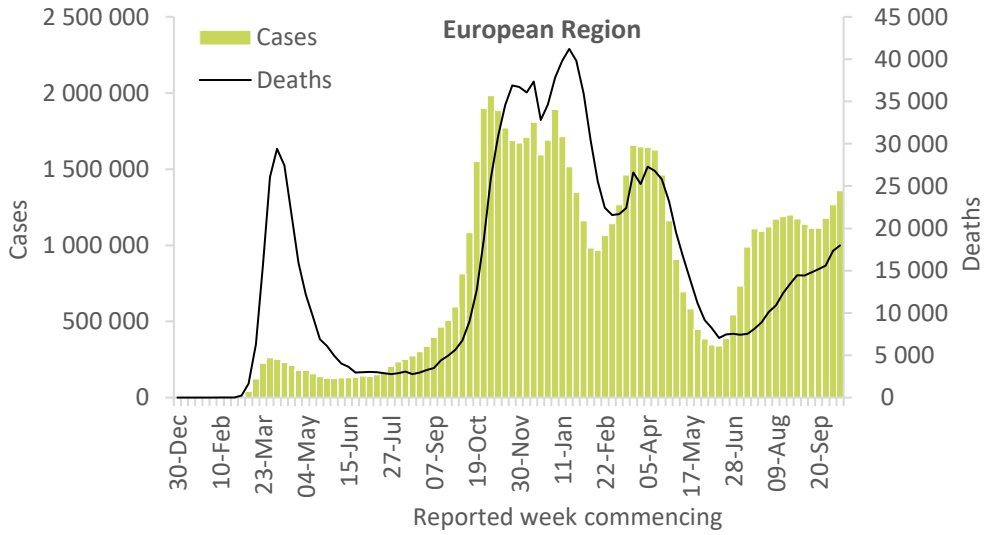


Updates from the Eastern Mediterranean Region

European Region

For the third consecutive week the European Region has shown an increase in new weekly COVID-19 cases, with over 1.3 million new cases reported during this week, a 7% increase as compared with the previous week. Over half of the countries in the Region (35/61; 57%) showed an increase in the number of new weekly cases. The highest numbers of new cases were reported from the United Kingdom (283 756 new cases; 418.0 new cases per 100 000; a 14% increase), the Russian Federation (217 322 new cases; 148.9 new cases per 100 000; a 15% increase), and Turkey (213 981 new cases; 253.7 new cases per 100 000; similar to last week's figures).

Over 18 000 new deaths have been reported in the Region; a similar rate to that of the previous week (4%). The largest increase in deaths has been observed in Luxembourg (200%), Denmark (83%) and Slovakia (82%). The highest numbers of new deaths were reported from the Russian Federation (6897 new deaths; 4.7 new deaths per 100 000; a 6% increase), Romania (2360 new deaths; 12.2 new deaths per 100 000; a 27% increase), and Ukraine (2140 new deaths; 4.9 new deaths per 100 000; a 25% increase).

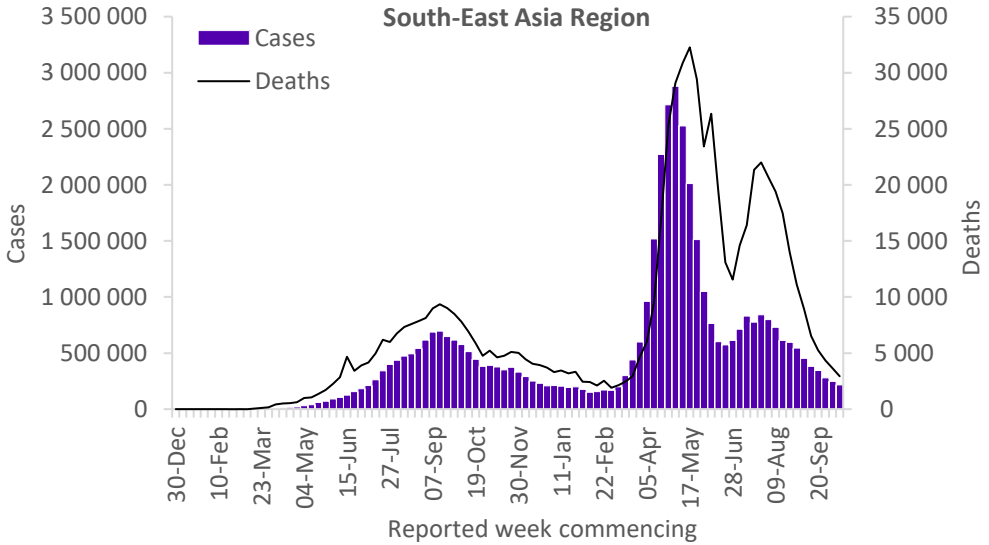


Updates from the European Region

South-East Asia Region

Declining trends continued in the South-East Asia Region, with just under 215 000 new cases and over 2900 new deaths reported, decreases of 13% and 19% respectively as compared to the previous week. All countries in the Region reported a decline in new cases and deaths this week, apart from Thailand that reported a similar number of cases as compared to the previous week. The highest numbers of new cases were reported from India (114 244 new cases; 8.3 new cases per 100 000; an 18% decrease), Thailand (72 817 new cases; 104.3 new cases per 100 000; a similar number as those reported last week), and Myanmar (9202 new cases; 16.9 new cases per 100 000; a 10% decrease).

The highest numbers of new deaths were reported from India (1535 new deaths; <1 new death per 100 000; a 13% decrease), Thailand (582 new deaths; <1 new death per 100 000; a 14% decrease), and Indonesia (301 new deaths; <1 new death per 100 000; a 37% decrease).

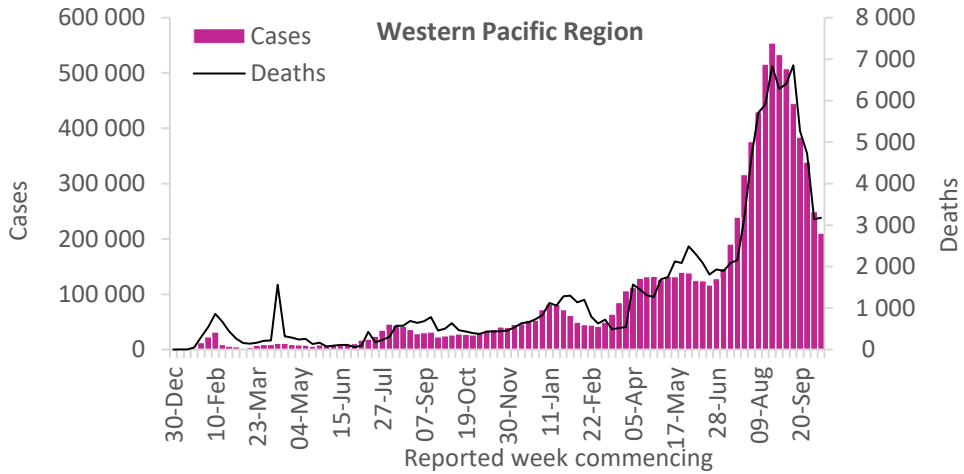


Updates from the South-East Asia Region

Western Pacific Region

Declining trends continued in the Western Pacific Region, with over 201 000 new cases reported this week, a 16% decrease as compared to the previous week. Most of the countries (19/26; 73%) reported a decrease in new weekly cases this week. The highest numbers of new cases were reported from the Philippines (59 052 new cases; 53.9 new cases per 100 000; a 20% decrease), Malaysia (52 321 new cases; 161.7 new cases per 100 000; an 18% decrease), and Viet Nam (24 726 new cases; 25.4 new cases per 100 000; a 25% decrease).

The weekly number of deaths also continue to decline, with over 3100 new deaths reported this week, a 16% decrease as compared to the previous week. Nevertheless, 13% (8/26 countries) reported an increase in new deaths this week as compared to the previous week, with Papua New Guinea reporting a 481% increase. The highest numbers of new deaths were reported from the Philippines (1075 new deaths; 1.0 new deaths per 100 000; a 27% increase), Viet Nam (689 new deaths; <1 new death per 100 000; an 18% decrease), and Malaysia (593 new deaths; 1.8 new deaths per 100 000; a 15% decrease).



Updates from the Western Pacific Region

Summary of the COVID-19 Weekly Operational Update

The Weekly Operational Update is a report provided by the COVID-19 Strategic Preparedness and Response Plan (SPRP) Monitoring and Evaluation team, which aims to update on the ongoing global progress against the COVID-19 SPRP 2021 framework, and to highlight country-level actions and WHO support to countries. In this week's edition published on 18 October, highlights include:

- Ongoing COVID-19 vaccine rollout in Ghana
- COVID-19 response at mental health care facilities in Azerbaijan
- Two-day vaccination campaign to boost coverage in Samoa
- IT equipment and supplies for vaccine safety surveillance in Belize
- A review of the COVID-19 response in Somalia
- Six in seven COVID-19 infections go undetected in Africa: initiative to enhance community screening
- Progress on a subset of indicators from the SPRP 2021 Monitoring and Evaluation Framework
- Updates on WHO's financing to support countries in SPRP 2021 implementation and provision of critical supplies.

Annex

Annex 1. Additional notes on VOC impacts on vaccines

- Studies reporting VOC-specific vaccine efficacy or effectiveness (VE) estimates for full vaccination (≥ 7 days post final dose) are assessed against a comparator VE estimate for that vaccine product to determine level of reduction in VE. For symptomatic disease, VOC VE is compared against phase 3 randomised RCT results from non-VOC settings. For severe disease and infection, due to instability or lack of phase 3 RCT estimates for these outcomes, VOC VE is compared to non-VOC VE estimates from the same study when available (or to Alpha VE from same study when assessing Beta, Gamma, or Delta); with an exception for AstraZeneca Vaxzevria for infection (when a phase 3 estimate of VE against infection due to non-VOC is available and used as comparator). In some instances, a study may be included for severe disease or infection outcome even without a comparator if a very high VE estimate is reported against a VOC (i.e., >90%).
- It is also important to note that studies vary in population, outcome definitions, study design and other methodological considerations, which may in part explain differences when comparing VE estimates for a product between different studies. In addition, the reductions summarized in the table represent VE point estimates and do not represent the uncertainty intervals around these estimates which vary substantially across studies. The reductions in VE noted should be interpreted with these limitations in mind.
- Table 3 summarizes the impact of VOCs on COVID-19 vaccine performance in the absence of waning, and, therefore, does not include studies that only assess VE greater than 4 months post final dose.

