COVID-19 Weekly Epidemiological Update

Edition 82, published 8 March 2022

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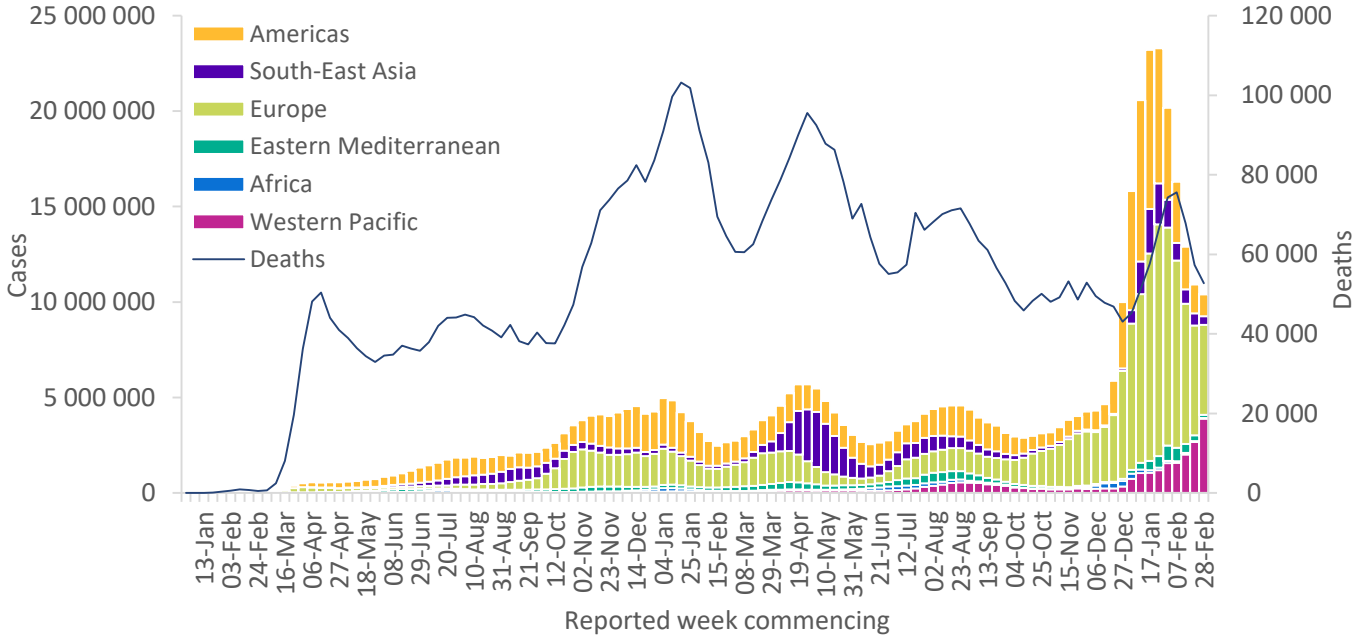
Global overview

Data as of 6 March 2022

Globally, during the week of 28 February through 6 March 2022, the number of new COVID-19 cases and deaths continued to decline by 5% and 8% respectively, as compared to the previous week (Figure 1). Across the six WHO regions, over 10 million new cases and over 52 000 new deaths were reported (Table 1). As of 6 March 2022, over 433 million confirmed cases and over 5.9 million deaths have been reported globally.

At the regional level, while the Western Pacific Region continued to report an increase (+46%) in the number of new weekly cases, all other regions reported decreases: the Eastern Mediterranean Region (-46%), the African Region (-40%), the South-East Asia Region (-31%), the Region of the Americas (-24%), and the European Region (-18%). The number of new weekly deaths increased in the Western Pacific Region (+29%) and remained stable in the Eastern Mediterranean Region (+2%), while decreases were reported by the African Region (-39%), the European Region (-15%), the Region of the Americas (-9%) and the South-East Asia Region (-3%). These trends should be interpreted with caution as several countries are progressively adopting targeted testing strategies, resulting in lower overall numbers of tests performed and consequently of cases detected.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 6 March 2022**



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

The highest numbers of new cases were reported from the Republic of Korea (1 461 431 new cases; +42%), Germany (1 108 231 new cases; -1%), Viet Nam (1 013 343 new cases; +112%), the Russian Federation (650 540 new cases; -29%), and Japan (452 763 new cases; +4%).

The highest number of new deaths were reported from the United States of America (10 579 new deaths; -9%), Russian Federation (5354 new deaths; -1%), Brazil (3865 new deaths; -11%), Indonesia (2099 new deaths, +23%), and Japan (1519 new deaths; -7%)

Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 6 March 2022**

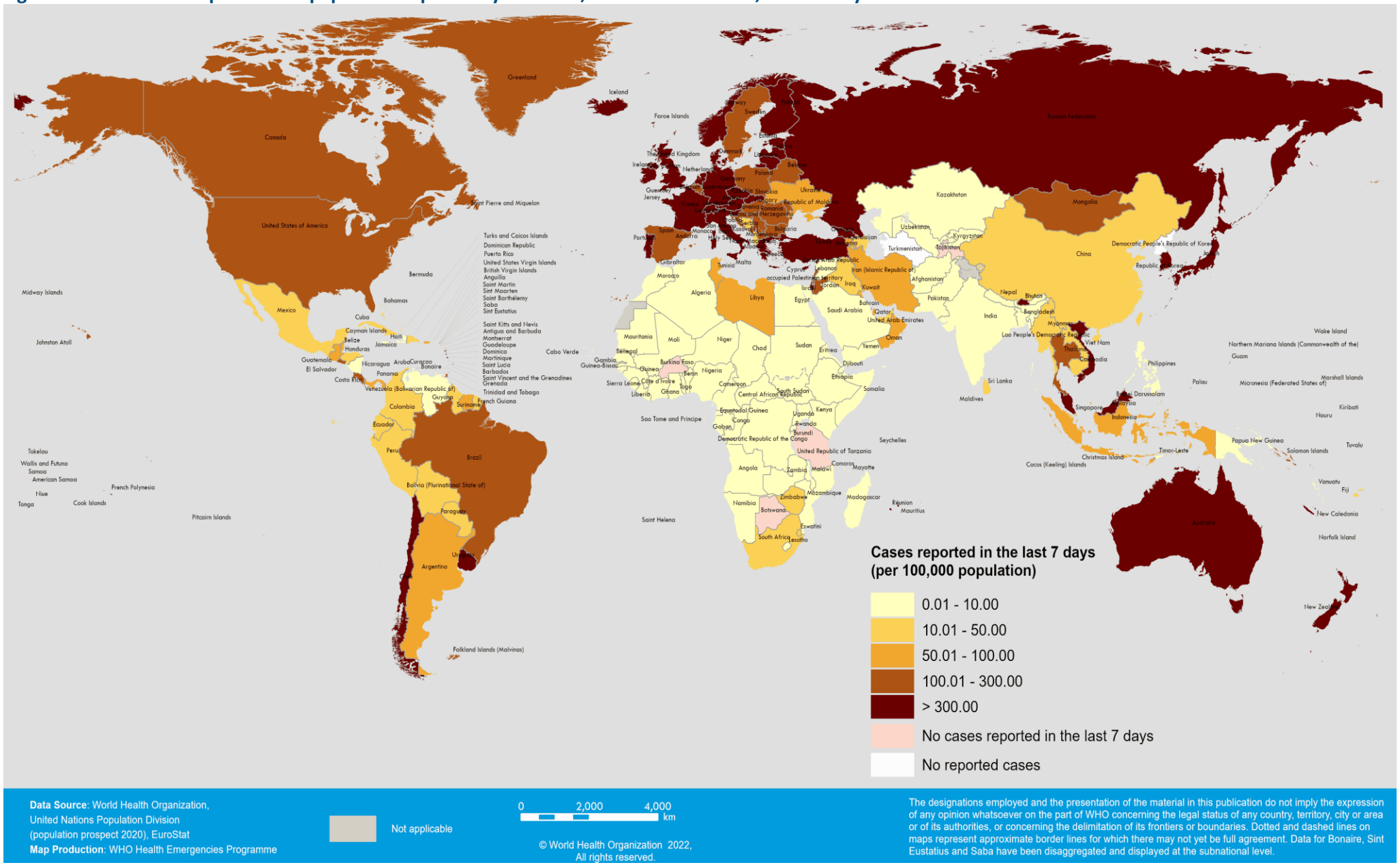
WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Europe	4 715 598 (45%)	-18%	182 589 794 (41%)	19 076 (36%)	-15%	1 887 611 (31%)
Western Pacific	3 895 780 (37%)	46%	27 437 820 (6%)	5 907 (11%)	29%	187 100 (3%)
Americas	1 139 607 (11%)	-24%	148 006 597 (33%)	19 974 (38%)	-9%	2 646 751 (44%)
South-East Asia	441 458 (4%)	-31%	56 121 859 (13%)	3 986 (8%)	-3%	765 628 (13%)
Eastern Mediterranean	165 460 (2%)	-46%	21 290 362 (5%)	3 308 (6%)	2%	336 498 (6%)
Africa	33 951 (0%)	-40%	8 448 709 (2%)	489 (1%)	-39%	170 300 (3%)
Global	**10 391 854 (100%)**	**-5%**	**443 895 905 (100%)**	**52 740 (100%)**	**-8%**	**5 993 901 (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*

