

COVID-19 Weekly Epidemiological Update

Edition 95, published 8 June 2022

In this edition:

- [Global overview](#)
- [Special Focus: Update on SARS-CoV-2 variants of interest and variants of concern](#)
- [WHO regional overviews](#)
- [Summary of the Monthly operational update on COVID-19 - May 2022](#)

Global overview

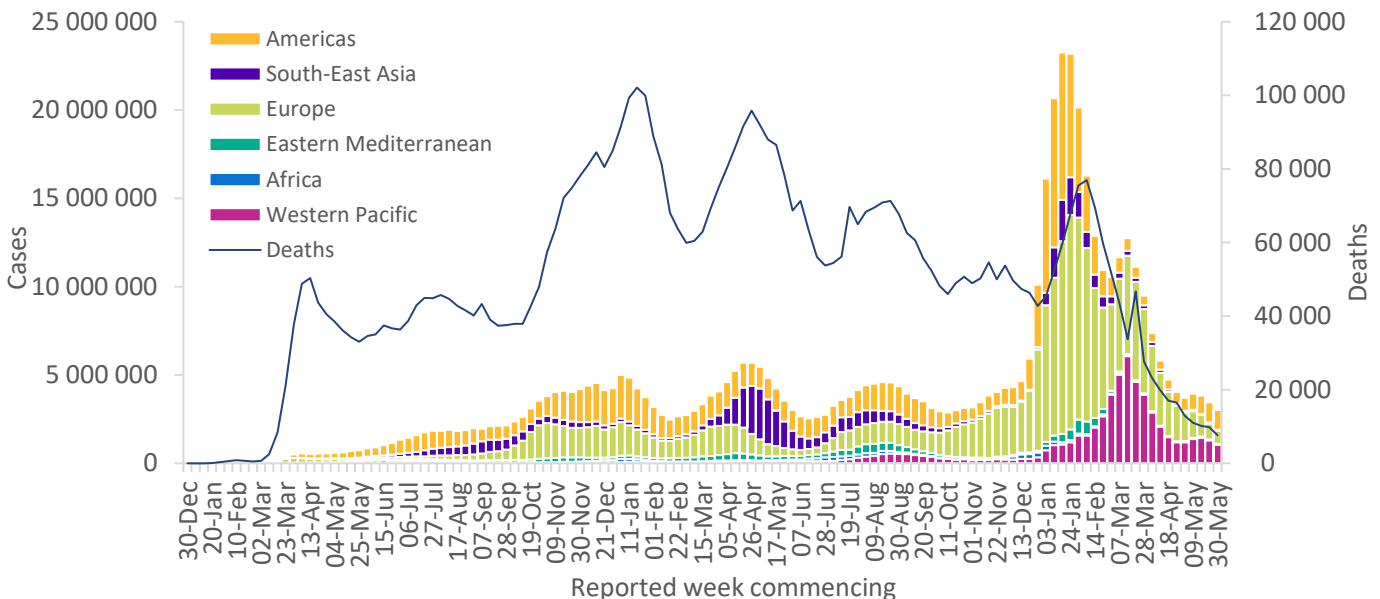
Data as of 5 June 2022

Globally, the number of new weekly cases has continued to decline since the peak in January 2022. During the week of 30 May to 5 June 2022, over three million cases were reported, a 12% decrease as compared to the previous week (figure 1). The number of new weekly deaths also continues to decline, with over 7 600 fatalities reported, representing a 22% decrease as compared to the previous week.

At the regional level, the numbers of new weekly cases increased in the Eastern Mediterranean Region (+19%) and South-East Asia Region (+1%), while they decreased in the other four WHO regions. The number of new weekly deaths increased in the Western Pacific Region (+7%), while decreasing trends were observed in the other five regions.

As of 5 June 2022, over 529 million confirmed cases and over six million deaths have been reported globally. These trends should be interpreted with caution as several countries have been progressively changing COVID-19 testing strategies, resulting in lower overall numbers of tests performed and consequently lower numbers of cases detected.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 5 June 2022**



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

At the country level, the highest number of new weekly cases were reported from the United States of America (657 268 new cases; -11%), China (528 432 new cases; -8%), Australia (221 935 new cases; -25%), Brazil (216 334 new cases; +36%), and Germany (215 955 new cases; +16%).

The highest number of new weekly deaths were reported from the United States of America (1 703 new deaths; -33%), China (910 new deaths; +57%), Brazil (652 new deaths; -21%), the Russian Federation (565 new deaths; -7%), and Italy (380 new deaths; -39%).

Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 5 June 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 (%)
Americas	1 124 932 (37%)	-1%	158 183 579 (30%)	3 303 (43%)	-23%	2 745 921 (44%)
Western Pacific	1 055 718 (35%)	-19%	61 013 872 (12%)	1 615 (21%)	7%	232 094 (4%)
Europe	744 792 (25%)	-18%	221 509 299 (42%)	2 082 (27%)	-35%	2 015 211 (32%)
South-East Asia	50 811 (2%)	1%	58 172 873 (11%)	350 (5%)	-23%	788 964 (13%)
Africa	26 160 (1%)	-29%	9 017 523 (2%)	211 (3%)	-13%	172 773 (3%)
Eastern Mediterranean	20 965 (1%)	19%	21 790 247 (4%)	83 (1%)	-14%	342 896 (5%)
Global	3 023 378 (100%)	-12%	529 688 157 (100%)	7 644 (100%)	-22%	6 297 872 (100%)