Annex 2. List of countries/territories/areas reporting variants of concern as of 19 Oct 2021

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Afghanistan	●	-	-	●	-
Albania	●	-	-	○	-
Algeria	●	-	-	●	-
Andorra	○	○	-	○	-
Angola	●	●	●	●	-
Anguilla	●	-	-	●	-
Antigua and Barbuda	●	●	●	●	-
Argentina	●	●	●	●	-
Armenia	●	-	-	●	-
Aruba	●	●	●	●	-
Australia	●	●	●	●	-
Austria	●	●	●	●	-
Azerbaijan	●	-	-	○	-
Bahamas	●	-	●	●	-
Bahrain	●	●	●	●	-
Bangladesh	●	●	○	●	-
Barbados	●	-	●	●	-
Belarus	●	-	-	○	-
Belgium	●	●	●	●	-
Belize	●	-	●	●	-
Benin	●	●	●	●	-
Bermuda	●	●	-	●	-
Bhutan	●	●	-	●	-
Bolivia (Plurinational State of)	●	-	●	-	-
Bonaire	●	-	●	●	-
Bosnia and Herzegovina	●	●	●	○	-
Botswana	○	●	-	●	-
Brazil	●	●	●	●	-
British Virgin Islands	●	-	●	●	-
Brunei Darussalam	●	●	-	●	-
Bulgaria	●	●	-	●	-
Burkina Faso	●	-	-	●	-
Burundi	●	●	-	●	-
Cabo Verde	●	-	-	●	-
Cambodia	●	●	-	●	-
Cameroon	●	●	-	●	-
Canada	●	●	●	●	-
Cayman Islands	●	●	●	●	-
Central African Republic	●	●	-	●	-
Chad	●	-	-	-	-
Chile	●	●	●	●	-
China	●	●	●	○	-
Colombia	●	-	●	●	-
Comoros	-	●	-	-	-
Congo	●	○	●	●	-
Costa Rica	●	●	●	●	-
Croatia	●	●	●	○	-
Cuba	●	●	-	●	-
Curaçao	●	●	●	●	●
Cyprus	●	●	-	○	-
Czechia	●	●	●	●	-
Côte d'Ivoire	●	●	-	○	-
Democratic Republic of the Congo	●	●	-	●	-
Denmark	●	●	●	●	-
Djibouti	●	●	-	-	-
Dominica	●	-	-	●	-
Dominican Republic	●	-	●	●	-
Ecuador	●	-	●	●	-
Egypt	●	-	-	●	-
El Salvador	●	-	●	●	-
Equatorial Guinea	●	●	-	○*	-
Estonia	●	●	○	○	-
Eswatini	○	●	-	●	-
Ethiopia	●	-	-	●	-
Falkland Islands (Malvinas)	●	●	-	-	-
Faroe Islands	●	-	●	-	-
Fiji	○*	-	-	●	-
Finland	●	●	●	●	-
France	●	●	●	●	-
French Guiana	●	●	●	●	-
French Polynesia	●	●	●	●	-
Gabon	●	●	-	●	-
Gambia	●	-	-	●	-
Georgia	●	○	-	●	-
Germany	●	●	●	●	-
Ghana	●	●	●	●	-
Gibraltar	●	-	-	○	-
Greece	●	●	●	●	-
Grenada	●	-	-	●	-
Guadeloupe	●	●	●	●	-
Guam	●	●	●	●	-
Guatemala	●	●	●	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Guinea	●	●	-	●	-
Guinea-Bissau	●	●	-	●	-
Guyana	-	-	●	●	-
Haiti	●	-	●	●	-
Honduras	●	-	●	●	-
Hungary	●	○	●	○	-
Iceland	●	●	●	●	-
India	●	●	●	●	-
Indonesia	●	●	○	●	-
Iran (Islamic Republic of)	●	●	-	●	-
Iraq	●	●	-	●	-
Ireland	●	●	●	●	-
Israel	●	●	●	●	-
Italy	●	●	●	●	-
Jamaica	●	-	-	●	-
Japan	●	●	●	●	-
Jordan	●	●	●	●	-
Kazakhstan	●	○	-	●	-
Kenya	●	●	-	●	-
Kosovo[1]	●	○	-	○	-
Kuwait	●	●	-	●	-
Kyrgyzstan	●	●	-	●	-
Lao People's Democratic Republic	●	-	-	●	-
Latvia	●	●	●	○	-
Lebanon	●	-	-	●	-
Lesotho	-	●	-	○	-
Liberia	●	●	-	●	-
Libya	●	●	-	-	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Liechtenstein	●	-	-	○	-
Lithuania	●	●	●	○	-
Luxembourg	●	●	●	●	-
Madagascar	●	●	-	-	-
Malawi	●	●	-	●	-
Malaysia	●	●	-	●	-
Maldives	●	-	-	●	-
Mali	-	-	-	●	-
Malta	●	○	●	○	-
Martinique	●	●	●	●	-
Mauritania	●	●	-	●	-
Mauritius	●	●	-	●	-
Mayotte	●	●	-	○*	-
Mexico	●	●	●	●	-
Monaco	●	●	-	●	-
Mongolia	●	-	-	●	-
Montenegro	●	-	○	○	-
Montserrat	●	-	●	●	-
Morocco	●	●	-	●	-
Mozambique	●	●	-	●	-
Myanmar	●	-	-	●	-
Namibia	●	●	-	●	-
Nepal	●	-	-	●	-
Netherlands	●	●	●	●	-
New Caledonia	●	-	-	●	-
New Zealand	●	●	○	○	-
Niger	●	-	-	-	-
Nigeria	●	●	-	●	-
North Macedonia	●	●	-	○	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Northern Mariana Islands (Commonwealth of the)	○	-	-	●	-
Norway	●	●	●	●	-
Occupied Palestinian Territory	●	●	-	●	-
Oman	●	●	-	●	-
Pakistan	●	●	●	●	-
Panama	●	●	●	●	●
Papua New Guinea	-	-	-	●	-
Paraguay	●	-	●	●	-
Peru	●	-	●	●	-
Philippines	●	●	●	●	-
Poland	●	○	●	●	-
Portugal	●	●	●	●	-
Puerto Rico	●	●	●	●	-
Qatar	●	●	-	●	-
Republic of Korea	●	●	●	●	-
Republic of Moldova	●	-	-	●	-
Romania	●	●	●	●	-
Russian Federation	●	●	○	●	-
Rwanda	●	●	-	●	-
Réunion	●	●	●	○	-
Saba	-	-	-	●	-
Saint Barthélemy	●	-	-	●	-
Saint Kitts and Nevis	-	-	-	●	-
Saint Lucia	●	-	-	●	-
Saint Martin	●	●	-	●	-
Saint Pierre and Miquelon	-	-	-	●	-
Saint Vincent and the Grenadines	-	-	●	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Sao Tome and Principe	●	-	-	○	-
Saudi Arabia	●	●	-	●	-
Senegal	●	●	-	●	-
Serbia	●	-	-	●	-
Seychelles	●	●	-	●	-
Sierra Leone	-	●	-	●	-
Singapore	●	●	●	●	-
Sint Maarten	●	●	●	●	-
Slovakia	●	●	-	●	-
Slovenia	●	●	●	●	-
Somalia	●	●	-	-	-
South Africa	●	●	○	●	-
South Sudan	●	●	-	●	-
Spain	●	●	●	●	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
Sri Lanka	●	●	-	●	-
Sudan	●	●	●	-	-
Suriname	●	●	●	●	-
Sweden	●	●	●	●	-
Switzerland	●	●	●	●	-
Thailand	●	●	●	●	-
Timor-Leste	●	-	-	●	-
Togo	●	●	●	●	-
Trinidad and Tobago	●	-	●	●	-
Tunisia	●	●	-	●	-
Turkey	●	●	●	●	-
Turks and Caicos Islands	●	-	●	●	-
Uganda	●	●	-	●	-
Ukraine	●	○	-	○	-

Country/Territory/Area	Alpha	Beta	Gamma	Delta	Unspecified B.1.617
United Arab Emirates	●	●	●	●	-
United Kingdom	●	●	●	●	-
United Republic of Tanzania	-	●	-	-	-
United States Virgin Islands	●	●	-	●	-
United States of America	●	●	●	●	-
Uruguay	●	●	●	●	-
Uzbekistan	●	●	-	○	-
Venezuela (Bolivarian Republic of)	●	-	●	●	-
Viet Nam	●	●	-	●	-
Wallis and Futuna	●	-	-	-	-
Yemen	●	●	-	-	-
Zambia	●	●	-	●	-
Zimbabwe	●	●	-	●	-

**Newly reported in this update.*
"●" indicates that information for this variant was received by WHO from official sources.
"○" indicates that information for this variant was received by WHO from unofficial sources and will be reviewed as more information become available.
***Includes countries/territories/areas reporting the detection of VOCs among travelers (e.g., imported cases detected at points of entry), or local cases (detected in the community).*
Excludes countries, territories, and areas that have never reported the detection of a variant of concern.
-Kindly note that Delta has been discarded for Syrian Arab Republic upon verification.
See also Annex 3: Data, table and figure notes

Annex 3. Data, table and figure notes

Data presented are based on official laboratory-confirmed COVID-19 case 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 incidence, and variable delays to reflecting these data at 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. Due to public health authorities conducting data reconciliation exercises which remove large numbers of cases or deaths from their total counts, negative numbers may be displayed in the new cases/deaths columns as appropriate. When additional details become available that allow the subtractions to be suitably apportioned to previous days, graphics will be updated accordingly.

Data presented are based on official laboratory-confirmed COVID-19 case 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 incidence, and variable delays to reflecting these data at 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. Due to public health authorities conducting data reconciliation exercises which remove large numbers of cases or deaths from their total counts, negative numbers may be displayed in the new cases/deaths columns as appropriate. When additional details become available that allow the subtractions to be suitably apportioned to previous days, graphics will be updated accordingly.

A record of historic data adjustment made is available upon request by emailing epi-data-support@who.int. Please specify the country(ies) of interest, time period(s), 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.

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

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

Technical guidance and other resources

- WHO technical guidance
- WHO COVID-19 Dashboard
- WHO Weekly Operational Updates on COVID-19
- WHO COVID-19 case definitions
- COVID-19 Supply Chain Inter-Agency Coordination Cell Weekly Situational Update
- Research and Development
- OpenWHO courses on COVID-19 in official UN languages and in additional national languages
- WHO Academy COVID-19 mobile learning app
- The Strategic Preparedness and Response Plan (SPRP) outlining the support the international community can provide to all countries to prepare and respond to the virus
- Recommendations and advice for the public:
  - Protect yourself
  - Questions and answers
  - Travel advice
- EPI-WIN: tailored information for individuals, organizations and communities

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COVID-19 Weekly Epidemiological Update

Edition 63, published 26 October 2021

In this edition:

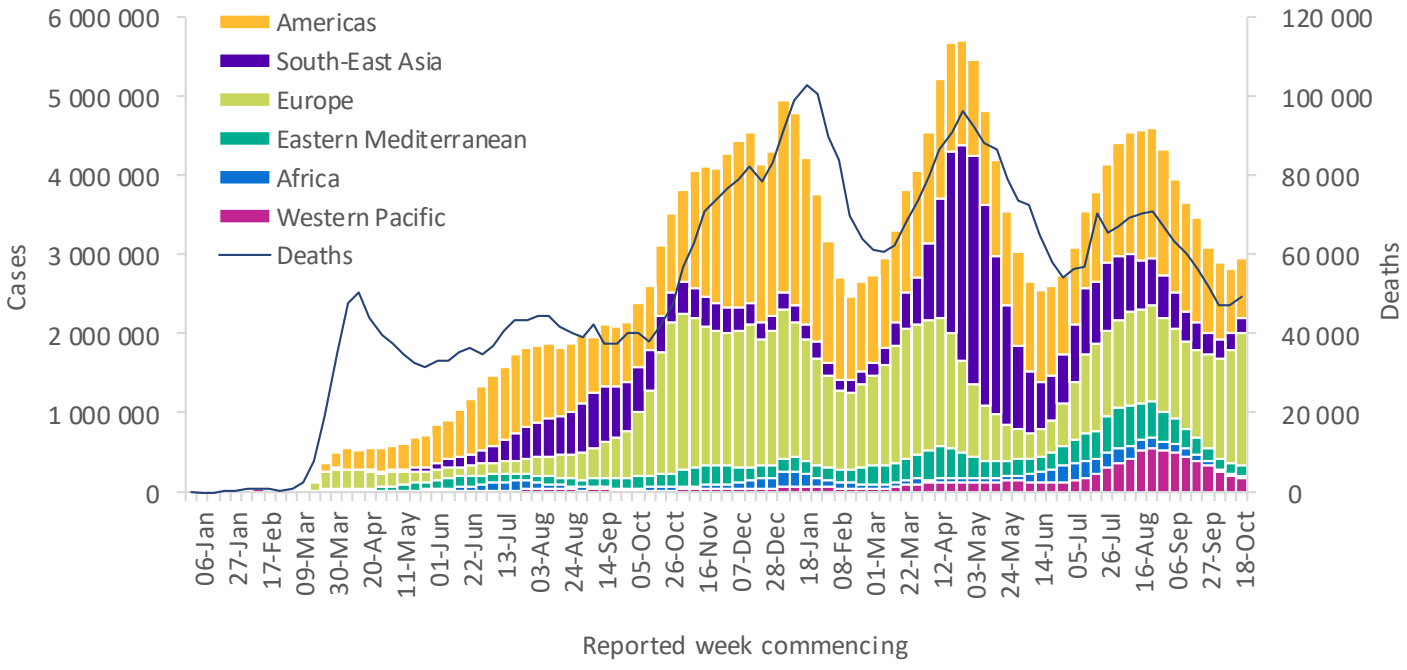
Global overview

During the week of 18 to 24 October 2021, the global number of new cases increased slightly (4%) compared to that of the previous week, with just over 2.9 million new cases (Figure 1). The European Region accounted for more than half (57%) of global new weekly cases and was the only region which reported an increase (Table 1). Other regions reported declines in the number of new cases. The largest decrease in new cases was again reported from the African Region (21%), followed by the Western Pacific Region (17%).

The number of new deaths also increased slightly by 5% during the past week, with over 49 000 new deaths reported. Increases were reported in the European (14%) and South-East Asia (13%) regions; whereas the largest declines were observed in the Western Pacific (16%), Eastern Mediterranean (13%) and the African (11%) regions.

As of 24 October, over 243 million confirmed cases and over 4.9 million deaths have been reported since the start of the pandemic.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 24 October 2021**



**See *Annex 2: Data, table and figure notes*

The regions reporting the highest weekly case incidence rates per 100 000 population were the European Region (179.1 new cases per 100 000 population) and the Region of the Americas (72.9 new cases per 100 000 population); the same two regions reported the highest weekly incidence in deaths, of 2.3 and 1.8 per 100 000 population, respectively.

The highest numbers of new cases were reported from the United States of America (512 956 new cases; 12% decrease), the United Kingdom (330 465 new cases; 16% increase), the Russian Federation (248 956 new cases; 15% increase), Turkey (196 850 new cases; 8% decrease) and Ukraine (134 235 new cases; 43% increase).

Table 1. Newly reported and cumulative COVID-19 cases and deaths, by WHO Region, as of 24 October 2021**

WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Europe	1 671 245 (57%)	18%	74 963 293 (31%)	21 475 (43%)	14%	1 400 894 (28%)
Americas	745 287 (25%)	-9%	92 891 596 (38%)	18 684 (38%)	1%	2 279 034 (46%)
South-East Asia	197 673 (7%)	-8%	43 782 373 (18%)	3 309 (7%)	13%	687 913 (14%)
Western Pacific	174 271 (6%)	-17%	9 243 232 (4%)	2 684 (5%)	-16%	126 708 (3%)
Eastern Mediterranean	129 949 (4%)	-5%	16 236 262 (7%)	2 420 (5%)	-13%	298 757 (6%)
Africa	21 911 (1%)	-21%	6 131 276 (3%)	841 (2%)	-11%	149 882 (3%)
Global	**2 940 336 (100%)**	**4%**	**243 248 796 (100%)**	**49 413 (100%)**	**5%**	**4 943 201 (100%)**

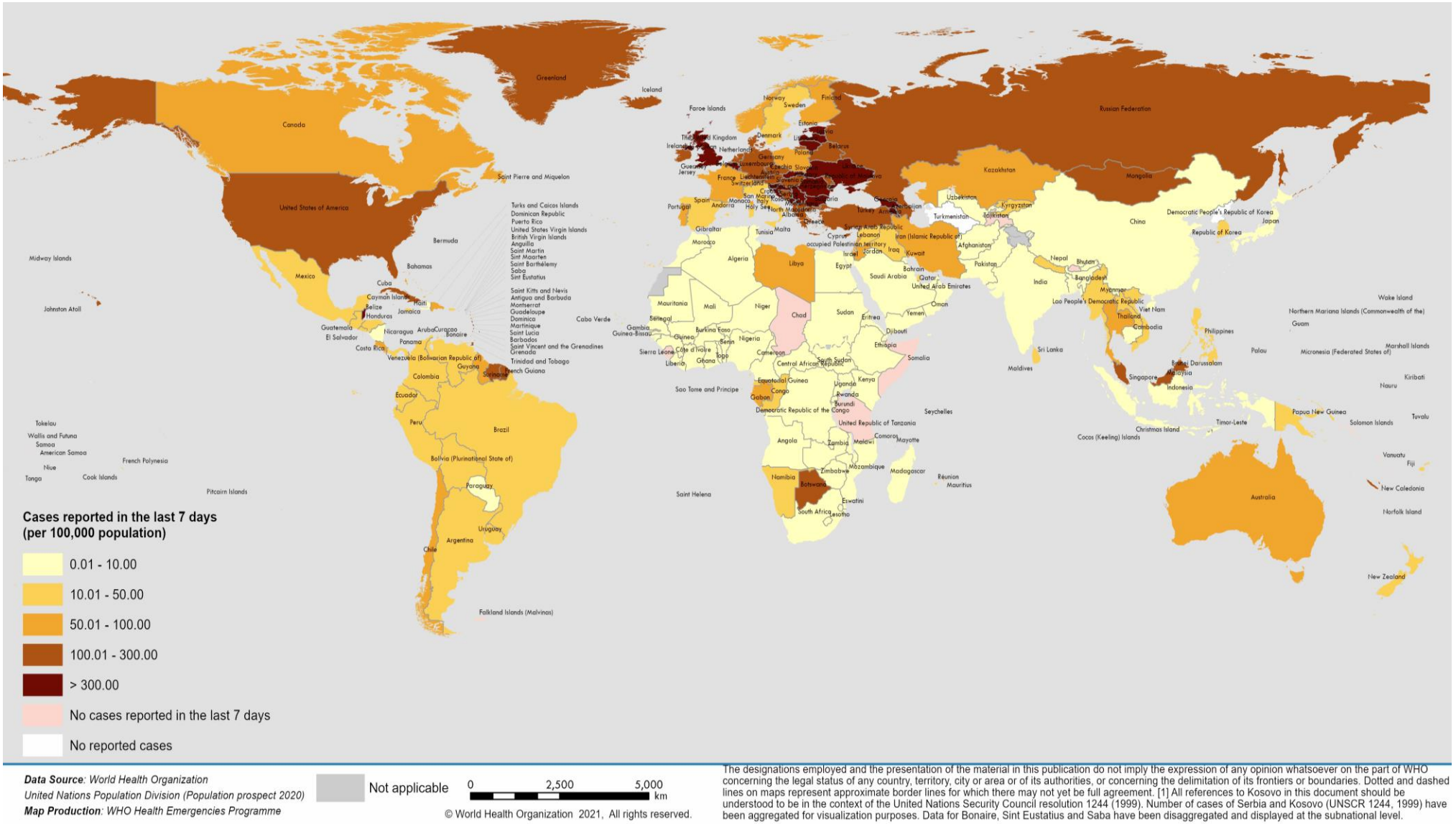
**Percent change in the number of newly confirmed cases/deaths in the past seven days, compared to seven days prior*
***See Annex 2: Data, table and figure notes*

On 22 October, the ninth meeting of the Emergency Committee was convened by the WHO Director-General under the International Health Regulations (2005) (IHR) regarding the COVID-19 pandemic. The Director-General determined that the COVID-19 pandemic continues to constitute a Public Health Emergency of International Concern (PHEIC). He accepted the advice of the Committee and issued the Committee's advice to States Parties as Temporary Recommendations under the IHR. See the statement summarising the meeting proceedings and Temporary Recommendations to State Parties for further information.

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

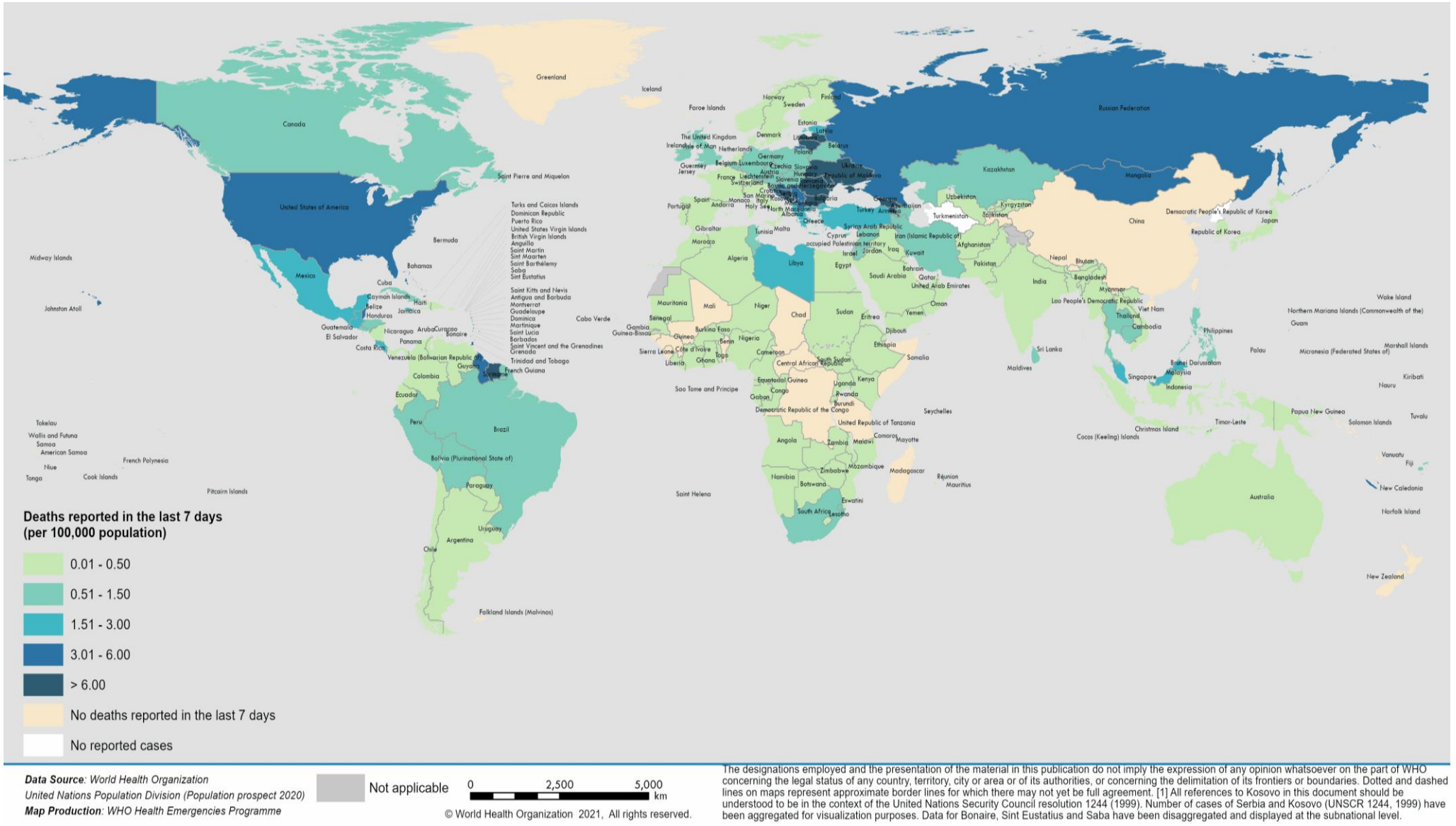
- WHO COVID-19 Dashboard
- WHO COVID-19 Weekly Operational Update and previous editions of the Weekly Epidemiological Update