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

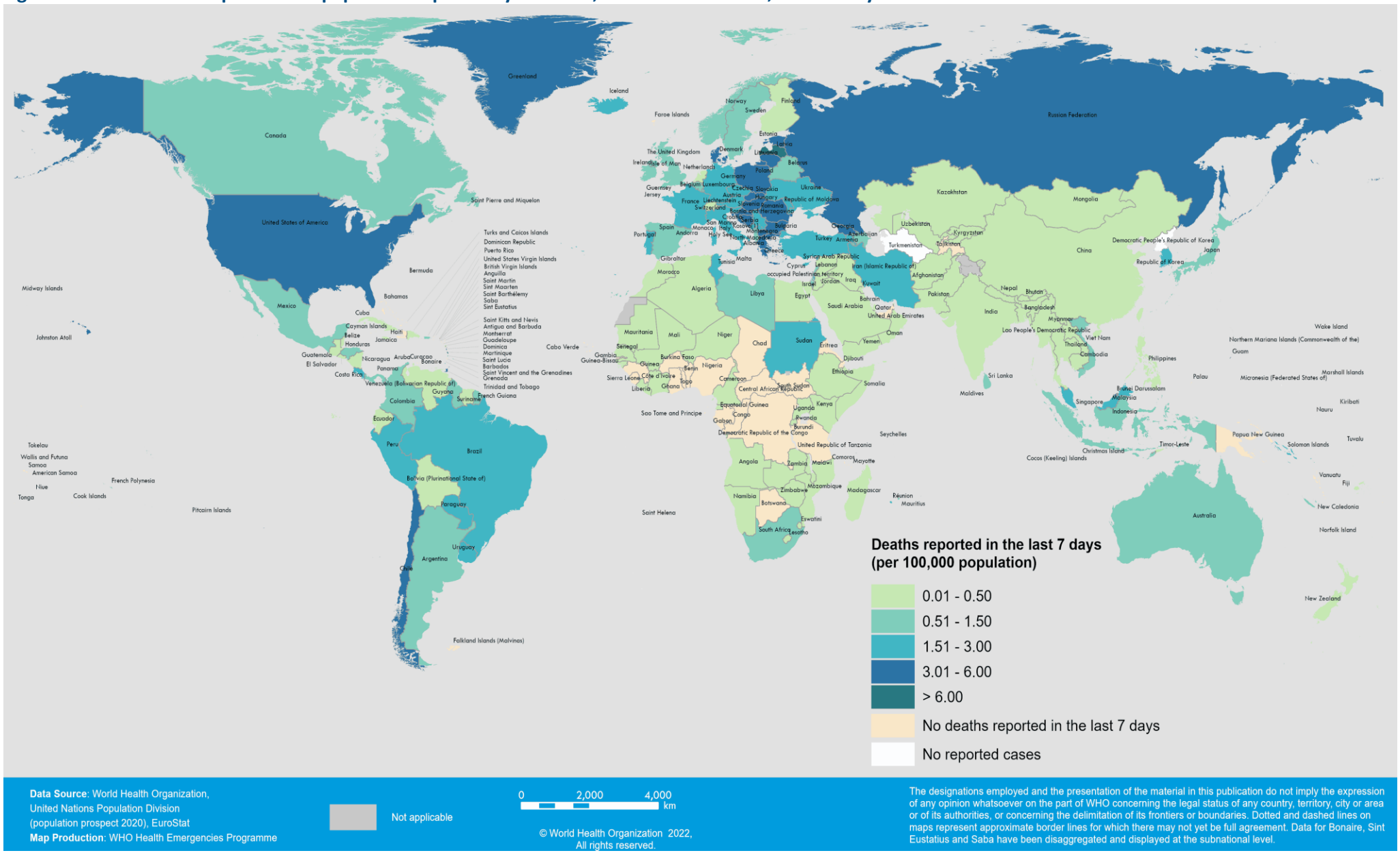
- WHO COVID-19 Dashboard
- WHO COVID-19 Weekly Operational Update and previous editions of the Weekly Epidemiological Update

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 28 February – 6 March 2022**



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

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 28 February – 6 March 2022**



**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 to control disease spread. Potential variants of concern (VOCs), variants of interest (VOIs) or variants under monitoring (VUMs) are regularly assessed based on the risk posed to global public health. As evidence becomes available, classifications of variants 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 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 the impacts of these variants.

Geographic spread and prevalence of VOCs

The current global epidemiology of SARS-CoV-2 is characterized by the global dominance of the Omicron variant. Delta remains the only other named variant with significant reported circulation. Among the 428 417 sequences uploaded to GISAID with specimen collection date in the last 30 days,[i] 427 152 (99.7%) were Omicron and 580 (0.1%) were Delta. For all countries/areas/territories with 100 or more sequences uploaded to GISAID within the last 30 days, Omicron remains the dominant variant.

Among Omicron descendent lineages reported within the last 30 days[i], BA.1.1 is the predominant sub-variant, accounting for 187 058 sequences (41%); BA.2 accounts for 156 014 sequences (34.2%); BA.1 accounts for 112 655 sequences (24.7%); and BA.3 accounts for 101 sequences (<1%).[ii] To note, global VOCs distribution should be interpreted with due consideration of surveillance limitations, including differences in sequencing capacities and sampling strategies between countries, as well as delays in reporting.

Both the Technical Advisory Group on SARS-CoV-2 Virus Evolution (TAG-VE) and WHO are aware of reports on recombinant variants, both recombinants of Delta and Omicron, as well as recombinants of BA.1 and BA.2. Recombination is a natural phenomenon and can be regarded as an expected mutational event. The same monitoring and assessment process is applied to these recombinants, after verification and exclusion of potential contamination or co-infection, as for any other emerging variant. Current epidemiological and sequencing information for these recombinants do not indicate any sign of rapid transmission or a change in clinical severity. Only a few clusters have been reported to date and show very low to almost undetectable levels of transmission to contacts. No recombinant variant has been given a Pango lineage name.

The Omicron variant

Differences in the characteristics of VOCs

Available evidence on the phenotypic impacts of VOCs is reported in previous editions of the COVID-19 Weekly Epidemiological Update. Since the last update on 15 February 2022, there have been several new publications on the phenotypic characteristics of VOCs**,** including literature on Omicron (Table 2). Some of these studies have not been peer-reviewed and the findings must therefore be interpreted with due consideration of this limitation.

[i] Includes sequences submitted to GISAID with sample collected dates from 4 February to 5 March 2022 (last reported sample at the time of data extraction), excluding low coverage sequences. Proportions are estimated for countries submitting more than 100 total sequences. In the past 30 days, 46 countries submitted a total of 100 sequences and above on GISAID.