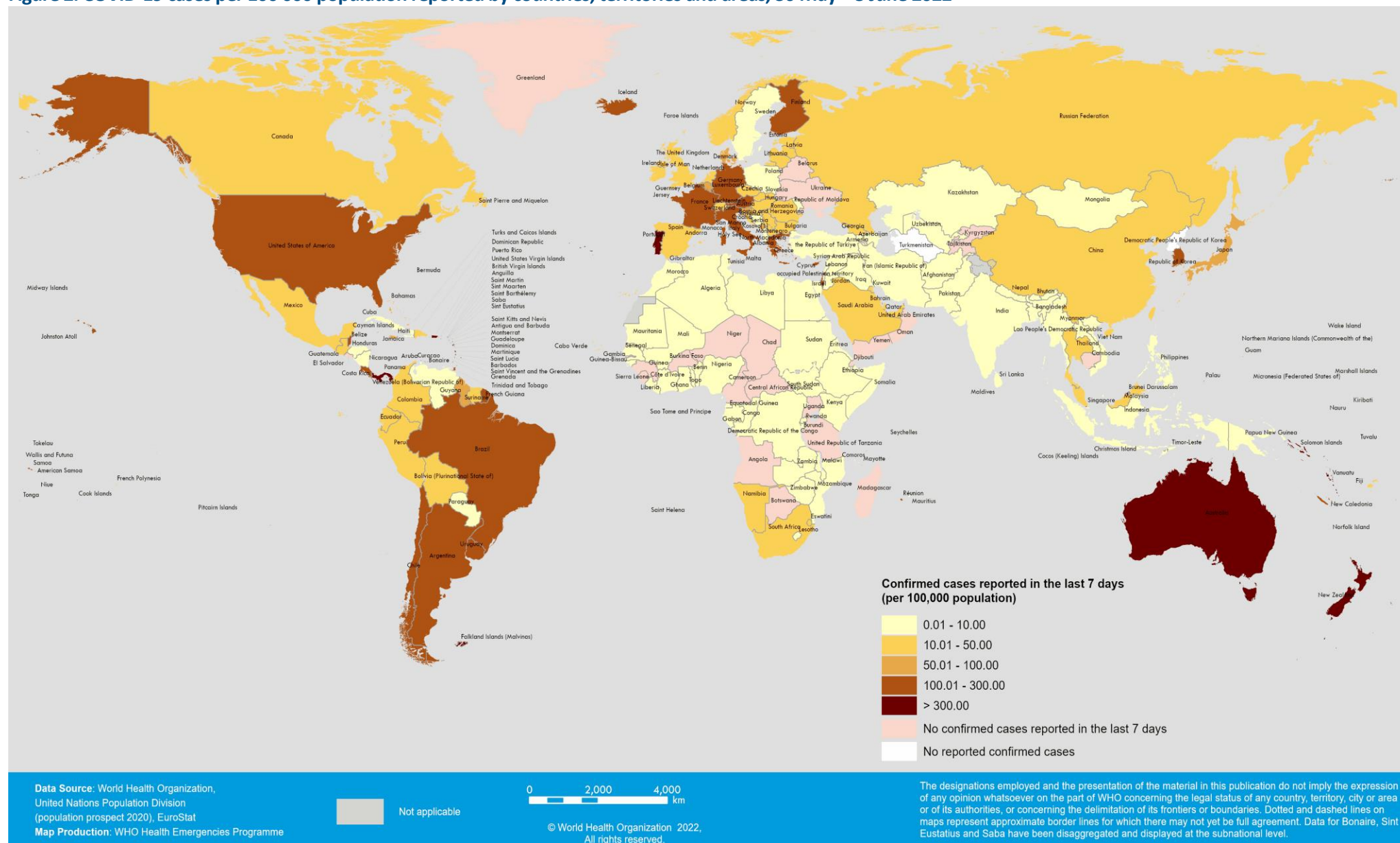
*Percent change in the number of newly confirmed cases/deaths in the past seven days, compared to seven days prior

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

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

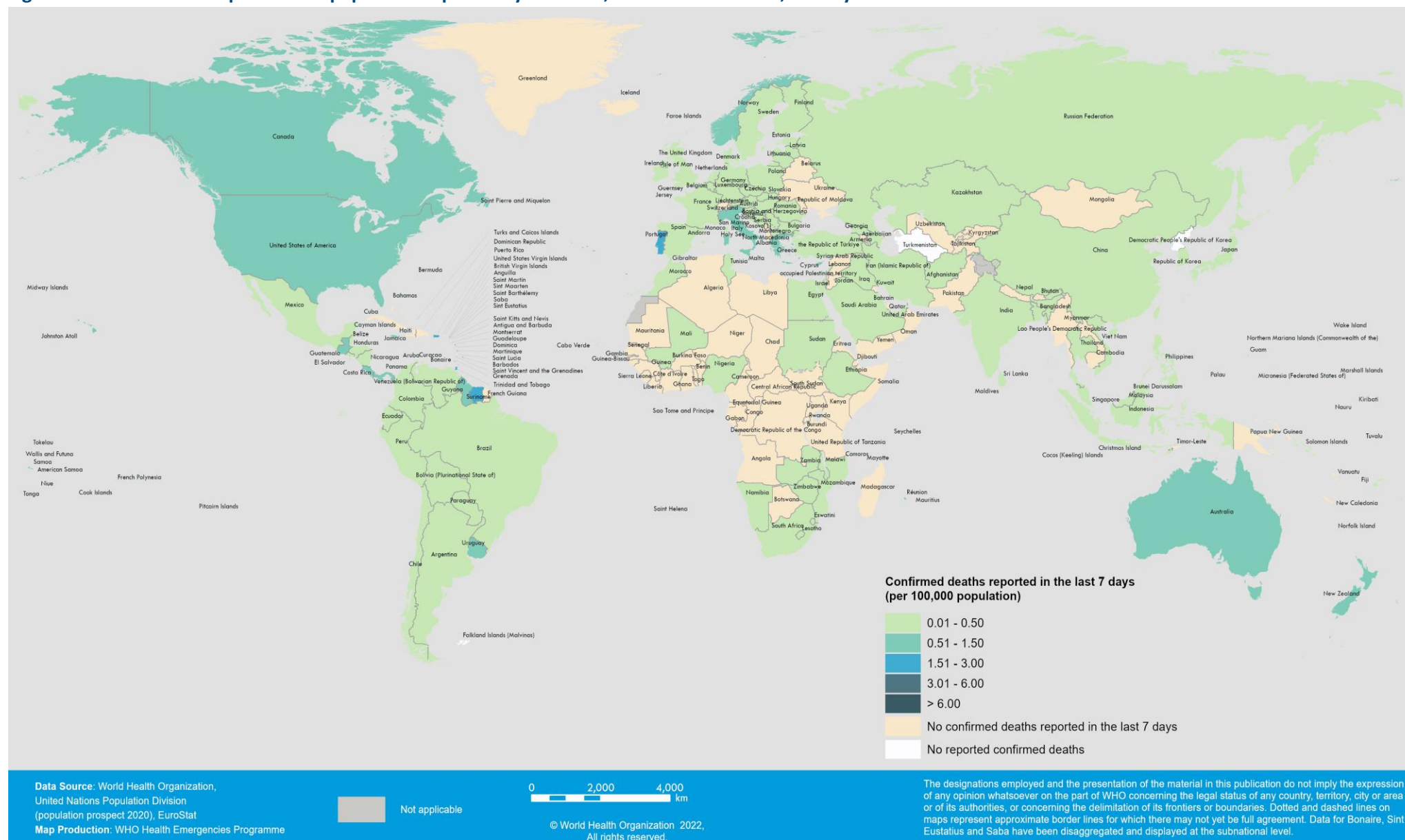
- [WHO COVID-19 Dashboard](#)
- [WHO COVID-19 Weekly/Monthly Operational Update and previous editions of the Weekly Epidemiological Update](#)

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 30 May – 5 June 2022*



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

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 30 May – 5 June 2022*



**See [Annex 1: 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 the effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied to control disease spread. Potential variants of concern (VOCs), variants of interest (VOIs) or variants under monitoring (VUMs) are regularly assessed based on the risk posed to global public health.