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 18-24 October 2021**



**See *Annex 2: Data, table and figure notes*

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 18-24 October 2021**



**See *Annex 2: Data, table and figure notes*

Special Focus: Update on WHO COVID-19 global rapid risk assessment

The COVID-19 pandemic continues to evolve, as does our understanding of the SARS-CoV-2 virus, and the response needed to control the spread and impact of the virus. In WHO's most recent rapid risk assessment, conducted on 18 October 2021, the global public health risk remains very high.

Under the Emergency Response Framework, WHO undertakes risk assessments and situation analyses on a regular basis to inform our response to emerging situations. In addition, WHO periodically reviews the current risk status of public health events through an in-depth hazard, exposure and context assessment. This also includes a review of the vulnerabilities and capacities available to respond to the public health event and to investigate the current risk to human health, risks of ongoing spread globally, and risk of insufficient control capacities. Such assessments are used as an internal WHO decision-making tool, and to support independent deliberations, including but not limited to meetings of the International Health Regulations (IHR 2005) Emergency Committee regarding the COVID-19 pandemic. To date, 12 global rapid risk assessments have been undertaken for COVID-19, and additional assessments have been conducted for specific events such as the emergence of SARS-CoV-2 variants. Here, we provide a synopsis of the most recent in-depth global rapid risk assessment for COVID-19.

While COVID-19 case and death incidence has been decreasing in five out of the six WHO regions (except for the European Region) over a prolonged period, it remains high overall, and numerous countries are experiencing an increase in cases, hospitalizations, and deaths. These increases are due to multiple factors, including high prevalence of variants with increased transmissibility; easing of and/or poor adherence to public health and social measures (PHSM) coupled with increased social mixing and resumption of non-essential travel; reopening of schools; and continued susceptibility of a large proportion of the population due to limited vaccine access and coverage.

The rapid spread of the highly transmissible Delta variant has continued to drive sharp resurgences in the three months since the last risk assessment in many countries across all six WHO regions. In almost all countries in which Delta has been reported, it has replaced all other variants including other Variants of Concern (VOCs), quickly becoming the dominant circulating variant. These resurgences have come as many countries face considerable pressure to ease PHSM due to the prolonged duration of the pandemic and the impact of restrictions on societies and economies, SARS-CoV-2 evolution and epidemiology, including the impact of known and emerging variants, and may lead to additional challenges in outbreak containment, particularly as many countries move towards further reopening. Easing PHSM without robust surveillance and testing infrastructure, coupled with an increase in the number of regional and global mass gathering events, may increase the risk of new outbreaks and the emergence of additional VOCs. Additionally, as a proportion of all cases, an increase in the number of cases among those aged 0-24 year has been reported, particularly in the European and Western Pacific regions. This trend could be due to older age groups being more likely to be vaccinated, increased social mixing in younger age groups and in-person learning increasing the exposure potential among 0-24-year-olds. In addition, the reopening of schools has been accompanied by increased testing of this age group. However, overall rates of infection and severe disease remain relatively low among children and young adults.

While more than 6 billion COVID-19 vaccines doses have been administered, as of 18 October, less than half (47%) of the world's population have received at least one dose of vaccine. Nearly two-thirds of vaccines administered have been in ten high-income countries, while only 35% have been in low-income or lower-middle-income countries, highlighting ongoing vaccine inequities. The administration of additional/booster doses beyond those recommended by the Strategic Advisory Group of Experts on Immunization (SAGE) in a number of high-income countries further constrains the global vaccine supply and exacerbates the inequalities in vaccine distribution.

Despite improvements in the global supply chain, some countries continue to experience shortages and lack of access to testing, vaccines, medical oxygen, personal protective equipment, and other supplies that are essential to the pandemic response. These shortages place additional pressure on already strained health systems in many countries, which directly impacts the delivery of essential health services globally, including in well-resourced countries. Insufficient funding for the global response is an additional challenge; WHO faces a US$ 900 million gap in its funding goal, approximately half of the target set in the COVID-19 Strategic Preparedness and Response Plan (SPRP) 2021.

Knowledge gaps remain, including the phenotypic impact of identified and emerging variants, details on waning immunity, and further characterization of the post-COVID-19 condition. In addition, further investigations are required to determine whether there are any changes in the severity profile those infected with VOCs, including children and adolescents.

Additional resources

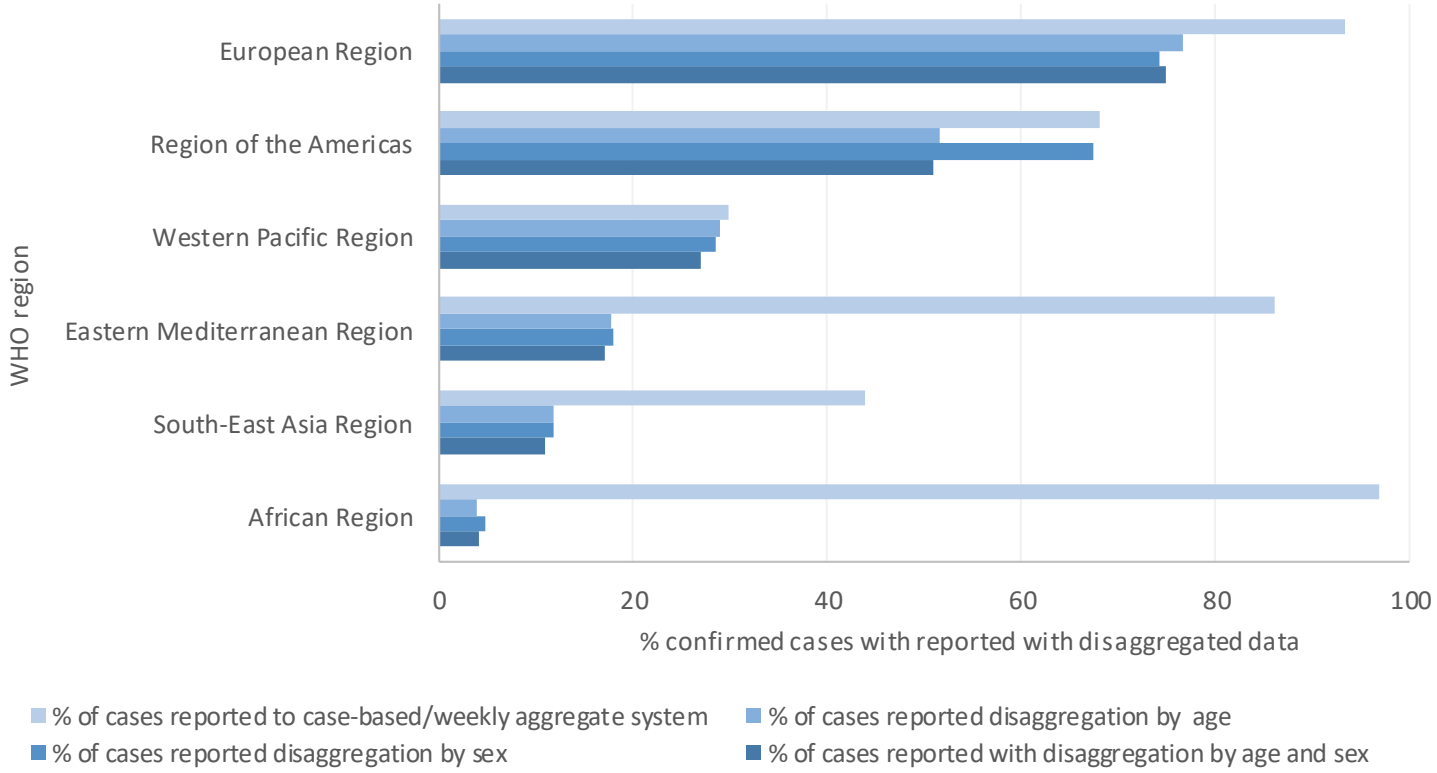
- Further information about the WHO risk assessment process
- Statement on the ninth meeting of the International Health Regulations (2005) Emergency Committee regarding the coronavirus disease (COVID-19) pandemic

Special Focus: Update on age and sex distribution from WHO COVID-19 global surveillance

WHO has been supporting global COVID-19 epidemiological surveillance since January 2020. In addition to the daily count of confirmed cases and deaths, WHO requested Member States to report a minimal set of information via a case-based reporting system, using a case reporting form (CRF) or via the weekly aggregated reporting system. Weekly aggregate surveillance data include the number of cases and deaths disaggregated by age groups and sex, health care workers status, the number of hospitalizations, recoveries, and tests performed.

As of 12 October 2021, over 20 months since the beginning of the pandemic, a total of 184 countries, territories and areas have shared detailed information on 167 million COVID-19 cases, representing over 70% of reported cases, globally. The completeness of these data varies by region (Figure 4), and among income categories, with data being less complete for lower-income countries. Regarding information on COVID-19 mortality, 184 countries reported 1 934 548 deaths to this case-based reporting system, representing less than 40% of the number of deaths reported globally.

Figure 4. Data completeness by WHO region, data as of 12 October 2021 (n=237 973 361)



Distribution by age and sex

Data on sex was reported for 122 921 974 cases, representing 52% of global cases. Of these, 51% (n=62 191 734) were female. However, males accounted for a larger proportion of deaths, 58% (n=1 201 236). These ratios vary by region, for example, in the Eastern Mediterranean and African regions, there is a greater proportion of males in both cases and in deaths.