[ii] Please note that uploaded GISAID data for the maps and the global epidemiological reporting are slightly different in absolute numbers as compared to Omicron descendent lineage sequence data. The latter is taken from the manual GISAID data availability

Table 2: Summary of current evidence on Omicron

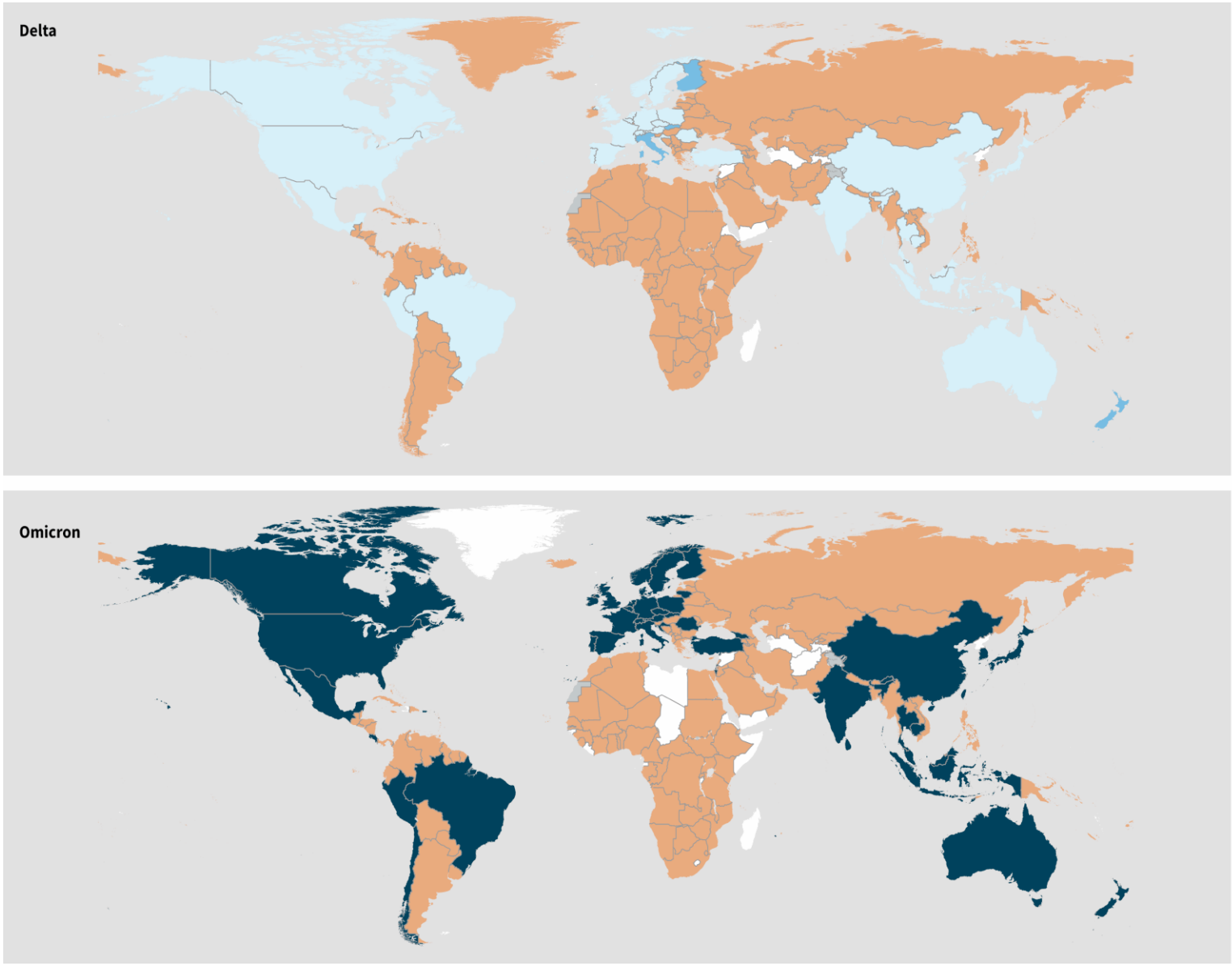
Domain	Indicator	Main results
Epidemiology	**Impact on disease prevalence/incidence**	There has been a decreasing trend in the number of COVID-19 cases reported globally. When compared to the previous week, the number of new COVID-19 cases decreased by 5% during the week of 28 February through 6 March 2022. The Western Pacific Region reported a 46% increase in the number of new cases while all other regions reported decreases. It is important to note that the decrease in the number of reported cases might be partly due to changes in testing policies in a number of countries, resulting in a reduction in testing and consequently of cases detected. The Omicron variant is the dominant circulating variant globally, representing 99.7% of samples collected from 4 February to 5 March 2022, while the Delta variant represents 0.1%.
	Impact on transmission	An updated analysis of GISAID data[1] shows similar results to the previous iteration, with Omicron still having a growth rate advantage over Delta in all countries with sufficient sequence data available up to 3 March 2022, translating to a pooled mean transmission advantage (i.e. relative difference in effective reproduction numbers) of 75% (95% Confidence Interval: 64%-93%) across epidemiological contexts under the assumption of an unchanged generation time (i.e. duration between the time a person gets infected to the time that person infects another person). However, evidence for a reduced generation time of Omicron suggests the transmission advantage may be lower; for a 20% shorter generation time, the estimated pooled mean transmission advantage of Omicron over Delta is 64% (95% CI: 59%-80%). The same analysis demonstrates a growth rate advantage of the Omicron Pango lineage BA.2 over the Pango lineage BA.1, with a pooled mean transmission advantage of 56% (95% CI: 42%-72%) under the assumption of an unchanged generation time. These estimates are stabilising as the number of BA.1/BA.2/BA.3 sequences per country are increasing and data become available from more countries. In the United Kingdom[2], BA.2 has been found to have a higher growth rate compared to BA.1 (82.7 %; range: 54%-100%) and higher secondary attack rates for household (14.3%; 95%CI: 13.6%-14.9% vs. 11.4%; 95%CI: 11.2%-11.5%) and non-household (6.1%; 95%CI:5.0%-7.2% vs. 4.6%; 95%CI: 4.5%-4.8%) contacts.
	Impact on disease severity	Omicron has consistently been found to have lower severity when compared to Delta across different settings. There was no difference in the risk of hospitalisation (HR=0.87; 95% CI: 0.75-1.00) between patients infected with BA.1 and BA.2 in the United Kingdom37.[2] Similarly, the odds of hospitalisation among SARS-CoV-2-infected patients did not differ between those with BA.1 and BA.2 (aOR=0.96; 95%CI: 0.85-1.09) in South Africa.[3]
Immune response	**Impact on reinfection**	Higher rates of reinfection have been reported for the Omicron variant than among individuals previously infected with other SARS-CoV-2 variants. Recent data from Qatar suggest that previous infection with one of the Omicron Pango lineages may confer protection against infection with other Omicron Pango lineages: 94.9% (95% CI: 88.4-97.8%) protection against BA.2 following infection with BA.1 and 85.6% (95% CI: 77.4-90.9%) protection against BA.1 following infection with BA.2 over a period of two months of follow-up.[4] The duration of this protection is not currently known.
	Impact on vaccination	For further information, see the section *Interpretation of the results of the VE for the Omicron variant.* Results of vaccine effectiveness (VE) studies should be interpreted with caution because estimates vary with the type of vaccine administered and the number of doses and scheduling (sequential administration of different vaccines).

	Impact on antibody responses	An analysis of neutralization data from 23 laboratories found a 20-fold reduction in neutralization associated with the Omicron variant.[5] These findings are consistent with results of recent studies that reported lower neutralising antibody titers to BA.1 and BA.2 compared to wild-type SARS-CoV-2, and similar responses for BA.1 and BA.2.[8] Another recent study found similar non-neutralising antibody responses to BA.1 and BA.2 in vaccinated individuals. [7] Overall, these results indicate similar humoral responses for BA.1 and BA.2.
Diagnostic tools	**Impact on PCR assays**	There is no recent evidence on the impact of Omicron on PCR assays. The BA.2 lineage is the only descendant variant of Omicron that lacks the 69-70 deletion responsible for S-gene target failure. Evaluation of PCR tests for SARS-CoV-2 that include multiple gene targets revealed limited impact of the Omicron variant on the diagnostic test accuracy of these assays.[8]
	Impact on Rapid Diagnostic tests	Preliminary data showed contradictory results on the diagnostic performance of Ag-RDTs on Omicron compared to Delta, the wild-type virus or other VOCs.[12,13] While some studies have shown reduced sensitivity of Ag-RDTs [9,10] a recent study from the United States of America reported comparable sensitivity of three Ag-RDT tests for Omicron and Delta.[11]
Impact on treatment	**Impact on antivirals**	Preliminary data have shown no difference in the effectiveness of antiviral agents against the Omicron variant.[12–14]
	Impact on biologicals	Initially, studies on the effectiveness of monoclonal antibodies for treating patients with Omicron reported conserved neutralizing activity for three broadly neutralizing monoclonal antibodies (sotrovimab, S2X259 and S2H97) and a reduction in effectiveness of other monoclonal antibodies. [15–19] However, additional preclinical evidence shows reduced neutralizing activity of sotrovimab against the BA.2 lineage and lack of efficacy of casirivimab-imdevimab against the BA.1 lineage.[20]
	Other treatment options	There is no evidence to suggest a reduction in the effectiveness of Interleukin-6 receptor blockers and corticosteroids in the management of patients with severe and critical 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
- VIEW-hub: repository for the most relevant and recent vaccine data
- WHO Statement on Omicron sublineage BA.2