The classifications of variants will be revised as needed to reflect the continuous evolution of circulating variants and their changing epidemiology. Criteria for variant classification, and the lists of currently circulating and previously circulating VOCs, VOIs and VUMs, are available on the [WHO Tracking SARS-CoV-2 variants website](#). National authorities may choose to designate other variants and are strongly encouraged to investigate and report newly emerging variants and their impact.

Geographic spread and prevalence of VOCs

The Omicron VOC continues to be the dominant variant circulating globally, accounting for nearly all sequences reported to GISAID in the last 30 days. Due to very low circulation among sequences submitted to GISAID in the last three months, Delta is now categorized by WHO as a 'previously circulating VOC,' in the same way that Alpha, Beta and Gamma are categorized. Importantly however, this does not imply that previously circulating VOCs cannot resurge in the future and WHO will continue to monitor using available data.

Among Omicron lineages, as of epidemiological week 20 (15 to 21 May 2022), BA.2 and its descendent lineages (pooled lineages named BA.2.X) are declining but remain dominant, accounting for 44% and 19% respectively (figure 4, Table 2). Several variants with preliminary evidence of a growth advantage over other Omicron lineages show a global prevalence of <1% and are no longer rising, namely BA.2.11, BA.2.13, and BA.2.9.1. These lineages have in common the acquisition of a mutation at the locus S:L452X. Former dominant Omicron lineages BA.1, BA.1.1, BA.1.X and BA.3 sublineages have declined to <1%.

Globally, BA.2.12.1, BA.5, and BA.4 variants are rising in prevalence. As of week 20, BA.2.12.1 (detected in 53 countries) has reached a prevalence of 28%, a prevalence that may be largely attributed to an initial rapid increase in the Region of the Americas. BA.5 (detected in 47 countries) and BA.4 (detected in 42 countries) account for 4% and 2% of circulating variants, respectively. All three variants carry the signature mutation at locus S:L452 that is thought to confer greater transmissibility through higher cell fusogenicity and immune escape characteristics. Accumulating evidence from several countries indicates that there has been no observed increase in severity associated with BA.5 and BA.4.¹ No evidence is available at the current time on disease severity associated with BA.2.12.1.

As for the recombinant variants of SARS-CoV-2 detected in early 2022, including recombinants of known VOCs, a few had characteristics indicative of potential for increased transmissibility; however, this did not translate into a wide spread. The number of SARS-CoV-2 recombinant sequences submitted to GISAID which were being monitored by WHO or which showed an initial rise in the number of sequences reported (XE, XD and XF) continues to decline weekly, now representing <0.1% of sequences submitted during week 20.

Figure 4 Panel A and B: The number and percentage of SARS-CoV-2 sequences, as of 4 June 2022

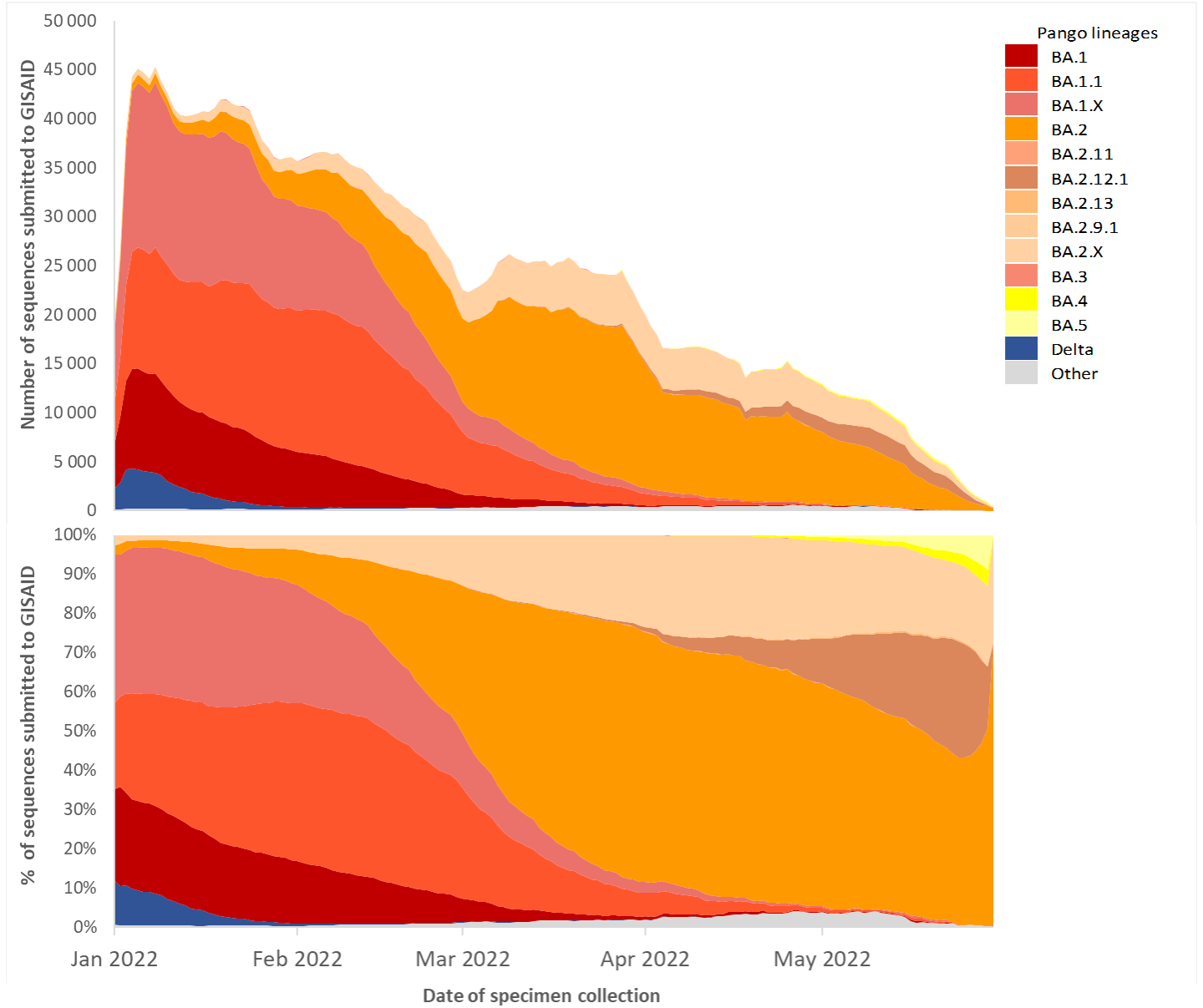


Figure 4 Panel A shows the number and **Panel B** the percentage of all circulating variants since 1 January 2022. Omicron sister-lineages and additional Omicron VOC descendent lineages under further monitoring (VOC-VUM) are shown. BA.1.X and BA.2.X include all BA.1 and BA.2 pooled descendent lineages, except those already shown in the figure above. Source: SARS-CoV-2 sequence data and metadata from GISAID, as of 4 June 2022.