Age was reported from a total of 99 067 915 cases, representing 40% of global cases (Figure 5). Since the beginning of July 2021, an increase in the proportion of cases among those aged 0-24 years began to has been observed (Figure 6), especially in the European and Western Pacific regions. This is likely due in part to the prioritization of older age groups for vaccination in most countries. Additionally, resumption of in-person schooling, together with the implementation of strengthened testing strategies among children and young people, may also have contributed to the observed increase in reported cases among those aged 0-24 years. However, overall rates of infection and disease remain low among children and young adults.

Figure 5: Distribution by age of confirmed COVID-19 cases per week, COVID-19 WHO surveillance, January 2020 to 12 October 2021 (n=99 067 915)

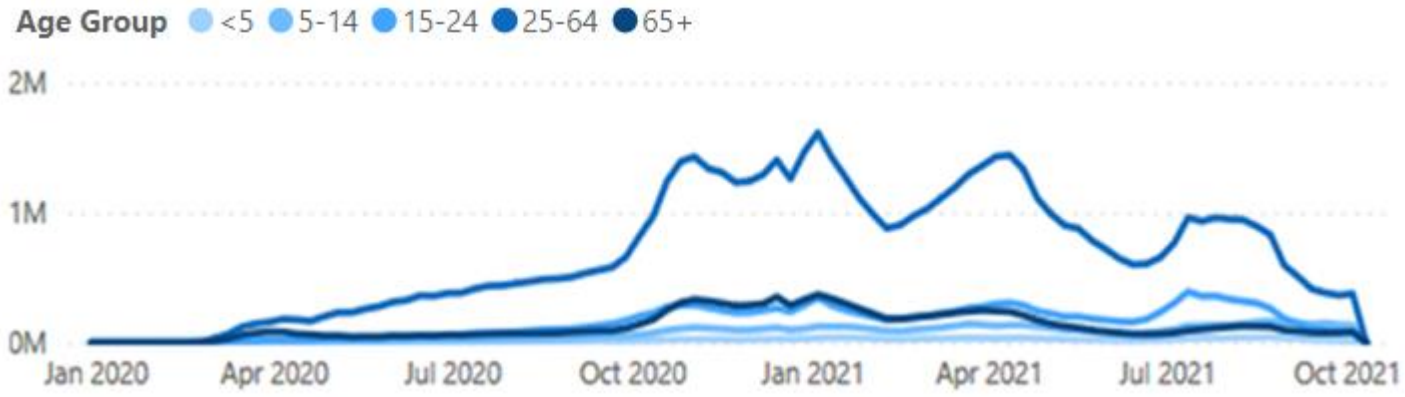
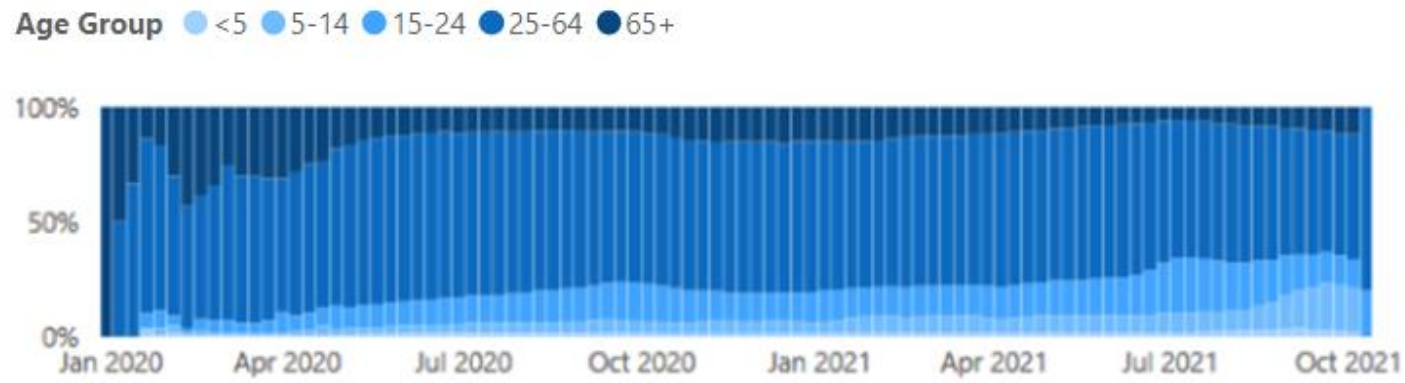


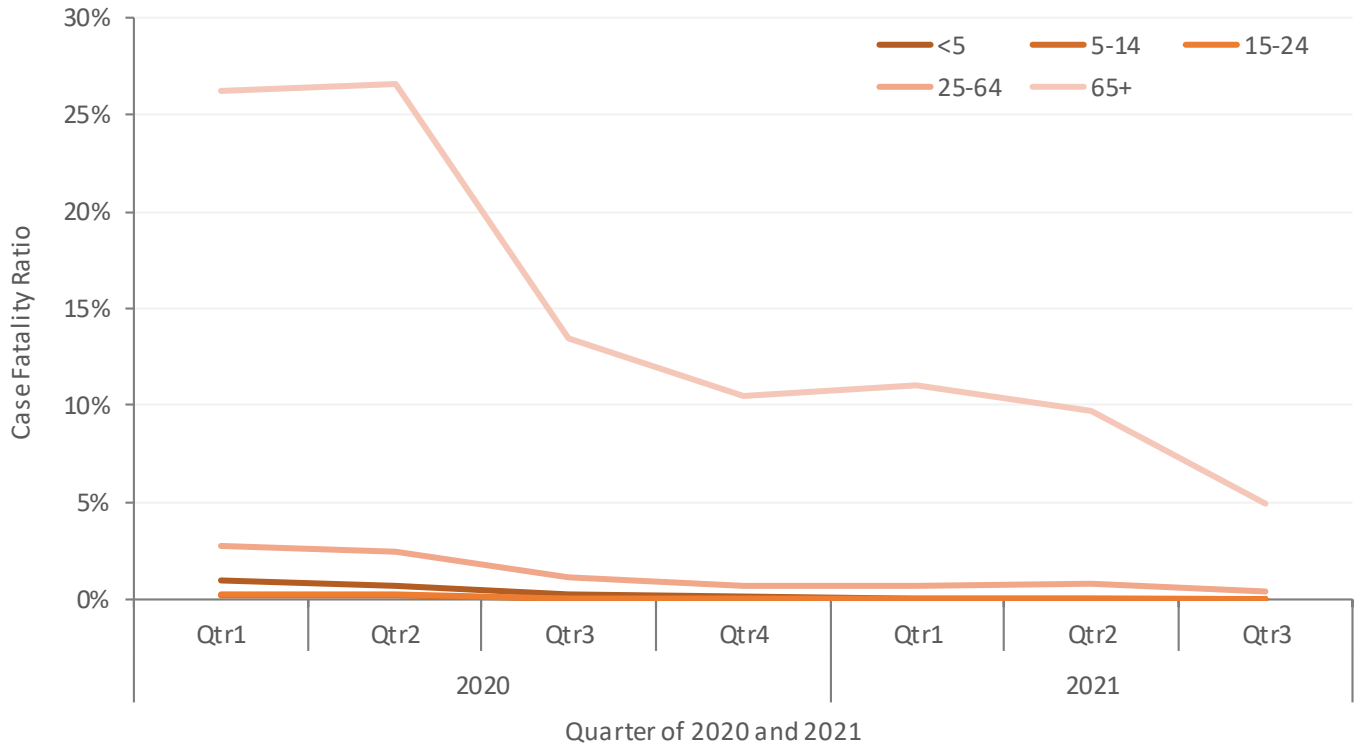
Figure 6: Proportion by age of confirmed COVID-19 cases per week, COVID-19 WHO surveillance, January 2020 to 12 October 2021 (n=99 067 915)



Trends in age-specific case fatality ratios (CFR)

Figure 7 shows CFRs by age-group and year-quarter. Among those aged under 64 years, the CFR has remained below 2.5% throughout the pandemic. Since the second quarter of 2020 (April-September), the CFR substantially decreased among those aged 65 years and over, declining from 26% in the second quarter of 2020, to 5% in the third quarter of 2021, likely as result of the implementation of targeted COVID-19 preventive measures including but not limited to vaccination in this age group as well as the improvements in clinical care over time.

Figure 7. COVID-19 Case fatality ratio (CFR) by age group and quarter, 2020 to 2021 Quater 3, as of 12 October 2021



Conclusions and recommendations

Data submitted to the WHO has highlighted differences in the proportion of COVID-19 cases by age groups and sex, including a recent surge of cases in younger age groups (0-24 years-old), although these proportions are not evenly distributed worldwide. The CFR in people over 65 years has dropped to below 5% recently, which may be due to several factors including, but not limited to, non-pharmaceutical interventions, improved clinical understanding and management of COVID-19, and the impact of vaccination.

Despite the great effort in COVID-19 surveillance being made by Member States, there is still room for improvement. The completeness of surveillance data is still low and varies regionally and among income categories, with lower-income countries reporting less complete data. WHO recommends ongoing surveillance for COVID-19 in order to understand the incidence and mortality among different age groups, which populations are at higher risk for severe disease and death, and potential epidemiological changes over time.

Additional resources

- WHO COVID-19 Detailed Surveillance Data Dashboard
- Global surveillance of COVID-19: WHO process for weekly reporting aggregated data
- WHO COVID-19 Detailed Surveillance Data Dashboard
- Public health surveillance for COVID-19: interim guidance

Special Focus: Update on SARS-CoV-2 Variants of Interest and Variants of Concern

WHO, in collaboration with national authorities, institutions and researchers, routinely assesses if variants of SARS-CoV-2 alter transmission or disease characteristics, or impact effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied by national authorities to control disease spread. "Signals" of potential Variants of Concern (VOCs) or Variants of Interest (VOIs) are detected and assessed based on the risk posed to global public health. As evidence becomes available, classification for VOIs or VOCs will be revised to reflect the continuous evolution of circulating variants and their changing epidemiology. Criteria for variant classification and the current lists of VOCs, VOIs and other Variants Under Monitoring are available on the WHO Tracking SARS-Cov-2 variants website. National authorities may choose to designate other variants of local interest/concern and are encouraged to investigate and report on impacts of these variants.

As these risks evolve, WHO will continue to update lists of global VOIs and VOCs to support setting priorities for surveillance and research, and ultimately guide response strategies (for more information, please see the Tracking SARS-CoV-2 variants website). The prevalence of different variants is being monitored in light of other co-circulating variants, such as Delta. The global distribution should nonetheless be interpreted with due consideration of surveillance limitations, including differences in sequencing capacities and sampling strategies between countries, and delays in reporting.

Geographic spread and prevalence of VOCs

The current global genetic epidemiology is characterized by a predominance of Delta variant, with declining prevalence of other variants among SARS-CoV-2 sequences submitted to publicly available datasets or reported to WHO (Figure 5, Annex 1). Delta has outcompeted other variants, including other VOCs, in most countries. However, sub-regional and country-level variation continues to be observed; most notably within some South American countries, where the progression of the Delta variant has been more gradual, and other variants (e.g. Gamma, Mu) still contribute a a large proportion of sequences.