Figure 4: Prevalence of variants of concern (VOCs) Delta and Omicron in the last 30 days, data as of 8 March 2022



See also Annex 1 for reported VOC detections by country/territory/area

Figure 5. Vaccine effectiveness (VE) of primary series and booster vaccination against the Delta variant of concern

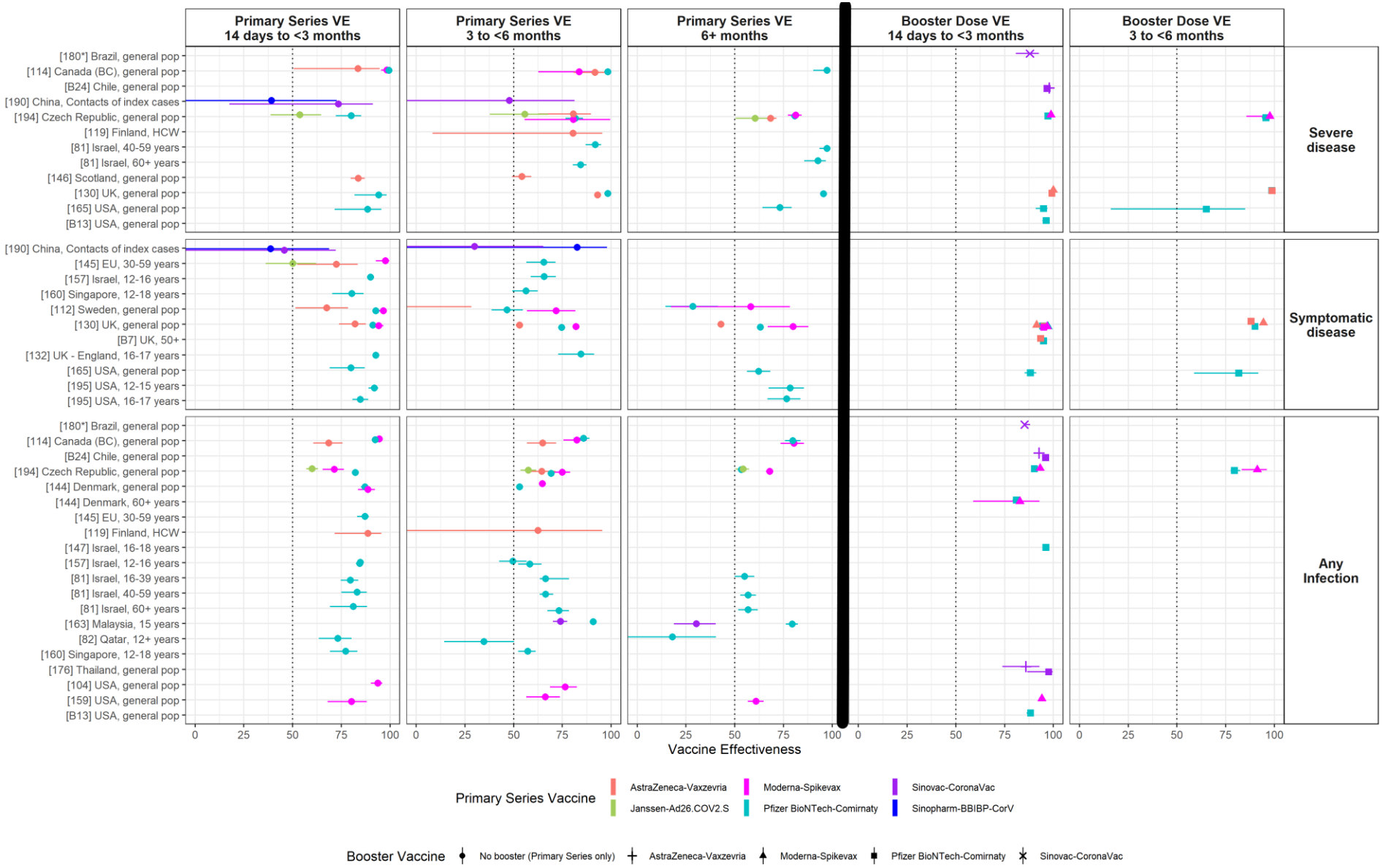
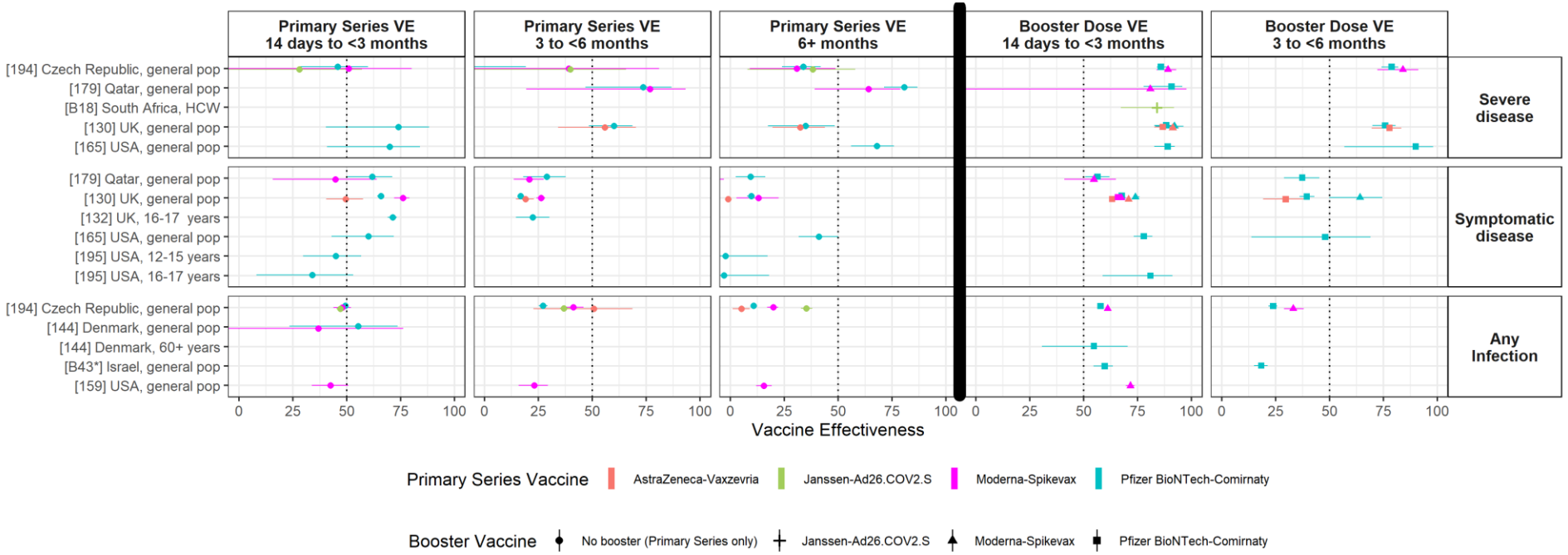


Figure 6. Vaccine effectiveness (VE) of primary series and booster vaccination against the Omicron variant



*Indicates booster dose vaccine effectiveness evaluated using persons completing primary series as reference group, rather than unvaccinated persons. Abbreviations: pop=population; HCW=healthcare workers; EU=European Union. Dots represent point estimates of vaccine effectiveness; horizontal lines represent the 95% confidence intervals. Labels along left side of plot indicate reference numbers [], country, and study population. Reference numbers identify the study and link to the summary table of VE effectiveness studies on view-hub.org (Table 1 in summary table); references starting with a 'B' are studies found in the booster VE table only (Table 2 in summary table). Primary series refers to the completion of two doses of vaccines for AstraZeneca-Vaxzevria; Moderna-Spikevax, Pfizer BioNTech-Comirnaty and Sinovac-CoronaVac and one dose of Janssen-Ad26.COV2.S. Severe disease includes hospitalization and pneumonia. Symptomatic disease includes disease of any severity level; any infection can include symptomatic and asymptomatic infection. Additional details on the methods for inclusion of the estimates in the plots are provided in Annex 3. Note, three negative point estimates for the primary series are not shown in the Omicron plot: Moderna-Spikevax VE against symptomatic disease at 6+ months (reference 179) as well as Moderna-Spikevax and Pfizer BioNTech-Comirnaty VE against infection at 3-6 months (reference 144); one negative point estimate for primary series is not shown in the Delta plot: AstraZeneca-Vaxzevria VE against Delta symptomatic disease (reference 112) with 95% CIs crossing 0 is not fully visible in the plot.