Table 2: Relative proportions of Omicron lineages over the last four weeks by specimen collection date

Lineage	Countries	Sequences ^a	2022-18 ^b	2022-19 ^b	2022-20 ^b	2022-21 ^b
BA.1	175	491 224	0.11	0.21	0.20	0.02
BA.1.1	174	959 680	0.53	0.52	0.39	0.13
BA.1.X*	174	889 390	0.17	0.32	0.31	0.02
BA.2	138	1 054 358	53.15	49.60	43.98	49.88
BA.2.11	12	547	0.04	0.05	0.05	0.03
BA.2.12.1	53	68 256	16.78	21.85	27.83	15.62
BA.2.13	34	1 529	0.34	0.44	0.47	0.45
BA.2.9.1	13	649	0.08	0.08	0.14	0.21
BA.2.X*	122	404 797	22.89	21.24	19.25	20.05
BA.3	31	817	0.01	0.01	0.00	0.00
BA.4	42	4 692	1.12	1.25	2.38	4.14
BA.5	47	4 905	1.01	1.87	4.00	8.75
Delta	202	4 338 590	0.01	0.01	0.00	0.02
Other	209	2 675 752	3.75	2.55	0.98	0.70

^aData source: sequences and metadata from GISAID

^bRelative proportions in %

*BA.1.X and BA.2.X include all BA.1 and BA.2 pooled descendent lineages, except those already shown in the table above. The blue rows indicate the dominant lineages. The grey rows indicate the lineages that are increasing in prevalence.

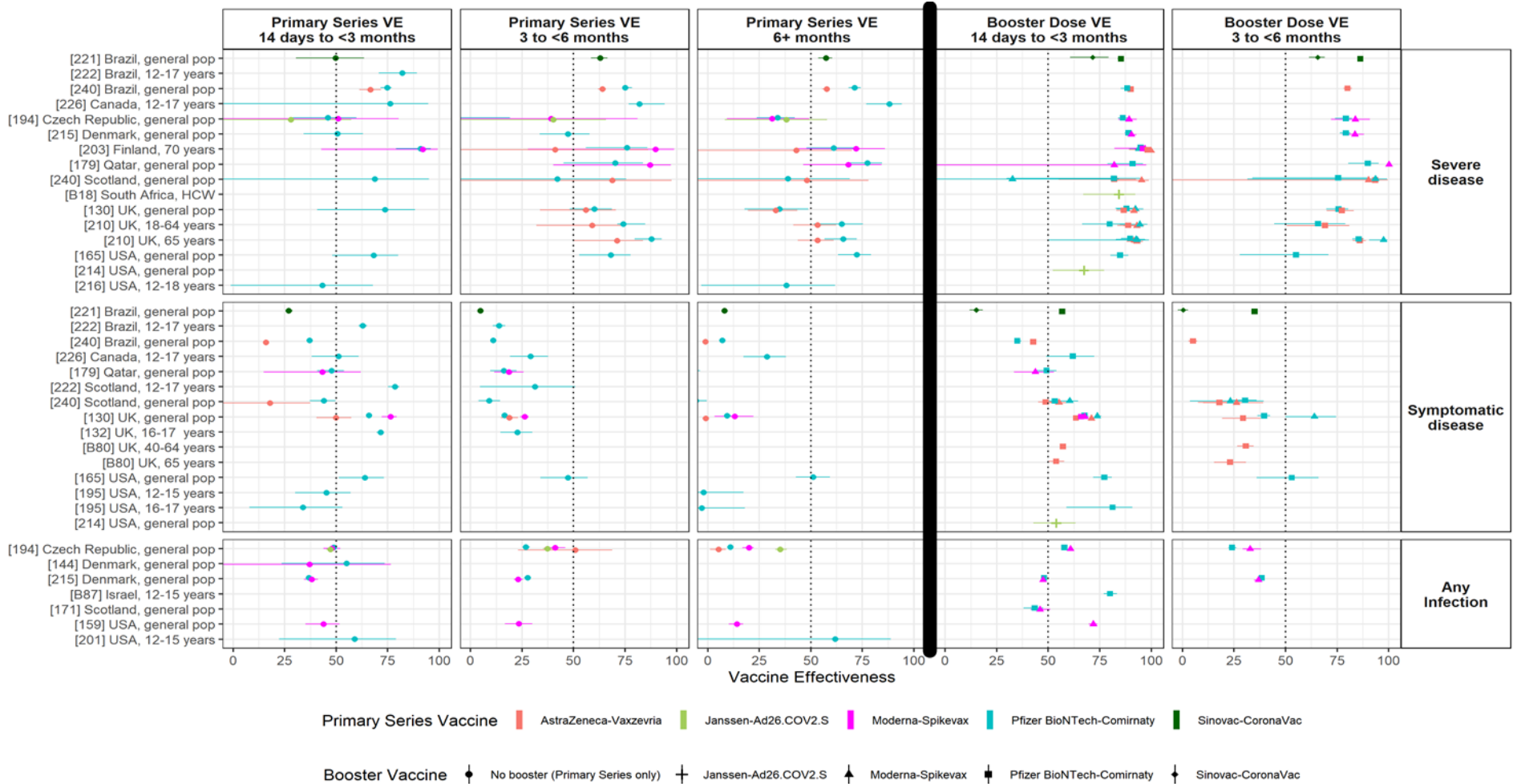
Characteristics of Omicron

Available evidence on the phenotypic impacts of VOCs is reported in [previous editions](#) of the COVID-19 Weekly Epidemiological Update. Table 3 summarizes the phenotypic characteristics of the Omicron VOC and its sublineages for which evidence is available since the [last update on 25 May 2022](#). Some of these studies have not been peer-reviewed and the findings must, therefore, be interpreted with due consideration of this limitation.