Global VOCs distribution should be interpreted with due consideration of surveillance limitations, including differences in sequencing capacities, sampling strategies between countries and delays in reporting. Current efforts are underway to strengthen genomic surveillance in several regions and countries to enhance coverage of sequencing and detection of variants globally.

Lineage AY.4.2

With ongoing spread and evolution of SARS-CoV-2, new branches of the COVID-19 evolutionary tree continue to be defined, including within the Delta VOC. The characterization of Pango lineages and Nextstrain clades, together with other genomic systems and tools, assists researchers and public health agencies worldwide to track the evolution of SARS-CoV-2. Nextstrain has recently identified two additional subclades of Delta that have grown in frequency globally, and therefore currently divides the Delta variant into 3 clades: 21A, 21I, 21J. As per the latest Pango nomenclature, which is more fine-scaled, 67 lineages have been designated within Delta. Each of the three Nextstrain clades (21A, 21I and 21J) correspond to multiple Pango AY lineages. New lineages are regularly assigned as new sequencing data becomes available and processed to define epidemiologically relevant phylogenetic clusters, e.g. an introduction into a district geographic area with evidence of onward transmission.[1] Past sequences and associated metadata are also retrospectively updated, which should be taken into account when interpreting GISAID data. WHO, in collaboration with the SARS-CoV-2 Virus Evolution Working Group, continues to monitor and assess SARS-CoV-2 variants, including the AY lineages within Delta VOC.

AY.4.2 is a newly designated Pango lineage within Delta VOC, which has three additional mutations, including two in the spike protein: A222V and Y145H. An increase in AY.4.2 sequence submissions has been observed since July 2021, and as of 25 October, over 26 000 AY.4.2 sequences have been uploaded to GISAID from 42 countries. The majority (93%) of these sequences were reported from the United Kingdom, where a gradual increase in the proportional contribution of AY.4.2 has been observed; accounting for an estimated 5.9% of overall Delta cases reported in the week beginning 3 October 2021.[2] Epidemiological and laboratory studies are ongoing to assess if AY.4.2 confers any additional phenotypic impacts (e.g. a change in transmissibility or a decrease in the ability of antibodies to block the virus).

Additional resources

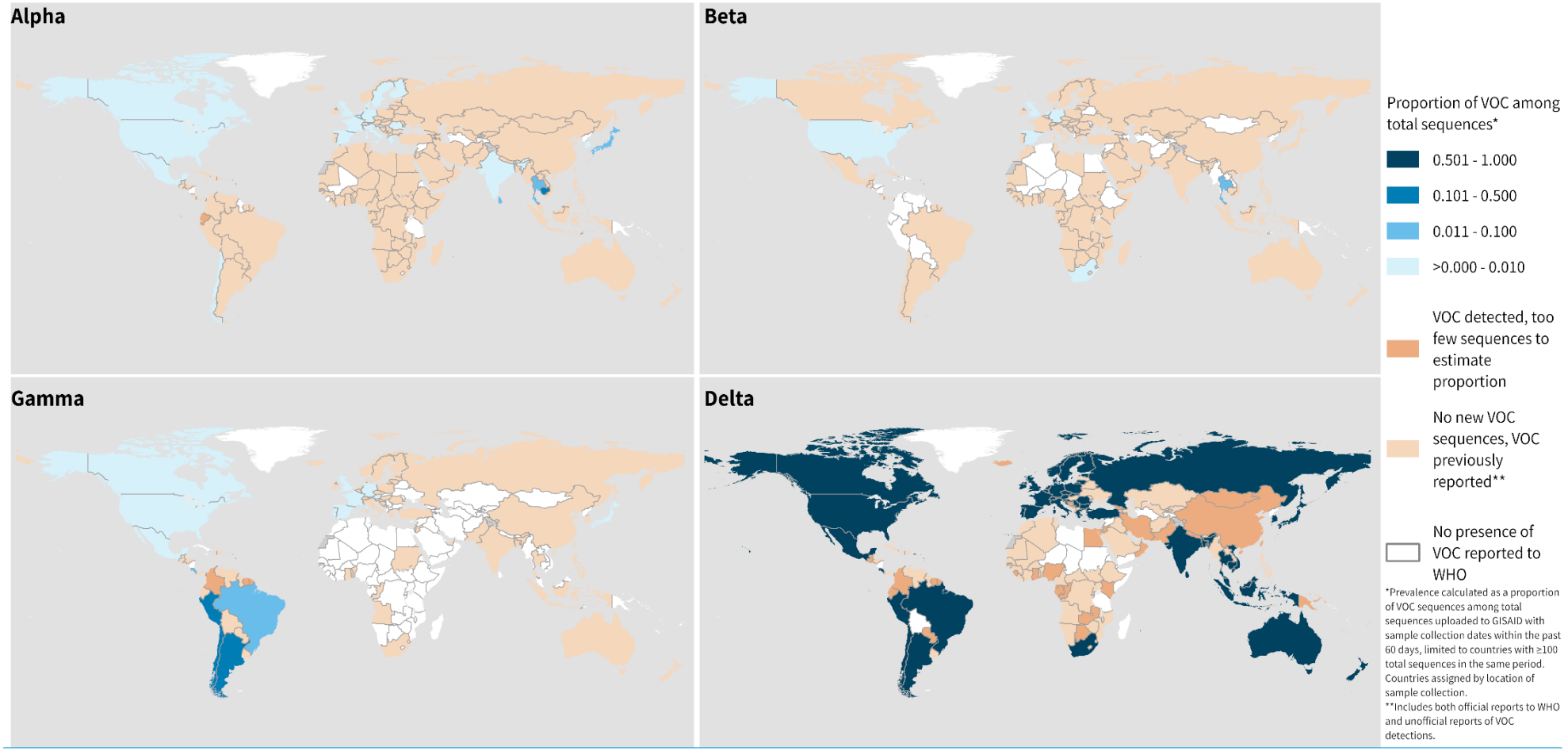
- Tracking SARS-CoV-2 Variants
- COVID-19 new variants: Knowledge gaps and research
- Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health
- Considerations for implementing and adjusting PHSM in the context of COVID-19

References

1. Rambaut A, Holmes EC, O'Toole Á, et al. A dynamic nomenclature proposal for SARS-CoV-2 lineages to assist genomic epidemiology. *Nature Microbiology*. 2020;5(11):1403-1407. doi:10.1038/s41564-020-0770-5

2. Public Health England. *SARS-CoV-2 Variants of Concern and Variants under Investigation in England-Technical Briefing 26*.; 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1028113/Technical_Briefing_26.pdf

Figure 5: Prevalence of Variants of Concern (VOCs) in the last 60 days and historic detections, data as of 26 October 2021



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

Not applicable

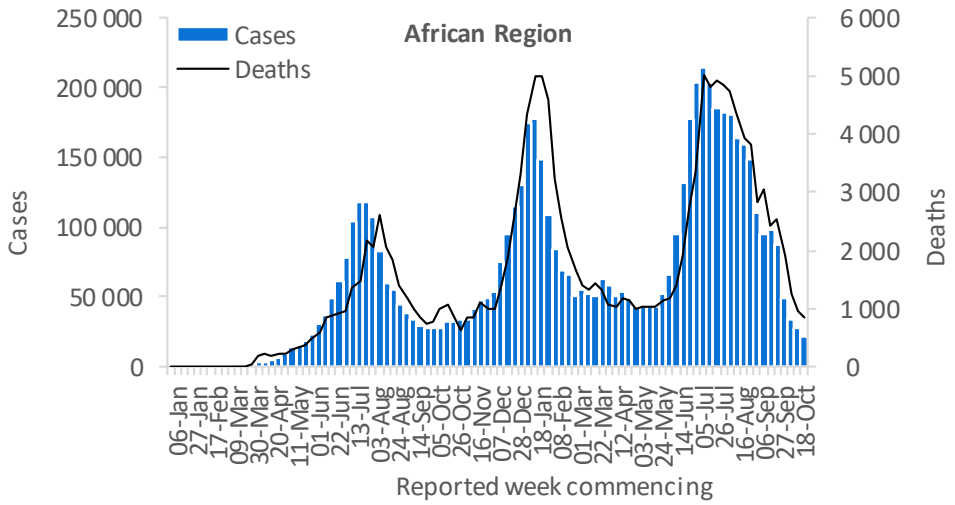
World Health Organization

WHO regional overviews Epidemiological week 18-24 October 2021

African Region

The declining trend observed in the African Region since mid-July continued this week with over 22 000 new cases and over 800 new deaths reported, a decrease of 21% and 11% respectively as compared to the previous week. While this is reassuring, ten out of the 49 countries (20%) in the Region reported increases in new weekly cases as compared with the previous week, with the greatest increase observed in Réunion (578%), Botswana (116%), and Gambia (100%). The highest numbers of new cases were reported from South Africa (3153 new cases; 5.3 new cases per 100 000 population; a 33% decrease), Botswana (3063 new cases; 130.3 new cases per 100000; a 116% increase), and Ethiopia (2908 new cases; 2.5 new cases per 100 000; a 38% decrease).

The highest numbers of new deaths were reported from South Africa (327 new deaths; <1 new death per 100 000 population; an 11% increase), Ethiopia (136 new deaths; <1 new death per 100 000; a 45% decrease), and Nigeria (52 new deaths; <1 new death per 100 000; a 12% decrease).

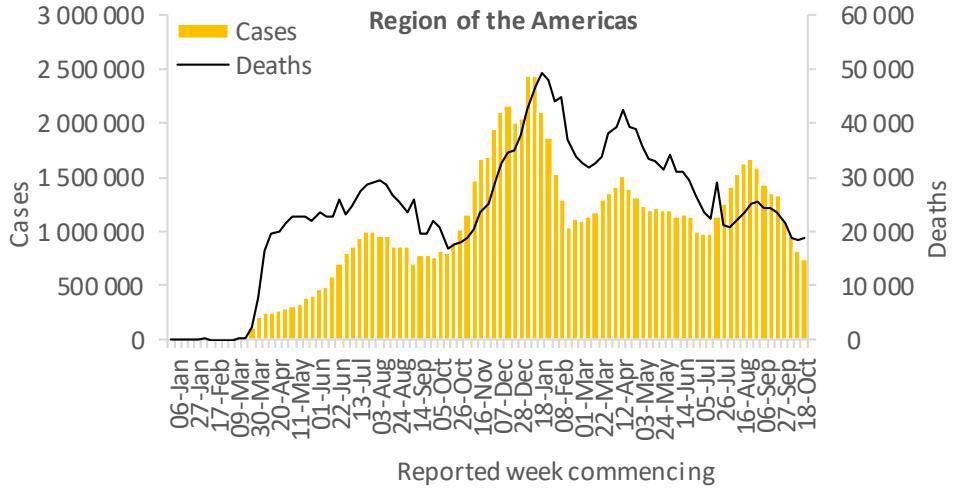


Updates from the African Region

Region of the Americas

The Region of the Americas reported over 745 000 new cases this week, a 9% decline as compared to the previous week and a continuation of the declining trend in the region observed since the end of August 2021. Nevertheles,s 25% of countries (14/56) reported an increase in new cases this week as compared to the previous week, with the largest increases observed in Dominica (166%), Cayman Islands (156%) and Paraguay (136%). The highest numbers of new cases were reported from the United States of America (512 956 new cases; 155.0 new cases per 100 000; a 12% decrease), Brazil (84 367 new cases; 39.7 new cases per 100 000; a 10% increase), and Mexico (32 940 new cases; 25.5 new cases per 100 000; a 7% decrease).