Figures 5 and 6 summarize the impact of the Delta and Omicron variants, respectively, on product-specific vaccine effectiveness (VE) over time for both primary series vaccines and booster vaccines. Since the last update, six new studies (of which three not peer-reviewed) have been added to the figures.[21–26] One study provided new Omicron VE data on AstraZeneca-Vaxzevria vaccine, one on Janssen-Ad26.COV2.S vaccine, one on Moderna-Spikevax vaccine, and four on Pfizer BioNTech-Comirnaty vaccine. Of note, recently published studies from China and Thailand contributed data on VE of two inactivated vaccines, Beijing CNBG - BBIBP-CorVand Sinovac-CoronaVac, against the Delta variant. Additional information on vaccine performance against VOCs can also be found in Annex 4.

Interpretation of the results of VE studies for the Delta variant

Most of the evidence to date suggests that the effectiveness of mRNA vaccines (Pfizer BioNTech-Comirnaty and Moderna-Spikevax) remains high against *severe disease* associated with Delta variant infection at six or more months after the primary series, with five of six studies reporting VE estimates of >80% and one study reporting a VE of 74% at six months or more. One study reported VE estimates against *severe disease* of 61% and 68% for Janssen-Ad26.COV2.S and AstraZeneca-Vaxzevria vaccines, respectively. Four studies report high VE (≥80%) of the AstraZeneca-Vaxzevria vaccine three to six months following the primary series, while one study reports a lower VE (54%) after six months as compared to the first three months (84%). An additional study showed VE of AstraZeneca-Vaxzevria vaccine against *severe disease* decreased from 80% at three to less than six months after completion of the primary series, to 68% at six or more months after the second dose. One study providing evidence of protection against *severe disease* due to Delta variant for Janssen-Ad26.COV2, showed that the VE stayed relatively constant at 54-61% up to six months after the primary series of vaccination. One new study showed that the VE of Sinovac-CoronaVac against the development of pneumonia (classified as severe COVID-19 in Figure 5) among close contacts of Delta index cases decreased from 74% in the first three months following completion of the primary series to 47% from three to six months.

VE estimates against *symptomatic disease* and *infection* range from 71-96% following the primary series of one of the two mRNA vaccines from 14 days up to three months after vaccination, and from 68-88% and 50-60% following the primary series of the AstraZeneca-Vaxzevria and Janssen-Ad26.COV2.S vaccines, respectively, during the same time period. There is consistent evidence of decreasing VE against *symptomatic disease* and *infection* over time following the primary series for all of the vaccines for which data are available. Despite this, most of the evidence still suggests VE estimates of >50% (59-80%) at six months or more following either mRNA vaccine, with two estimates falling below 50%. Four of the five studies evaluating the AstraZeneca-Vaxzevria vaccine also showed a VE >50% (54-65%) at three to six months, though in one of these studies, the VE decreased to 43% at six or more months following the primary series. The VE of Janssen-Ad26.COV2.S vaccine ranged from 50-60% up to six months following vaccination (two studies). One study from Malaysia of Sinovac-CoronaVac vaccine reported a VE against *infection* of 74% at three to six months following the primary series, which decreased to 30% beyond six months. A second study of Sinovac-CoronaVac vaccine from China found that the VE against *symptomatic disease* among close contacts of index cases decreased from 46% at 14 days to less than three months to 30% from three to six months. This same study estimated the VE of Beijing CNBG - BBIBP-CorV vaccine against *symptomatic disease* among close contacts index cases to be 39% shortly after completion of the primary series, increasing to 82% from three to six months, though confidence intervals are wide and should be interpreted with caution.

Receipt of a booster dose of mRNA, vector-based or inactivated vaccines for which there are data available, resulted in VE estimates of ≥79% for *all outcomes* within the first three months. At three to six months following the booster dose, the VE of a Pfizer BioNTech-Comirnaty booster following Pfizer BioNTech-Comirnaty or AstraZeneca-Vaxzevria primary series, as well as the VE of three doses of Moderna-Spikevax vaccine, remained >95% against *severe disease*

in two studies conducted in the United Kingdom and the Czech Republic, but decreased from 95% to 65% with Pfizer BioNTech-Comirnaty primary series and booster in a single study conducted in the United States of America. In the same studies mentioned above from the United Kingdom and the United States of America, the VE against *symptomatic disease* at three months or more following a booster dose with an mRNA vaccine was >75% after a primary series of either the AstraZeneca-Vaxzevria or Pfizer BioNTech-Comirnaty vaccine.

Interpretation of the results of VE studies for the Omicron variant

Four studies of VE for the Omicron variant show a lower protection of the primary series COVID-19 vaccines for all outcomes (*severe disease*, *symptomatic disease*, and *infection*) than has been observed for other VOCs. Nevertheless, VE estimates against the Omicron variant remain highest against *severe disease*, and lower for s*ymptomatic disease and infection* outcomes*.* Booster doses of vaccine appear to substantially improve VE for all outcomes for all products for which data are available. However, due to short follow-up time in studies available to date, additional data are needed to characterize the duration of VE following a booster dose.

Studies from Qatar, the United Kingdom, and the United States of America report VE estimates for the Pfizer BioNTech-Comirnaty vaccine against *severe disease* due to the Omicron variant of >70% up to six months following the primary series, which remained stable after six months in the studies conducted in Qatar and the United States of America, but decreased to <50% in the study conducted in the United Kingdom. In the study from Qatar, VE of the Moderna-SpikeVax mRNA vaccine remained >70% up to and beyond six months after vaccination. In contrast, one recent study (not peer-reviewed) from the Czech Republic found lower VE (<50%) at all time points of follow-up for both mRNA vaccines, as well as the Janssen-Ad26.COV.2 vaccine. Fluctuation in VE estimates over time since vaccination in this study may be due to underlying biases in the data (e.g. low ascertainment rate), and results should be interpreted with caution. In a study from the United Kingdom, VE estimates for the AstraZeneca-Vaxzevria vaccine against *severe disease* reduced from 56% to 33% from three months or more, with relatively wide confidence intervals (see Figure 6 for details).

Early VE estimates (measured from 14 days up to three months after vaccination) of the primary series against *symptomatic disease* are generally lower than those for *severe disease*, though they remain at or above 50% for the AstraZeneca-Vaxzevria, Moderna-Spikevax, and Pfizer BioNTech-Comirnaty vaccines. Lower VE estimates for the same time period were observed in two studies, one which reported VE of 45% for the Moderna-Spikevax vaccine and another which reported VE estimates of 34% and 45% for the Pfizer BioNTech-Comirnaty vaccine for adolescents 16-17 years and 12-15 years, respectively.
VE against *infection* at 14 days up to three months after the primary series ranged from 37-55%. All available estimates against both *symptomatic disease* and *infection* measured three or more months after completion of the primary series indicate VE estimates of less than 52% for the three vaccines (Pfizer BioNTech-Comirnaty, Moderna-Spikevax and AstraZeneca-Vaxzevria).

In all the six new studies, a booster dose increased VE estimates against *severe disease* to above 75% for all vaccines for which data are available, with this effect maintained up to six months after the booster dose. A booster dose increased VE estimates against *symptomatic disease* in the first three months following vaccination substantially, by at least 37 percentage points across all vaccines, with VE estimates ranging from 55%-81%. However, VE estimates decreased to 29-64% beyond three months. VE against *infection* due to the Omicron variant in the first three months following a booster dose ranged from 55-71% and decreased to 18-33% at three to less than six months post-booster.