Table 3: Summary of phenotypic characteristics* of the Omicron VOC

Public health domain of impact	Omicron (B.1.1.529)	Omicron sublineages			
		BA.1	BA.2	BA.4	BA.5
Transmissibility	Growth advantage and increased transmissibility compared to Delta (Campbell 2021) ²	Lower transmissibility compared to BA.2 (Atkulwar 2022) ³	Increased transmissibility compared to BA.1 ³	No studies on relative transmissibility compared to BA.1 and BA.2	No studies on relative transmissibility compared to BA.1 and BA.2
Disease severity	Overall evidence suggests lower severity despite contrasting evidence. Earlier studies reported lower severity compared to Delta. ^{1,4-7} However, more recent studies reported similar ^{8,9} or increased severity ¹⁰ compared to Delta. ^{1,4-7,11 12}	No difference in disease severity compared to BA.2 ¹³	No difference in disease severity compared to BA.1 ¹³	Currently available evidence does not suggest a difference in disease severity compared to BA.1 ¹⁴	Currently available evidence does not suggest a difference in disease severity compared to BA.1 ^{14,15}
Risk of reinfection	Reduced risk of Omicron reinfection if previously infected with a different SARS-CoV-2 variant ^{16,17}	Reduced risk of reinfection with BA.1 following infection with BA.2 ¹⁸	Reduced risk of reinfection with BA.2 following infection with BA.1 ¹⁸	No specific data available	No specific data available
Impact on antibody responses	Reduction in neutralizing activity reported as compared to other VOCs ¹⁹⁻²¹	Lower neutralising antibody titers compared to the index virus ²⁰	Lower neutralising antibody titers compared to the index virus ²⁰	Lower neutralising antibody titres (7.6-fold) compared to BA.1 ²²⁻²⁴	Lower neutralising antibody titres (7.5-fold) compared to BA.1 ^{22,24}
Impacts on diagnostics	PCR assays that include multiple gene targets maintain their accuracy to detect Omicron ²⁵ ; S gene target failure/positivity (SGTF) may be a proxy for screening. Limited to no impact on sensitivity of Ag-RDTs observed ²⁶⁻²⁹	S gene target failure.	The majority will be S gene target positive (SGTP).	S gene target failure.	S gene target failure.
Impact on treatment	No difference in the effectiveness of antiviral agents (polymerase and protease inhibitors) against the Omicron variant ³⁰ . Conserved neutralizing activity for three broadly neutralizing monoclonal antibodies (sotrovimab, S2X259 and S2H97) and a reduced effectiveness of other monoclonal antibodies ³¹⁻³⁴	Reduced efficacy of casirivimab-imdevimab against BA.1 ³⁵	Reduced neutralising activity of sotrovimab ³⁵ , casirivimab and imdevimab against BA.2 ³⁶	Reduced neutralising activity of casirivimab and imdevimab ³⁶	Reduced neutralising activity of casirivimab and imdevimab ³⁶
Impact on vaccination	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). For further information, see the section Interpretation of the results of the VE for the Omicron variant				

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



Abbreviations: pop=population; HCW=healthcare workers. 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 severe disease, 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 provided in Annex 3. Note, nine point estimates for the primary series with confidence intervals below 0 are not shown in the Omicron plot: two estimates from reference #144 against infection at 3 to <6 months (Pfizer BioNTech-Comirnaty and Moderna-Spikevax), two estimates from reference #179 against symptomatic disease at 6+ months (Pfizer BioNTech-Comirnaty and Moderna-Spikevax), and five estimates from reference #240 (one AstraZeneca-Vaxzevria estimate at 3 to <6 months; three AstraZeneca-Vaxzevria estimates and one Pfizer BioNTech estimate at 6+ months).

Figure 5 summarizes the impact of Omicron variant on product-specific vaccine effectiveness (VE) over time for both primary series vaccines and booster vaccines. Additional information on vaccine performance against VOCs can also be found in Annex 4. Since the last [update](#), one new study (not yet peer-reviewed) assessing absolute vaccine effectiveness of three doses of Pfizer BioNTech-Comirnaty among children in Israel has been added to the figure.³⁵ The study found three doses of the vaccine to be 80% effective (95% CI: 76.7-83.1) at preventing Omicron infection among children 12-15 years of age within approximately two months of vaccination with the third dose.

Interpretation of the results of absolute VE for the Omicron variant

To date, 22 studies from 10 countries (Brazil, Canada, Czech Republic, Denmark, Finland, Israel, Qatar, South Africa, the United Kingdom and the United States of America) have assessed the duration of protection of five vaccines against the Omicron variant (six studies assessed VE of primary series vaccination only, four assessed VE of booster vaccination only, and 12 assessed both). Findings from these studies show reduced VE of COVID-19 primary series vaccines against the Omicron variant for all outcomes (*severe disease, symptomatic disease, and infection*) than has been observed for the other VOCs. Importantly though, VE estimates against the Omicron variant remain higher for *severe disease*, in the majority of studies. Booster vaccination substantially improves VE for all outcomes and for all combinations of schedules with estimates available for both primary series and booster vaccination. VE declines more with time after booster vaccination for symptomatic disease and infection than it does for severe disease; however, studies that assess VE of booster vaccination beyond six months are needed to evaluate the longer duration of protection.

For *severe disease*, within the first three months of primary series vaccination, six of 12 (50%) VE estimates for the mRNA vaccines (Moderna-Spikevax and Pfizer BioNTech-Comirnaty) were $\geq 70\%$. Of the two studies available for vector vaccines, one reported a VE of $< 70\%$ for AstraZeneca-Vaxzevria, and the other reported a VE of $< 50\%$ for Janssen-Ad26.COVID.S. One study available for inactivated vaccines (Sinovac-CoronaVac) reported a VE equal to 50%. Beyond three months after vaccination, 13 of 28 (46%) VE estimates for the mRNA vaccines were $\geq 70\%$ while 19 (68%) were $\geq 50\%$; one of the 12 (8%) VE estimates for AstraZeneca-Vaxzevria was $\geq 70\%$ while eight (67%) were $\geq 50\%$, but neither of the two estimates for Janssen-Ad26.COVID.S were $\geq 50\%$. The two available VE estimates beyond three months of vaccination for Sinovac-CoronaVac were $\geq 50\%$.

Booster vaccination improved VE against severe disease in all studies in which it was assessed. There were 33 estimates of an mRNA booster, two estimates a booster dose of Janssen-Ad26.COVID.S, and one estimates a booster dose of Sinovac-CoronaVac. Across the datasets, only one estimate for Pfizer BioNTech-Comirnaty as a booster dose and one for Janssen-Ad26.COVID.S as a booster dose below 70% between 14 days and three months of receipt of a booster dose. At three to six months post mRNA booster, 17 of 20 (85%) estimates showed VE $\geq 70\%$ (an mRNA vaccine was given as the primary series in 13 of the 20 estimates while AstraZeneca-Vaxzevria and Sinovac-CoronaVac were given as the primary series for six and one of the 20 estimates, respectively).

VE estimates against *symptomatic disease* and *infection* within the first three months of primary series vaccination tended to be lower than against severe disease, and VE decreased more substantially over time. For *symptomatic disease* within the first three months of primary series vaccination, three of 13 (23%) VE estimates for the mRNA vaccines were $\geq 70\%$ and seven (54%) were $\geq 50\%$; none of the three available VE estimates for AstraZeneca-Vaxzevria nor the single estimate for Sinovac-CoronaVac were above 50%. Beyond three months after vaccination, one of the 29 (3%) VE estimates were $\geq 50\%$ (21 estimates evaluated mRNA vaccines, six evaluated AstraZeneca-Vaxzevria, and two evaluated Sinovac-CoronaVac). Booster with an mRNA vaccination after completion of a primary series of an

mRNA vaccine, AstraZeneca-Vaxzevria, or Sinovac-CoronaVac, improved VE against *symptomatic disease* with four of 20 (20%) VE estimates $\geq 70\%$ and 15 (75%) estimates $\geq 50\%$ between 14 days and three months post booster. However, booster dose protection declined with time since vaccination with only two of twelve (17%) available estimates indicating a VE of $\geq 50\%$ at three to six months following receipt of an mRNA booster dose. Neither the single estimate for a booster dose of AstraZeneca-Vaxzevria nor the single estimate for a booster dose of Sinovac-CoronaVac three to six months post vaccination was above 50%. VE against *infection* showed a similar pattern as that against *symptomatic 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](#)