Deaths remain stable as compared with the previous week, with the highest numbers of new deaths reported from the United States of America (11 604 new deaths; 3.5 new deaths per 100 000; similar to the number reported last week), Brazil (2470 new deaths; 1.2 new deaths per 100 000; a 10% increase), and Mexico (2324 new deaths; 1.8 new deaths per 100 000; similar to the number reported last week).

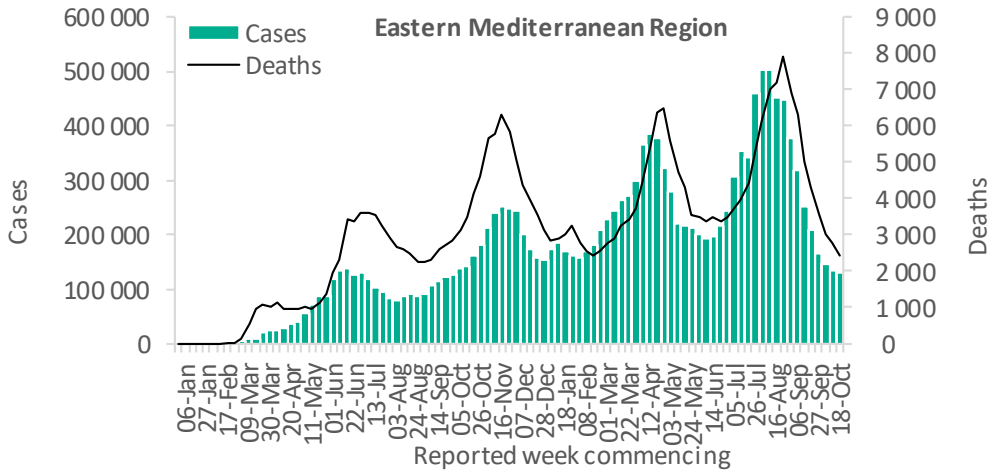


Updates from the Region of the Americas

Eastern Mediterranean Region

The number of cases and deaths continued to decline this week in the Eastern Mediterranean Region, with just under 130 000 new cases and over 2400 new deaths reported, a 5% and a 13% decrease respectively as compared to the previous week. This declining trend in both cases and deaths has been observed since late July 2021. In the past week, just under one third of the countries (6/22; 27%) in the region reported an increase in new cases and the highest increases were observed in Sudan (57%) and the Syrian Arab Republic (26%). The highest numbers of new cases were reported from the Islamic Republic of Iran (78 251 new cases; 93.2 new cases per 100 000; similar to the number reported in the previous week), Iraq (11 290 new cases; 28.1 new cases per 100 000; similar to the number reported in the previous week), and Jordan (9641 new cases; 94.5 new cases per 100 000; a 25% increase).

The highest numbers of new deaths were reported from the Islamic Republic of Iran (1176 new deaths; 1.4 new deaths per 100 000; a 22% decrease), Egypt (316 new deaths; <1 new death per 100 000; an 18% increase), and Iraq (199 new deaths; <1 new death per 100 000; similar to the number reported in the previous week).

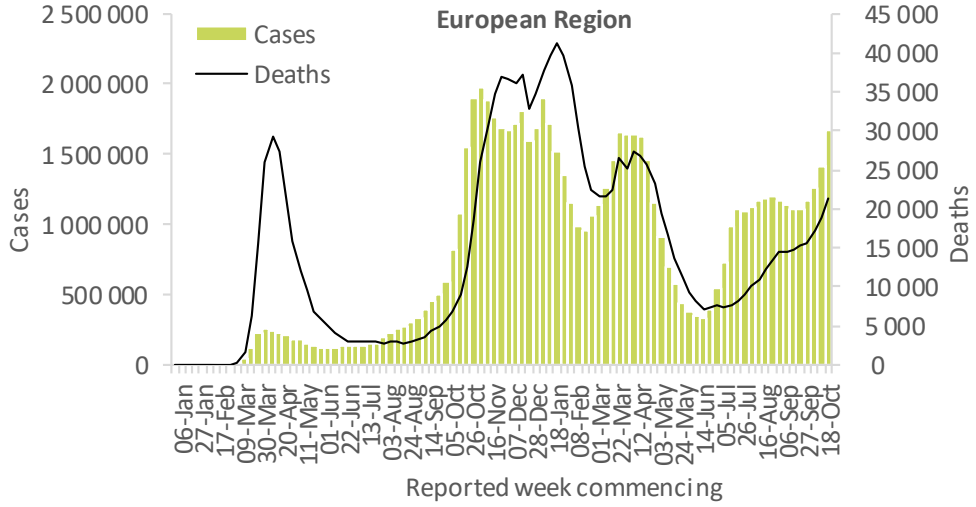


Updates from the Eastern Mediterranean Region

European Region

The European Region reported over 1.6 million new cases and over 21 000 new deaths, an 18% and a 14% increase respectively compared to the previous week. The trend observed since the end of September continued this week with an increasing number of new cases and deaths reported in the Region . More than half (42/61; 69%) of the countries in the European Region reported an increase in cases in the past week. The highest numbers of new cases were reported from the United Kingdom (330 465 new cases; 486.8 new cases per 100 000; a 16% increase), the Russian Federation (248 956 new cases; 170.6 new cases per 100 000; a 15% increase), and Turkey (196 850 new cases; 233.4 new cases per 100 000; an 8% decrease).

The highest numbers of new deaths were reported from the Russian Federation (7288 new deaths; 5.0 new deaths per 100 000; a 6% increase), Ukraine (3239 new deaths; 7.4 new deaths per 100 000; a 51% increase), and Romania (2889 new deaths; 14.9 new deaths per 100 000; a 22% increase).

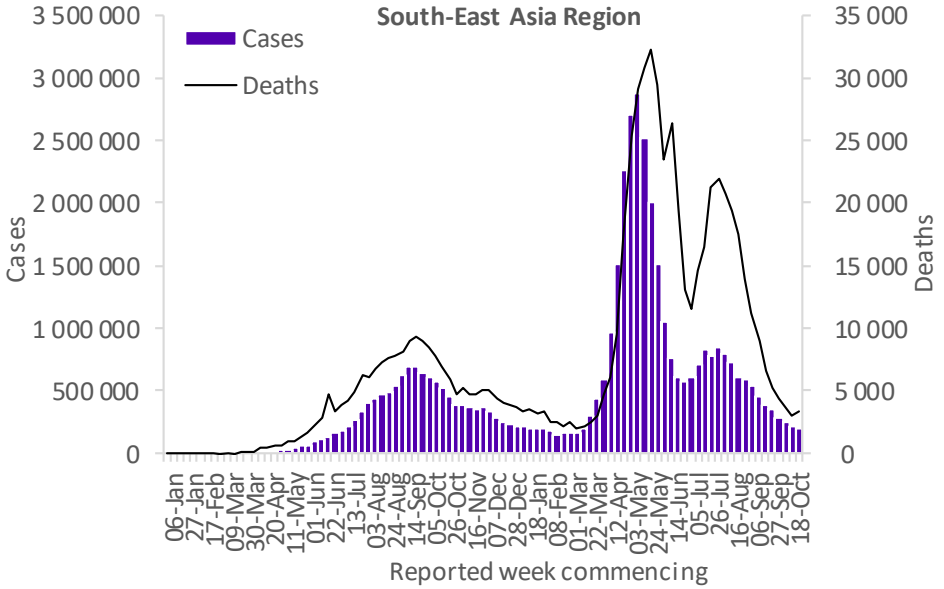


Updates from the European Region

South-East Asia Region

Since the end of July 2021, new weekly cases continue to decline in the Region , with 197 000 new cases reported this week, an 8% decrease as compared with the previous week. All the countries reported a decreasing trend except for Maldives (23% increase), Timor-Leste (37% increase) and Nepal (42% increase). The highest numbers of new cases were reported from India (107 749 new cases; 7.8 new cases per 100 000; a 6% decrease), Thailand (66 781 new cases; 95.7 new cases per 100 000; an 8% decrease), and Myanmar (6410 new cases; 11.8 new cases per 100 000; a 30% decrease).

On the other hand, new weekly deaths increased by 13% this week as compared with the previous week, largely driven increases in India (40% increase) and Nepal (21% increase). The highest numbers of new deaths were reported from India (2145 new deaths; <1 new death per 100 000; a 40% increase), Thailand (482 new deaths; <1 new death per 100 000; a 17% decrease), and Indonesia (253 new deaths; <1 new death per 100 000; a 16% decrease).

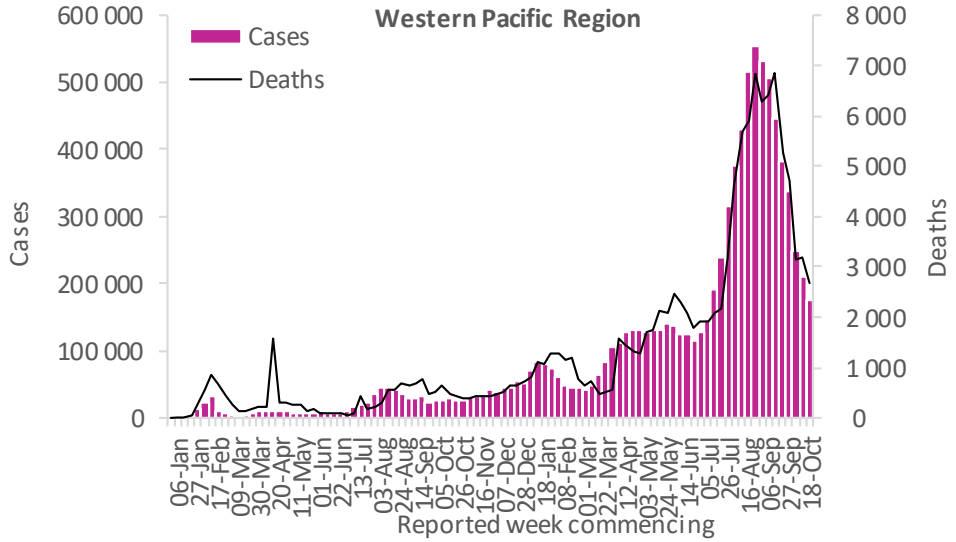


Updates from the South-East Asia Region

Western Pacific Region

The Western Pacific Region reported over 174 000 new cases and over 2600 new deaths, a 17% and a 16% decrease respectively, as compared to the previous week. Despite the ongoing declining trends in the Region, of the countries reporting cases (19/26; 73%), more than a quarter (5/19; 26%) still reported increases in new cases in the past week. The highest numbers of new cases were reported from Malaysia (41 508 new cases; 128.2 new cases per 100 000; a 21% decrease), the Philippines (38 189 new cases; 34.8 new cases per 100 000; a 35% decrease), and Singapore (24 141 new cases; 412.6 new cases per 100 000; a 15% increase).