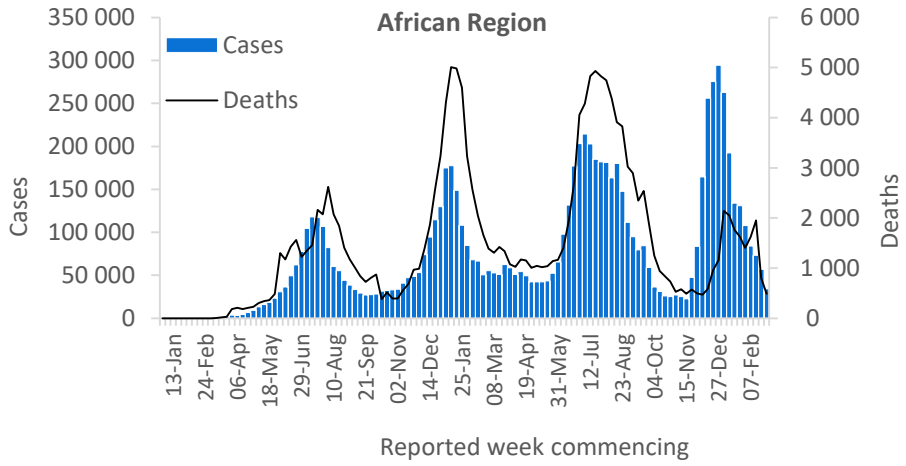
WHO regional overviews

Epidemiological week 28 February – 6 March 2022**

African Region

The African Region has continued to report a decrease in the number of cases since the beginning of January 2022, with just under 34 000 new cases reported this week, a 40% decrease as compared to the previous week. However, six countries in the Region (12%) reported an increase of over 20% in new weekly cases, with the largest observed in Central African Republic (95 vs 38 new cases; +150%). The highest numbers of new cases were reported from South Africa (11 181 new cases; 18.9 new cases per 100 000 population; -25%), Réunion (10 036 new cases; 1121.0 new cases per 100 000; -26%), and Mauritius (4133 new cases; 325.0 new cases per 100 000; -75%).

With over 400 new deaths reported this week, the Region observed a 39% decrease in new weekly deaths as compared to the previous week (during which a backlog of deaths was reported by South Africa following an ongoing audit exercise). The highest numbers of new deaths were reported from South Africa (352 new deaths; <1 new death per 100 000 population; -39%), Réunion (26 new deaths; 2.9 new deaths per 100 000; -30%), and Algeria (25 new deaths; <1 new deaths per 100 000; -39%).

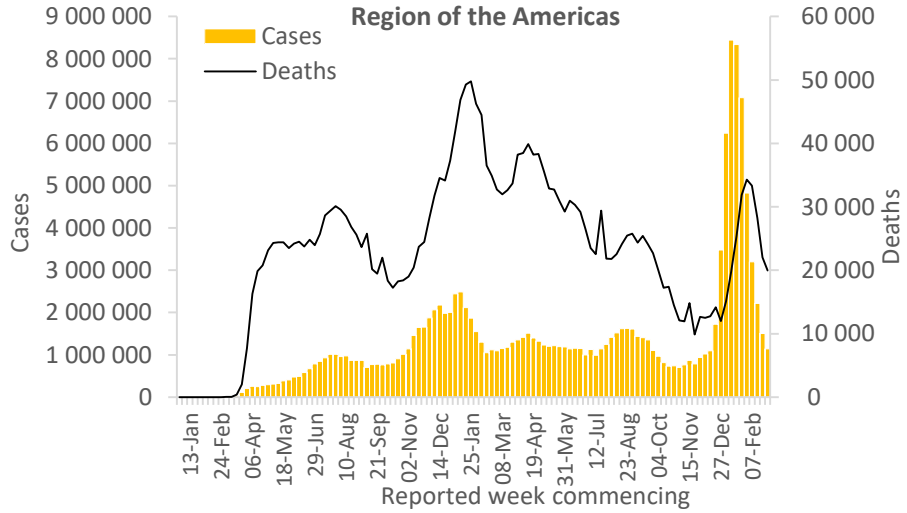


Updates from the African Region

Region of the Americas

The Region of the Americas reported over 1.1 million new cases, a 24% decrease as compared to the previous week, continuing the declining trend that has been observed since mid-January 2022. However, three countries have reported increases in new cases of 20% or greater, with the largest increases observed in Martinique (5569 vs 1381 new cases; +303%) and Mexico (46 765 vs 27 427 new cases; +71%). The highest numbers of new cases were reported from Brazil (395 152 new cases; 185.9 new cases per 100 000; -24%), the United States of America (343 096 new cases; 103.7 new cases per 100 000; -29%), and Chile (152 705 new cases; 798.8 new cases per 100 000; -22%).

The Region reported just under 20 000 new deaths this week, a 9% decrease as compared to the previous week. The highest numbers of new deaths were reported from the United States of America (10 579 new deaths; 3.2 new deaths per 100 000; -9%), Brazil (3865 new deaths; 1.8 new deaths per 100 000; -11%), and Mexico (1513 new deaths; 1.2 new deaths per 100 000; +49%).

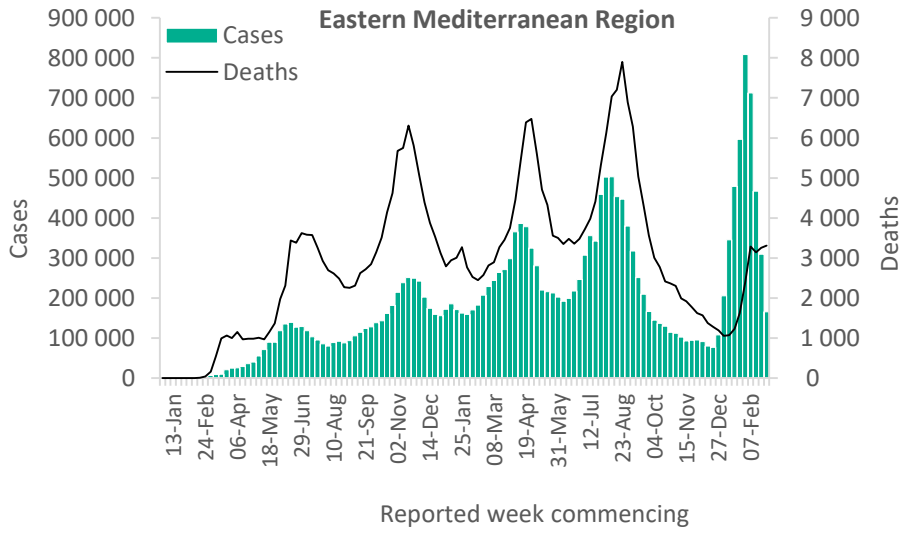


Updates from the Region of the Americas

Eastern Mediterranean Region

In the Eastern Mediterranean Region, new weekly cases declined for a third consecutive week since the peak reached in early February 2022. Over 165 000 new cases were reported this week, representing a 46% decrease as compared to the previous week. However, Somalia reported a 64% increase in new cases (87 vs 53 new cases). The highest numbers of new cases were reported from the Islamic Republic of Iran (53 363 new cases; 63.5 new cases per 100 000; -49%), Jordan (21 050 new cases; 206.3 new cases per 100 000; -63%), and Bahrain (15 781 new cases; 927.4 new cases per 100 000; -25%).

The number of new weekly deaths remained stable (+2%) when compared to the previous week's figure, with over 3300 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (1357 new deaths; 1.6 new deaths per 100 000; -15%), Sudan (956 new deaths; 2.2 new deaths per 100 000; +1012%) which shows an abnormal increase due to a backlog reporting of deaths, and Tunisia (220 new deaths; 1.9 new deaths per 100 000; -33%).

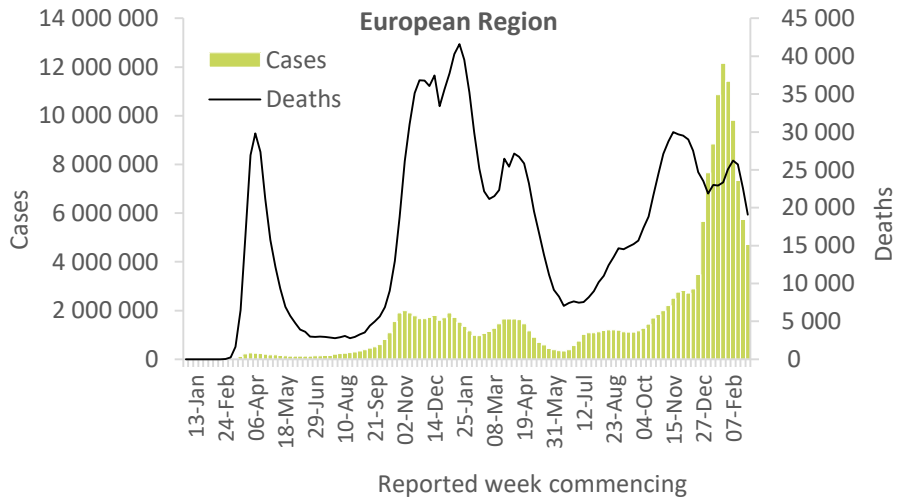


Updates from the Eastern Mediterranean Region

European Region

The European Region continued to report a decline in new weekly cases this week, with over 4.7 million new cases, an 18% decrease as compared to the previous week. The Region has reported a decrease in the number of new cases since a peak in late-January 2022. This week, the Region accounted for 45% of new cases reported globally. The highest numbers of new cases were reported from Germany (1 108 231 new cases; 1332.5 new cases per 100 000; similar to the previous week's figures), the Russian Federation (650 540 new cases; 445.8 new cases per 100 000; -29%), and Turkey (350 828 new cases; 416.0 new cases per 100 000; -35%).