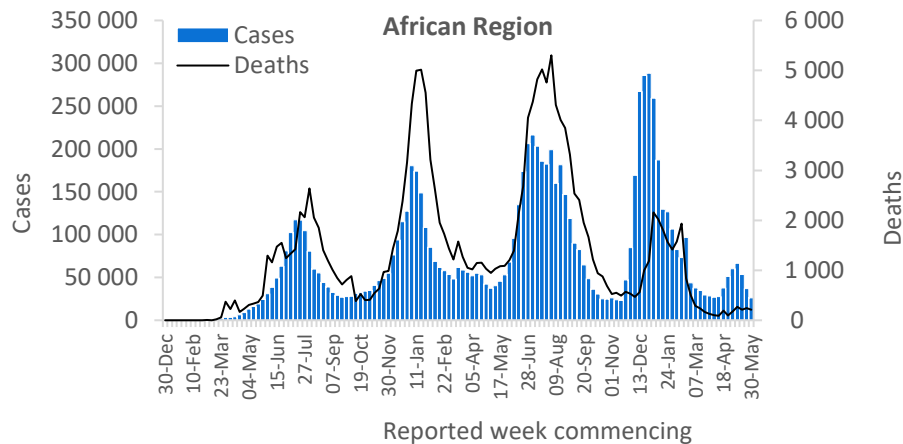
WHO regional overviews:

Epidemiological week 30 May – 5 June 2022**

African Region

After reporting increasing trends for a month, the African Region has reported a decline in the number of new weekly cases for the third consecutive week, with over 26 000 new cases, a 29% decrease as compared to the previous week. However, eleven (22%) countries reported an increase in the number of new cases of over 20%, with the greatest proportional increases observed in Ghana (352 vs 73 new cases; +382%), Eritrea (10 vs three new cases; +233%) and Ethiopia (2483 vs 889 new cases; +179%). The highest numbers of new cases were reported from South Africa (14 885 new cases; 25.1 new cases per 100 000; -42%), Ethiopia (2483 new cases; 2.2 new cases per 100 000; +179%), and Réunion (2046 new cases; 228.5 new cases per 100 000; -37%).

The number of new weekly deaths in the Region decreased by 13% as compared to the previous week, with over 200 new deaths reported. The highest numbers of new deaths were reported from South Africa (171 new deaths; <1 new death per 100 000 population; -19%), Zimbabwe (10 new deaths; <1 new death per 100 000; +67%), and Réunion (seven new deaths; <1 new death per 100 000; similar to the previous week's figures).

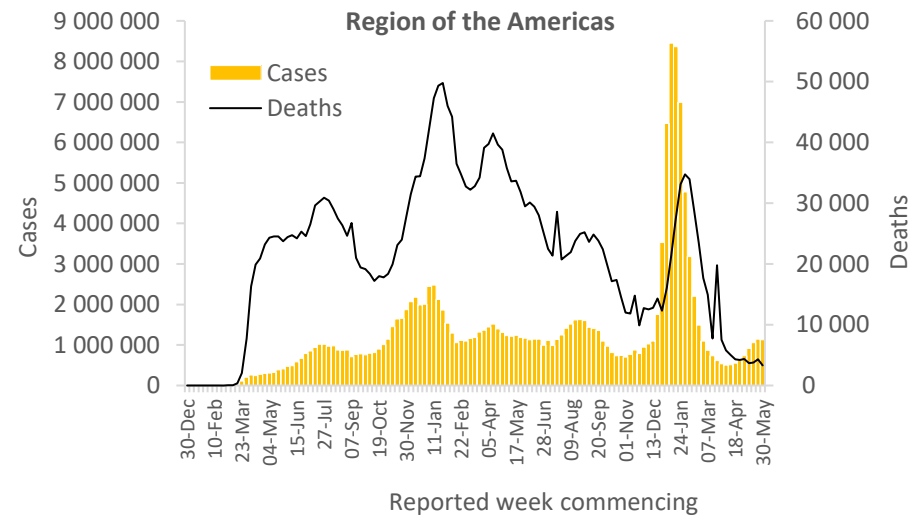


Updates from the [African Region](#)

Region of the Americas

Following an increasing trend since mid-April 2022, the Region of the Americas has reported a decrease in case incidence. Over 1.1 million new weekly cases were reported, a 1% decrease as compared to the previous week. However, sixteen (29%) countries reported increases in the number of new cases of 20% or greater, with the greatest proportional increases observed in Ecuador (7215 vs 2400 new cases; +201%), Haiti (74 vs 29 new cases; +155%) and Guyana (627 vs 347 new cases; +81%). The highest numbers of new cases were reported from the United States of America (657 268 new cases; 198.6 new cases per 100 000; -11%), Brazil (216 334 new cases; 101.8 new cases per 100 000; +36%), and Chile (55 211 new cases; 288.8 new cases per 100 000; +16%).

The number of new weekly deaths in the Region increased by 23% as compared to the previous week, with over 3300 new deaths reported. The highest numbers of new deaths were reported from the United States of America (1703 new deaths; <1 new death per 100 000; -33%), Brazil (652 new deaths; <1 new death per 100 000; -21%), and Canada (304 new deaths; <1 new death per 100 000; similar to the previous week's figures).

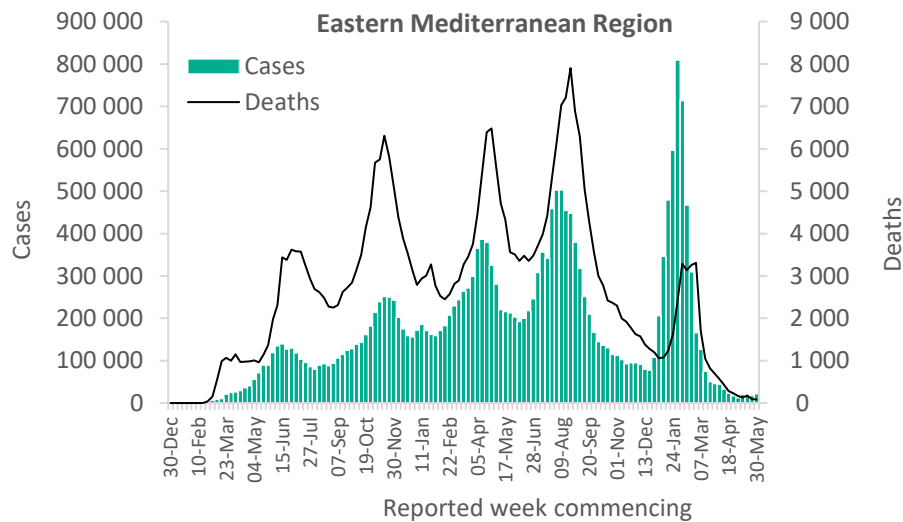


Updates from the [Region of the Americas](#)

Eastern Mediterranean Region

The Eastern Mediterranean Region reported just under 21 000 new weekly cases, representing a 19% increase as compared to the previous week. Six (27%) countries reported increases in the number of new cases of 20% or greater, with the greatest proportional increases observed in Somalia (30 vs 14 new cases; +114%), Morocco (2188 vs 1202 new cases; +82%) and Bahrain (4806 vs 3187 new cases; +28%). The highest numbers of new cases were reported from Saudi Arabia (4545 new cases; 13.1 new cases per 100 000; +26%), Bahrain (4086 new cases; 240.1 new cases per 100 000; +28%), and the United Arab Emirates (3269 new cases; 33.1 new cases per 100 000; +26%).