The highest numbers of new deaths were reported from the Philippines (1005 new deaths; <1 new death per 100 000; a 7% decrease), Malaysia (496 new deaths; 1.5 new deaths per 100 000; a 16% decrease), and Viet Nam (489 new deaths; <1 new death per 100 000; a 29% decrease).



Updates from the Western Pacific Region

Summary of the COVID-19 Weekly Operational Update

The Weekly Operational Update is a report provided by the COVID-19 Strategic Preparedness and Response Plan (SPRP) Monitoring and Evaluation team, which aims to update on the ongoing global progress against the COVID-19 SPRP 2021 framework, and to highlight country-level actions and WHO support to countries. In this week's edition published on 25 October, highlights include the following:

- Rapid Response Mobile Laboratory (RRML/GOARN) initiative strengthens international RRML deployment capabilities
- PAHO and US Centers for Disease Control and Prevention Partner to Bolster COVID-19 Response in Jamaica
- Leveraging polio campaign to integrate COVID-19 vaccination in Nigeria
- HealthBuddy+ in Bulgaria: innovative COVID-19 chatbot supports mental health during the pandemic
- Online courses support rollout of Go.Data outbreak investigation tool
- Progress on a subset of indicators from the SPRP 2021 Monitoring and Evaluation Framework
- Updates on WHO's financing to support countries in SPRP 2021 implementation and provision of critical supplies.

Technical guidance and other resources

- WHO technical guidance
- WHO COVID-19 case definitions
- COVID-19 Supply Chain Inter-Agency Coordination Cell Weekly Situational Update
- Research and Development
- OpenWHO courses on COVID-19 in official UN languages and in additional national languages
- WHO Academy COVID-19 mobile learning app
- The Strategic Preparedness and Response Plan (SPRP) outlining the support the international community can provide to all countries to prepare and respond to the virus
- Recommendations and advice for the public:
    - Protect yourself
    - Questions and answers
    - Travel advice
- EPI-WIN: tailored information for individuals, organizations and communities

Annex 1. List of countries/territories/areas reporting variants of concern as of 26 Oct 2021**

Country/Territory/Area	Alpha	Beta	Gamma	Delta
Afghanistan	●	-	-	●
Albania	●	-	-	○
Algeria	●	-	-	●
Andorra	○	○	-	○
Angola	●	●	●	●
Anguilla	●	-	-	●
Antigua and Barbuda	●	●	●	●
Argentina	●	●	●	●
Armenia	●	-	-	●
Aruba	●	●	●	●
Australia	●	●	●	●
Austria	●	●	●	●
Azerbaijan	●	-	-	○
Bahamas	●	-	●	●
Bahrain	●	●	●	●
Bangladesh	●	●	○	●
Barbados	●	-	●	●
Belarus	●	-	-	○
Belgium	●	●	●	●
Belize	●	-	●	●
Benin	●	●	●	●
Bermuda	●	●	-	●
Bhutan	●	●	-	●
Bolivia (Plurinational State of)	●	-	●	-
Bonaire	●	-	●	●
Bosnia and Herzegovina	●	●	●	○
Botswana	○	●	-	●
Brazil	●	●	●	●
British Virgin Islands	●	-	●	●
Brunei Darussalam	●	●	-	●
Bulgaria	●	●	-	●
Burkina Faso	●	-	-	●
Burundi	●	●	-	●
Cabo Verde	●	-	-	●
Cambodia	●	●	-	●
Cameroon	●	●	-	●
Canada	●	●	●	●
Cayman Islands	●	●	●	●
Central African Republic	●	●	-	●
Chad	●	-	-	-
Chile	●	●	●	●
China	●	●	●	○
Colombia	●	-	●	●
Comoros	-	●	-	-
Congo	●	○	●	●
Costa Rica	●	●	●	●
Croatia	●	●	●	○
Cuba	●	●	-	●
Curaçao	●	●	●	●
Cyprus	●	●	-	○
Czechia	●	●	●	●
Côte d'Ivoire	●	●	-	○
Democratic Republic of the Congo	●	●	-	●
Denmark	●	●	●	●
Djibouti	●	●	-	-
Dominica	●	-	-	●
Dominican Republic	●	-	●	●
Ecuador	●	-	●	●
Egypt	●	-	-	●
El Salvador	●	-	●	●
Equatorial Guinea	●	●	-	○
Estonia	●	●	○	○
Eswatini	○	●	-	●
Ethiopia	●	-	-	●
Falkland Islands (Malvinas)	●	●	-	-
Faroe Islands	●	-	●	-
Fiji	○	-	-	●
Finland	●	●	●	●
France	●	●	●	●
French Guiana	●	●	●	●
French Polynesia	●	●	●	●
Gabon	●	●	-	●
Gambia	●	-	-	●
Georgia	●	○	-	●
Germany	●	●	●	●
Ghana	●	●	●	●
Gibraltar	●	-	-	○
Greece	●	●	●	●
Grenada	●	-	-	●
Guadeloupe	●	●	●	●

Country/Territory/Area	Alpha	Beta	Gamma	Delta
Guam	●	●	●	●
Guatemala	●	●	●	●
Guinea	●	●	-	●
Guinea-Bissau	●	●	-	●
Guyana	-	-	●	●
Haiti	●	-	●	●
Honduras	●	-	●	●
Hungary	●	○	●	○
Iceland	●	●	●	●
India	●	●	●	●
Indonesia	●	●	○	●
Iran (Islamic Republic of)	●	●	-	●
Iraq	●	●	-	●
Ireland	●	●	●	●
Israel	●	●	●	●
Italy	●	●	●	●
Jamaica	●	-	-	●
Japan	●	●	●	●
Jordan	●	●	●	●
Kazakhstan	●	○	-	●
Kenya	●	●	-	●
Kosovo[1]	●	○	-	○
Kuwait	●	●	-	●
Kyrgyzstan	●	●	-	●
Lao People's Democratic Republic	●	-	-	●
Latvia	●	●	●	○
Lebanon	●	-	-	●
Lesotho	-	●	-	○
Liberia	●	●	-	●

Country/Territory/Area	Alpha	Beta	Gamma	Delta
Libya	●	●	-	-
Liechtenstein	●	-	-	○
Lithuania	●	●	●	○
Luxembourg	●	●	●	●
Madagascar	●	●	-	-
Malawi	●	●	-	●
Malaysia	●	●	-	●
Maldives	●	-	-	●
Mali	-	-	-	●
Malta	●	○	●	○
Martinique	●	●	●	●
Mauritania	●	●	-	●
Mauritius	●	●	-	●
Mayotte	●	●	-	○
Mexico	●	●	●	●
Monaco	●	●	-	●
Mongolia	●	-	-	●
Montenegro	●	-	○	○
Montserrat	●	-	●	●
Morocco	●	●	-	●
Mozambique	●	●	-	●
Myanmar	●	-	-	●
Namibia	●	●	-	●
Nepal	●	-	-	●
Netherlands	●	●	●	●
New Caledonia	●	-	-	●
New Zealand	●	●	○	●
Niger	●	-	-	-
Nigeria	●	●	-	●
North Macedonia	●	●	-	○

Country/Territory/Area	Alpha	Beta	Gamma	Delta
Northern Mariana Islands (Commonwealth of the)	○	-	-	●
Norway	●	●	●	●
Occupied Palestinian Territory	●	●	-	●
Oman	●	●	-	●
Pakistan	●	●	●	●
Panama	●	●	●	●
Papua New Guinea	-	-	-	●
Paraguay	●	-	●	●
Peru	●	-	●	●
Philippines	●	●	●	●
Poland	●	○	●	●
Portugal	●	●	●	●
Puerto Rico	●	●	●	●
Qatar	●	●	-	●
Republic of Korea	●	●	●	●
Republic of Moldova	●	-	-	●
Romania	●	●	●	●
Russian Federation	●	●	○	●
Rwanda	●	●	-	●
Réunion	●	●	●	○
Saba	-	-	-	●
Saint Barthélemy	●	-	-	●
Saint Kitts and Nevis	-	-	-	●
Saint Lucia	●	-	-	●
Saint Martin	●	●	-	●
Saint Pierre and Miquelon	-	-	-	●
Saint Vincent and the Grenadines	-	-	●	●
Sao Tome and Principe	●	-	-	○

Country/Territory/Area	Alpha	Beta	Gamma	Delta
Saudi Arabia	●	●	-	●
Senegal	●	●	-	●
Serbia	●	-	-	●
Seychelles	●	●	-	●
Sierra Leone	-	●	-	●
Singapore	●	●	●	●
Sint Maarten	●	●	●	●
Slovakia	●	●	-	●
Slovenia	●	●	●	●
Somalia	●	●	-	-
South Africa	●	●	○	●
South Sudan	●	●	-	●
Spain	●	●	●	●
Sri Lanka	●	●	-	●
Sudan	●	●	●	-
Suriname	●	●	●	●
Sweden	●	●	●	●
Switzerland	●	●	●	●
Thailand	●	●	●	●
Timor-Leste	●	-	-	●
Togo	●	●	●	●
Trinidad and Tobago	●	-	●	●
Tunisia	●	●	-	●
Turkey	●	●	●	●
Turks and Caicos Islands	●	-	●	●
Uganda	●	●	-	●
Ukraine	●	○	-	○
United Arab Emirates	●	●	●	●
United Kingdom	●	●	●	●
United Republic of Tanzania	-	●	-	-
United States Virgin Islands	●	●	○	●
United States of America	●	●	●	●
Uruguay	●	●	●	●
Uzbekistan	●	●	-	○
Venezuela (Bolivarian Republic of)	●	-	●	●
Viet Nam	●	●	-	●
Wallis and Futuna	●	-	-	-
Yemen	●	●	-	-
Zambia	●	●	-	●
Zimbabwe	●	●	-	●

**Newly reported in this update.*

"●" indicates that information for this variant was received by WHO from official sources.

"○" indicates that information for this variant was received by WHO from unofficial sources and will be reviewed as more information become available.

***Includes countries/territories/areas reporting the detection of VOCs among travelers (e.g., imported cases detected at points of entry), or local cases (detected in the community). Excludes countries, territories, and areas that have never reported the detection of a variant of concern.*

See also Annex 2: Data, table and figure notes

Annex 2. Data, table and figure notes

Data presented are based on official laboratory-confirmed COVID-19 case 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 incidence, and variable delays to reflecting these data at 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. Due to public health authorities conducting data reconciliation exercises which remove large numbers of cases or deaths from their total counts, negative numbers may be displayed in the new cases/deaths columns as appropriate. When additional details become available that allow the subtractions to be suitably apportioned to previous days, graphics will be updated accordingly.

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A record of historic data adjustment made is available upon request by emailing epi-data-support@who.int. Please specify the country(ies) of interest, time period(s), 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.

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