This week, over 19 000 new deaths were reported in the Region, a 15% decrease as compared to the previous week. The highest numbers of new deaths were reported from the Russian Federation (5354 new deaths; 3.7 new deaths per 100 000; similar to the previous week's figures), Germany (1424 new deaths; 1.7 new deaths per 100 000; similar to the previous week's figures), and Italy (1366 new deaths; 2.3 new deaths per 100 000; -13%).

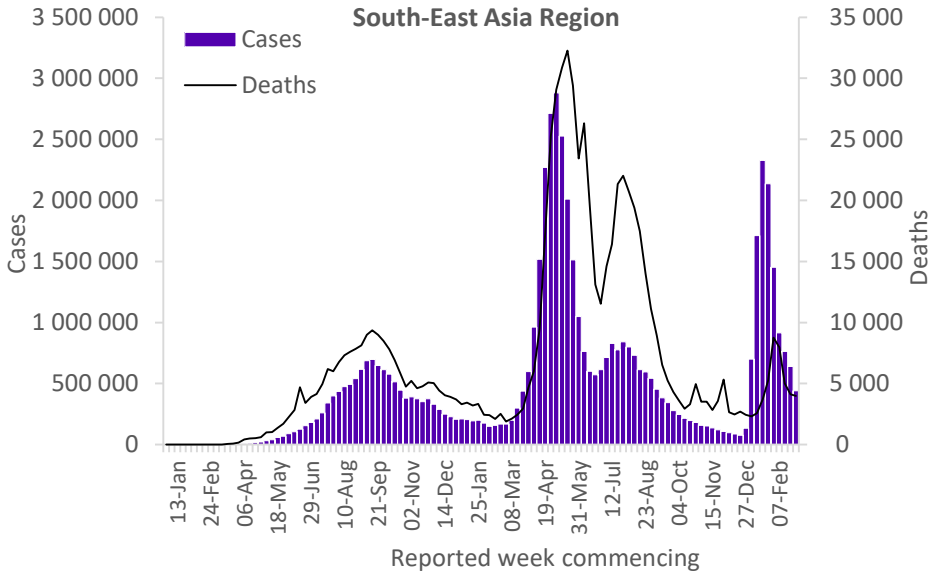


Updates from the European Region

South-East Asia Region

The South-East Asia Region has continued to report a decrease in the number of new cases since mid-January 2022. Over 441 000 new cases were reported in the Region this week, a 31% decrease as compared to the previous week. Although a declining trend in the number of cases was reported regionally, Bhutan reported a 23% increase as compared to the previous week (2604 vs 2116 cases). The highest numbers of new cases were reported from Indonesia (209 331 new cases; 76.5 new cases per 100 000; -39%), Thailand (157 079 new cases; 225.0 new cases per 100 000; similar to the previous week's figures), and India (46 836 new cases; 3.4 new cases per 100 000; -50%).

The number of new deaths was similar to that of the previous week, with just over 3900 new deaths reported. The highest numbers of new deaths were reported from Indonesia (2099 new deaths; <1 new death per 100 000; +23%), India (1312 new deaths; <1 new death per 100 000; -28%), and Thailand (344 new deaths; <1 new death per 100 000; +29%).

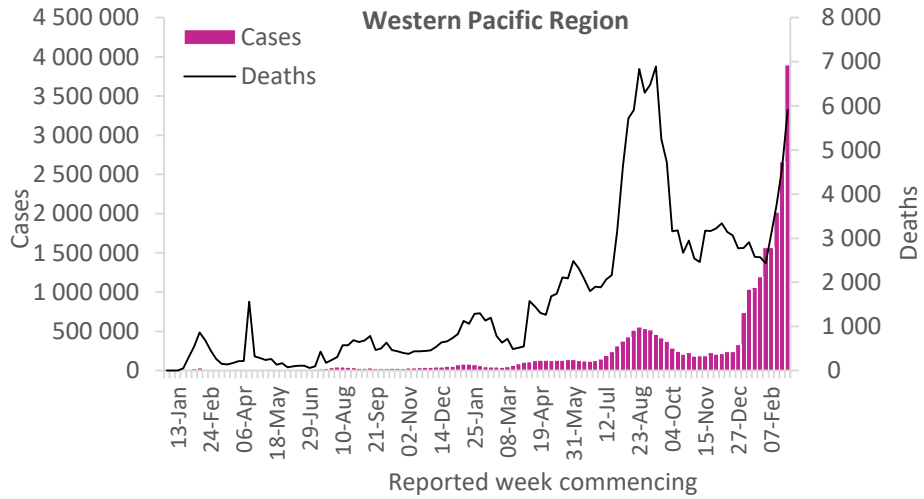


Updates from the South-East Asia Region

Western Pacific Region

The Western Pacific Region reported a steep increase (46%) in new weekly cases as compared to the previous week, with over 3.8 million new cases, continuing its upward trend since early January. Ten of 29 (34%) countries reported an increase of 20% or greater in the past week, including several Pacific Island countries (Cook Islands, American Samoa, Tonga, Fiji and Kiribati and New Zealand), China, and Viet Nam. The highest numbers of new cases were reported from the Republic of Korea (1 461 431 new cases; 2850.5 new cases per 100 000; +42%), Viet Nam (1 013 343 new cases; 1041.0 new cases per 100 000; +112%), and Japan (452 763 new cases; 358.0 new cases per 100 000; -4%).

The Region has reported an increase in the number of deaths for a month, with over 5900 new deaths this week, a 29% increase as compared to the previous week. The highest numbers of new deaths were reported from Japan (1519 new deaths; 1.2 new deaths per 100 000; -7%), China (1197 new deaths; <1 new death per 100 000; +296%), and the Republic of Korea (1013 new deaths; 2.0 new deaths per 100 000; +88%).



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 8 March, highlights include the following:

- Scale-up of COVID-19 vaccination in priority countries in the African Region with a target to reach 100 million by end of April 2022
- Rapid scale-up of WHO Regional Office for Europe support to address urgent health needs of populations affected by the crisis in Ukraine and refugees in the surrounding countries
- Ramping up COVID-19 vaccination among hard-to-reach communities in Kenya
- Reaching 76% vaccination coverage through a vaccination drive in Mauritius
- Strengthening resilience in vulnerable communities impacted by COVID-19 in India
- Developing key support to address increase in prevalence of anxiety and depression worldwide during the COVID-19 pandemic
- Establishing a global biomanufacturing training hub in the Republic of Korea
- Developing learning resources for leadership in health emergencies accessible via OpenWHO
- Progress on a subset of global indicators that demonstrate country and global progress to end the acute phase of the pandemic

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
- Open WHO 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
- EPI-WIN: tailored information for individuals, organizations, and communities
- Recommendations and advice for the public:
  - Protect yourself
  - Questions and answers
  - Travel advice

Annex 1. List of countries/territories/areas reporting variants of concern as of 8 March 2022

Country/Territory/Area	Alpha	Beta	Delta	Gamma	Omicron
Afghanistan	●	-	●	-	-
Albania	●	-	○	-	●
Algeria	●	-	●	-	●
American Samoa	-	-	○	-	○
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	●	●	●	●	●
Greenland	-	-	●	-	-
Grenada	●	-	●	●	●
Guadeloupe	●	●	●	●	●
Guam	●	●	●	●	●
Guatemala	●	●	●	●	●
Guernsey	-	-	-	-	●
Guinea	●	●	●	-	●
Guinea-Bissau	●	●	●	-	-
Guyana	●	-	●	●	●
Haiti	●	-	●	●	-
Honduras	●	-	●	●	●
Hungary	●	○	○	●	●
Iceland	●	●	●	●	●
India	●	●	●	●	●
Indonesia	●	●	●	-	●
Iran (Islamic Republic of)	●	●	●	-	●
Iraq	●	●	●	●	●
Ireland	●	●	●	●	●
Israel	●	●	●	●	●