The number of new weekly deaths in the Region decreased by 14% as compared to the previous week, with over 80 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (22 new deaths; <1 new death per 100 000; -37%), Egypt (14 new deaths; <1 new death per 100 000; similar to the previous week's figures), and Saudi Arabia (12 new deaths; <1 new death per 100 000; -20%).

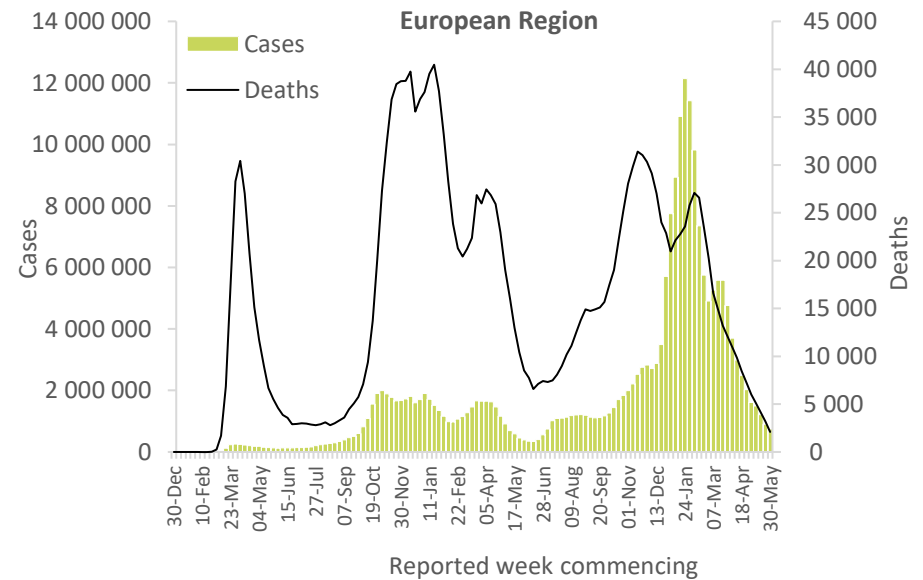


Updates from the [Eastern Mediterranean Region](#)

European Region

In the European Region, the number of new cases has continued to decline since mid-March 2022, with over 744 000 new weekly cases, an 18% decrease as compared to the previous week. Six (10%) countries in the Region reported increases in new cases of 20% or greater: Monaco (132 vs 59 new cases; +124%), Uzbekistan (113 vs 81 new cases; +40%) and Luxembourg (1559 vs 1181 new cases; +32%). The highest numbers of new cases were reported from Germany (215 955 new cases; 259.7 new cases per 100 000; +16%), France (128 198 new cases; 197.1 new cases per 100 000; +13%), and Portugal (120 711 new cases; 1172.4 new cases per 100 000; -31%).

Over 2000 new weekly deaths were reported, a 35% decrease as compared to the previous week. The highest numbers of new deaths were reported from the Russian Federation (565 new deaths; <1 new death per 100 000; -7%), Italy (380 new deaths; <1 new death per 100 000; -39%), and France (272 new deaths; <1 new death per 100 000; -7%).



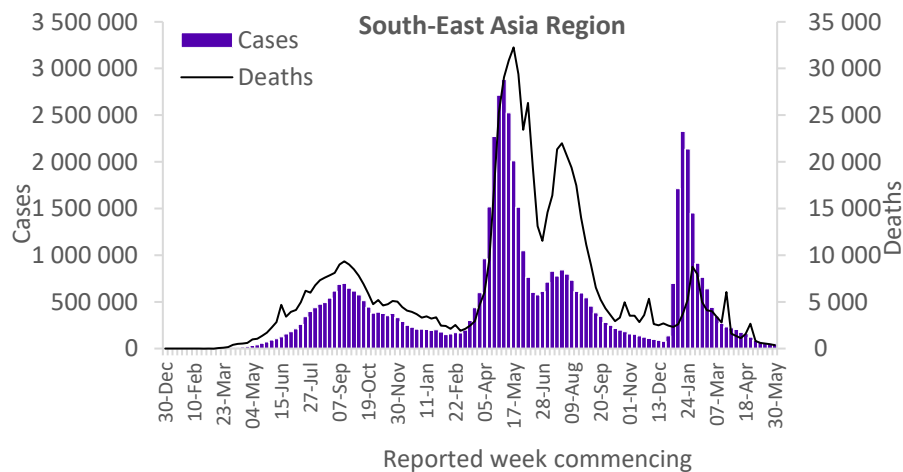
Updates from the [European Region](#)

South-East Asia Region

After a decreasing trend in the number of new weekly cases observed since mid-January 2022, the South-East Asia Region reported over 50 000 new cases this week, representing a 1% increase as compared to the previous week. Three (30%) countries showed increases in the number of new cases of 20% or greater: India (23 774 vs 16 672 new cases; +43%), Indonesia (2385 vs 1825 new cases; +31%), and Nepal (72 vs 59 new cases; +22%). The highest numbers of new cases were reported from Thailand (24 145 new cases; 34.6 new cases per 100 000; -23%), India (23 774 new cases; 1.7 new cases per 100 000; +42), and Indonesia (2385 new cases; <1 new case per 100 000; +31%).

The Region reported 350 deaths, a decrease of 23% as compared to the previous week. The highest numbers of new deaths were reported from Thailand (199 new deaths; <1 new death per 100 000; -12%), India (106 new deaths; <1 new death per 100 000; -39%), and Indonesia (41 new deaths; <1 new death per 100 000; -21%).

Reports of an outbreak of COVID-19 reported in the Democratic People's Republic of Korea continue through official media on 12 May 2022; however, at present, no confirmed cases or deaths have been reported to WHO.

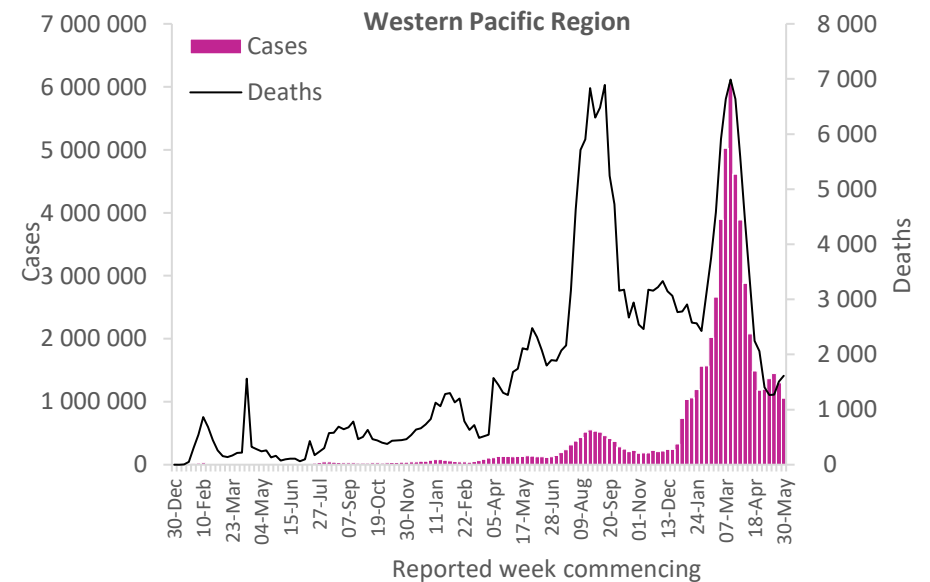


Updates from the [South-East Asia Region](#)

Western Pacific Region

With over one million new weekly cases reported, the Western Pacific Region shows a decreasing trend for the second consecutive week (-19% as compared to the previous week). Six (18%) countries reported increases in new cases of 20% or greater, with the largest proportional increases observed in Papua New Guinea (205 vs 31 new cases; +561%), Vanuatu (1174 vs 205 new cases; +473%) and Tonga (254 vs 94 new cases; +170%). The highest numbers of new cases were reported from China (528 432 new cases; 35.9 new cases per 100 000; -8%), Australia (221 935 new cases; 870.3 new cases per 100 000; -25%), and Japan (122 241 new cases; 96.7 new cases per 100 000; -40%).

The Region reported over 1600 new weekly deaths, representing a 7% increase as compared to the previous week. The highest numbers of new deaths were reported from China (910 new deaths; <1 new death per 100 000; +57%), Australia (288 new deaths; <1 new death per 100 000; -17%), and Japan (199 new deaths; <1 new death per 100 000; -18%).



Updates from the [Western Pacific Region](#)

Summary of the COVID-19 Monthly Operational Update

The [Monthly 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.

In this edition, highlights of country-level actions and WHO support to countries include:

- WHO, Government of Japan, and Governments of the Marshall Islands, Federated States of Micronesia and Palau partner to enhance COVID-19 preparedness and response
- WHO/Europe mission to Tajikistan to support the Ministry of Health and Social Protection of the Population of the Republic of Tajikistan with clinical management of COVID-19
- Expansion of South Sudan's COVID-19 vaccination to remote regions
- Eastern Mediterranean Region publishes its COVID-19 Strategic Preparedness and Response Plan for 2022
- Region of the Americas establishes a high-level commission on mental health and COVID-19
- Integrating SARS-CoV-2 into influenza sentinel surveillance- field experience in Togo
- Engaging with Parliamentarians in Nepal to strengthen Risk Communications and Community Engagement (RCCE)
- Technical and targeted multi-sectoral support to manage COVID-19 waste in the African Region
- Shipment of rapid antigen tests to Iraq
- Nigeria holds first national Training of Trainers (ToT) workshop on infodemic management
- COVID-19 Vaccine Delivery Partnership supports countries to scale-up vaccination strategies
- WHO plays advisory role to International Olympic Committee for Beijing 2022 Winter Olympic and Paralympic Games
- Act-A Health Systems Response Connector (HSRC) supports Member States to translate COVID-19 tools into national interventions
- Progress update on the utilization of OpenWHO training platform

Annex 1. Data, table, and figure notes

Data presented are based on official laboratory-confirmed COVID-19 cases and deaths reported to WHO by country/territories/areas, largely based upon WHO [case definitions](#) and [surveillance guidance](#). While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change, and caution must be taken when interpreting these data as several factors influence the counts presented, with variable underestimation of true case and death incidences, and variable delays to reflecting these data at the global level. Case detection, inclusion criteria, testing strategies, reporting practices, and data cut-off and lag times differ between countries/territories/areas. A small number of countries/territories/areas report combined probable and laboratory-confirmed cases. Differences are to be expected between information products published by WHO, national public health authorities, and other sources.

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.

^[2] Since 21 May, data for COVID-19 cases and deaths in Northern Ireland was no longer included in the United Kingdom updates (see [here](#) for the official announcement).

Annex 2. 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.
- 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.
- Studies reporting VOC-specific 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 three RCT results from non-VOC settings. For severe disease and infection, due to instability or lack of phase three 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 three 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.
- Neutralization studies that use samples collected $>$ seven days and $<$ six months after complete vaccination and that use an ancestral strain as the reference are included in Table 3.

Annex 3. Methods for Figure 5

- 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 Omicron was the predominant circulating variant. Only studies providing VE estimates of individual vaccines are included in the plot (studies assessing combined VE of more than one vaccine are excluded). 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 absolute VE for more than one time period for an individual vaccine. Thirteen studies of VE against Omicron provided only a single cumulative VE estimate for an individual vaccine, which due to varying lengths of time since vaccination are difficult to interpret due to the marked waning of VE over time with Omicron.

Annex 4. Summary of Primary Series Vaccine Performance against Variants of Concern (VE data as of 28 May 2022; Neutralization data as of 2 June 2022)

	WHO Emergency Use Listing (EUL) Qualified Vaccines ⁺									Vaccines without WHO EUL ⁺	
	AstraZeneca-Vaxzevria/SII - Covishield	Beijing CNBG-BBIBP-CorV	Bharat-Covaxin	Cansino - Convidecia	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											
Summary of VE*	see update from 27 April 2022 for details of vaccine performance against Delta variant of concern										
Omicron³⁸											
Summary of VE*	Reduced protection against infection and symptomatic disease; possible reduced protection against for severe disease but limited evidence										
- Severe disease	-	-	-	-	-	↓to↓↓/↓↓↓ ₂	-	↓↓to↓↓↓ ₅	-	-	-
- Symptomatic disease	↓↓↓ ₁	-	-	-	-	↓↓/↓↓↓ ₂	-	↓↓↓ ₃	-	-	-
- Infection	↓↓↓ ₁	-	-	-	-	↓↓↓ ₃	-	↓↓↓ ₃	-	-	-
Neutralization	↓↓↓ ₇	↓to↓↓ ₄	↓↓ ₁	-	↓to↓↓↓ ₄	↓↓↓ ₁₈	-	↓↓↓ ₄₆	↓↓to↓↓↓ ₅	-	↓↓ 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 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.

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](#)

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