Country/Territory/Area	Alpha	Beta	Delta	Gamma	Omicron
Italy	●	●	●	●	●
Jamaica	●	-	●	-	●
Japan	●	●	●	●	●
Jordan	●	●	●	●	●
Kazakhstan	●	○	●	-	●
Kenya	●	●	●	●	●
Kiribati	-	-	-	-	●
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	●	●	●	●	●
Nicaragua	●	●	●	●	●
Niger	○	-	●	-	●
Nigeria	●	●	●	-	●
North Macedonia	●	●	○	-	○
Northern Mariana Islands (Commonwealth of the)	○	-	●	-	●
Norway	●	●	●	●	●
Occupied Palestinian Territory	●	●	●	-	●
Oman	●	●	●	-	●
Pakistan	●	●	●	●	●
Palau	-	-	○	-	○
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	●	●	●	-	●
Serbia	●	-	●	○	○
Seychelles	●	●	●	-	●
Sierra Leone	●	●	●	-	●
Singapore	●	●	●	●	●
Sint Maarten	●	●	●	●	●
Slovakia	●	●	●	-	●
Slovenia	●	●	●	●	●
Solomon Islands	-	-	●	-	●
Somalia	●	●	●	-	-
South Africa	●	●	●	●	●
South Sudan	●	●	●	-	●
Spain	●	●	●	●	●
Sri Lanka	●	●	●	-	●
Sudan	●	●	●	●	●
Suriname	●	●	●	●	●
Sweden	●	●	●	●	●
Switzerland	●	●	●	●	●
Thailand	●	●	●	●	●
Timor-Leste	●	-	●	-	●
Togo	●	●	●	●	●
Tonga	-	-	-	-	○
Trinidad and Tobago	●	-	●	●	●

Country/Territory/Area	Alpha	Beta	Delta	Gamma	Omicron
Tunisia	●	●	●	-	●
Turkey	●	●	●	●	●
Turks and Caicos Islands	●	-	●	●	-
Uganda	●	●	●	-	●
Ukraine	●	○	○	-	●
United Arab Emirates	●	●	●	●	●
United Kingdom	●	●	●	●	●

Country/Territory/Area	Alpha	Beta	Delta	Gamma	Omicron
United Republic of Tanzania	●	●	●	●	●
United States Virgin Islands	●	●	●	●	●
United States of America	●	●	●	●	●
Uruguay	●	●	●	●	●
Uzbekistan	●	●	○	-	●
Vanuatu	-	-	●	-	-

Country/Territory/Area	Alpha	Beta	Delta	Gamma	Omicron
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 becomes 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 cases and deaths reported to WHO by country/territories/areas, largely based upon WHO case definitions and surveillance guidance. While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change, and caution must be taken when interpreting these data as several factors influence the counts presented, with variable underestimation of true case and death incidences, and variable delays to reflecting these data at the global level. Case detection, inclusion criteria, testing strategies, reporting practices, and data cut-off and lag times differ between countries/territories/areas. A small number of countries/territories/areas report combined probable and laboratory-confirmed cases. Differences are to be expected between information products published by WHO, national public health authorities, and other sources.
Due to public health authorities conducting data reconciliation exercises that 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 countries of interest, time period, and purpose of the request/intended usage. Prior situation reports will not be edited; see covid19.who.int for the most up-to-date data. COVID-19 confirmed cases and deaths reported in the last seven days by countries, territories, and areas, and WHO Region (reported in previous issues) are now available at: https://covid19.who.int/table.

'Countries' may refer to countries, territories, areas or other jurisdictions of similar status. The designations employed, and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. Countries, territories, and areas are arranged under the administering WHO region. The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions except, the names of proprietary products are distinguished by initial capital letters.
[1] All references to Kosovo should be understood to be in the context of the United Nations Security Council resolution 1244 (1999). In the map, the number of cases of Serbia and Kosovo (UNSCR 1244, 1999) have been aggregated for visualization purposes.

Annex 3. Methods for Figures 5 and 6

- Figures include ten studies from the Czech Republic, Denmark, Israel, Qatar, South Africa, the United Kingdom, and the United States of America evaluating the VE against the Omicron variant, and 25 studies of the VE against the Delta variant from various countries from the European Region, Region of the Americas, and South-East Asian Region as well as Qatar and Thailand.
- VE studies included in the plot were identified from an ongoing systematic review of COVID-19 vaccine effectiveness studies. All studies were cohort or test-negative studies. Methods for the systematic review and inclusion/exclusion criteria are available on view-hub.org. The studies were conducted during a period when either Delta or Omicron was the predominant circulating variant. Estimates were included if they were of laboratory-confirmed cases of the Omicron or Delta variant. In addition, for the primary series VE, only studies providing VE estimates for discrete time intervals since vaccination, which evaluate changes in VE over time, are included.
- For the primary series VE, estimates are only included in the plot for studies that report VE for more than one time period.

Annex 4. Summary of primary series vaccine performance against Variants of Concern *(VE data as of 3 March 2022; Neutralization data as of 28 February 2022)*

	WHO Emergency Use Listing (EUL) Qualified Vaccines[+]								Vaccines without WHO EUL[+]	
	AstraZeneca-Vaxzevria/SII - Covishield	Beijing CNBG-BBIBP-CorV	Bharat-Covaxin	Janssen-Ad26.COV 2.S	Moderna-mRNA-1273	Novavax-Nuvaxovid/SII - Covavax	Pfizer BioNTech-Comirnaty	Sinovac-CoronaVac	Anhui ZL-Recombinant	Gamaleya-Sputnik V
Alpha, Beta, Gamma										
Summary of VE*	*(see update from 11 January 2022 for details of vaccine performance against Alpha, Beta, and Gamma variants of concern*									
Delta[27]										
Summary of VE*	Protection retained against severe disease; possible reduced protection against symptomatic disease and infection									
- Severe disease	↔$_3$	-	-	↓$_1$	↔$_4$	-	↔$_7$	-	-	-
- Symptomatic disease	↔to↓↓$_6$	-	↓$_1$	-	↔$_2$	-	↔to↓$_5$	-	-	-
- Infection	↔to↓$_5$	-	-	↓↓↓$_1$	↔$_6$	-	↔to↓$_6$	-	-	-
Neutralization	↓$_{14}$	↔to↓$_2$	↔to↓$_4$	↔to↓↓$_{10}$	↓$_{14}$	-	↔to↓$_{40}$	↓to↓↓$_9$	↔to↓$_2$	↓to↓↓↓$_3$
Omicron										
Summary of VE*	Reduced protection against infection and symptomatic disease; possible reduced protection against for severe disease but limited evidence									
- Severe disease	-	-	-	-	↓/↓↓$_1$	-	↓↓/↓↓↓$_3$	-	-	-
- Symptomatic disease	↓↓↓$_1$	-	-	-	↓↓/↓↓↓$_2$	-	↓↓↓$_2$	-	-	-
- Infection	↓↓↓$_1$	-	-	-	↓↓↓$_3$	-	↓↓↓$_3$	-	-	-
Neutralization	↓↓↓$_7$	↔to↓↓↓$_3$	↓↓$_1$	↔to↓↓↓$_3$	↓↓↓$_{16}$	-	↓↓↓$_{35}$	↓↓to↓↓↓$_4$	-	↓↓$_1$

VE refers to vaccine effectiveness and vaccine efficacy. *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 percentage point (pp) reduction in VE, or VE >90% with no comparator, or that there was a <2-fold reduction in neutralization; "↓" 10 to <20 pp reduction in VE, or 2 to <5-fold reduction in neutralization; "↓↓" 20 to <30 pp reduction in VE, or 5 to <10-fold reduction in neutralization; "↓↓↓" ≥30 pp 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 the 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 Library. References indicated by superscripts next to VOC name in column 1 are vaccine efficacy results from randomized controlled trials informing this table.

Additional notes on VOC impacts on vaccines

- 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%. Likewise, vaccines have shown higher VE against severe disease; thus, small reductions in VE against severe disease due to VOCs may still mean substantial protection.
- Annex 4 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 after the final dose.
- Studies reporting VOC-specific VE estimates for full vaccination (seven days and over after the 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 RCT results from non-VOC settings. For severe disease and infection, due to instability or lack of phase 3 RCT estimates, 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 Annex 4 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.
- Neutralization studies that use samples collected more than seven days and less than six months after complete vaccination and that use an ancestral strain as the reference are included in Annex 4.

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