



GLOBAL
↑
295 516 594
Confirmed cases
269 900 000 recovered
5 461 887 deaths

USA
(7-days incidence 1.099)
↑
56 723 681
confirmed cases
50 040 000 recovered
826 583 death

India
(7-days incidence 11,8)
↑
35 018 358
confirmed cases
34 260 000 recovered
482 551 deaths

Brazil
(7-days incidence 27,8)
↑
22 328 252
confirmed cases
21 590 000 recovered
619 654 deaths

News:

First Oral COVID-19 treatment (Paxlovid) has received an Emergency Use Authorization in the U.S.A. and is recommended by the EMA in Europe

After the EMA's advice on the use of Paxlovid on December 16, on December 21, the U.S. Food and Drug Administration (FDA) issued an emergency use authorization (EUA) for Pfizer's Paxlovid. The approval is for the treatment of **mild-to-moderate COVID-19** in adults and pediatric patients (12 years of age and older) with confirmed SARS-CoV-2 tests, and who are **at high risk for progression to severe COVID-19** (e.g. obesity and diabetes), including hospitalization or death. This is a significant milestone, as Paxlovid is **the first available oral treatment for COVID-19. This comes at a crucial time, as Omicron variant continues with significant upward trends around the world, and new variants could continue to emerge.**

Paxlovid is available by **prescription only** and should be initiated as soon as possible after the diagnosis of COVID-19 and **within five days of symptom onset**. The primary data supporting this EUA for Paxlovid are from EPIC-HR, a randomized, double-blind, placebo-controlled clinical trial studying Paxlovid for the treatment of non-hospitalized symptomatic adults with a laboratory-confirmed diagnosis of SARS-CoV-2 infection. Patients were adults 18 years of age and older with a prespecified risk factor for progression to severe disease or were 60 years and older, regardless of prespecified chronic medical conditions. In this study, Paxlovid was found to **reduce the risk of hospitalization or deaths by 89%** compared to placebo in non-hospitalized high-risk adults with COVID-19. Paxlovid is designed to block the activity of the SARS-CoV-2-3CL protease, an enzyme that the coronavirus needs to replicate.

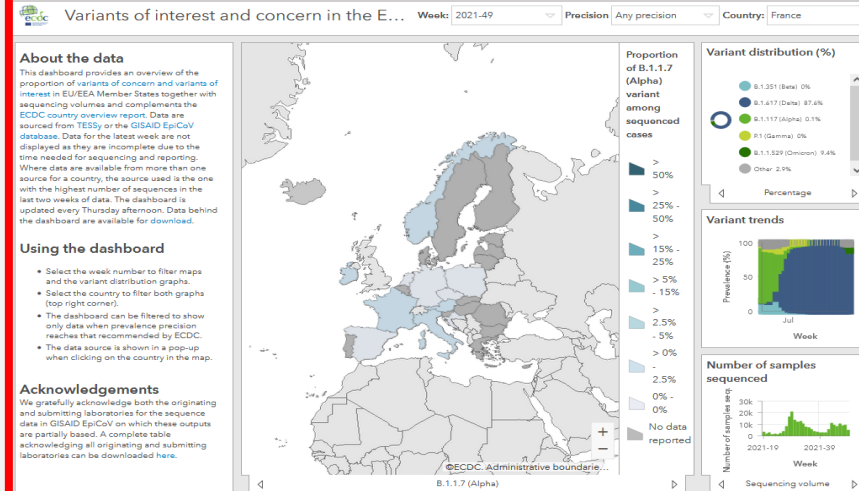
Pfizer is expected to **deliver over 65,000 pills of Paxlovid to the U.S.A.** within the first week, and supply will increase in the new year. Until now, monoclonal antibodies (infused through the bloodstream at a hospital or clinic) have been the only authorized treatment for patients with COVID-19 that hadn't been hospitalized; however, the oral pill is expected to reach more people than antibody therapies. It is also important to highlight that while availability and accessibility to the drug are expanded, strategies that address meeting the demand for increased testing and minimizing turn-around times to diagnose and provide early treatment will also maximize the benefit of this promising treatment. **Source: [here](#) and [here](#)**

- **Topics:**
 - Global situation
 - European situation
 - Vaccination news
 - SARS-CoV-2 VOIs and VOCs
 - Subject in Focus: Practical Recommendations to Prevent Airborne Transmission of SARS-CoV-2

Table 1: The top 20 countries with the largest predicted number of imported Omicron cases and associated observed values* as of December 12, 2021

Country/Territory	Predicted Importations (no.)	95% Confidence Interval	Observed Omicron Cases (no.)	Predicted/Observed Cases Ratio
United Kingdom	1950	0 - 45073	820	2.4
United States	1115	0 - 21380	72	15.5
Germany	54	0 - 428	82	0.7
Ethiopia	47	0 - 388	0	N/A
Kenya	39	0 - 309	0	N/A
Ghana	33	0 - 262	33	1.0
India	25	0 - 220	38	0.7
Mozambique	22	0 - 174	0	N/A
Switzerland	21	0 - 148	16	1.3
Netherlands	21	0 - 153	62	0.3
Qatar	21	0 - 156	0	N/A
France	17	0 - 140	59	0.3
Canada	17	0 - 138	108	0.2
Egypt	16	0 - 130	0	N/A
Turkey	16	0 - 122	6	2.7
Angola	16	0 - 119	0	N/A
Tanzania	16	0 - 122	0	N/A
United Arab Emirates	16	0 - 115	1	15.8
Malawi	15	0 - 110	3	5.0
Italy	15	0 - 103	13	1.1

*Observed cases were not exclusively travel-associated. It is possible that the inclusion of community-transmitted cases increased the predicted value of imported cases in the regression analysis.



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EUROPE
↑
101 459 870
confirmed cases
89 240 000 recovered
1 624 279 deaths

GBR
(7-days incidence 961,1)
↑
13 641 524
confirmed cases
11 290 000 recovered
148 941 deaths

France
(7-days incidence 1.883,3)
↑
10 589 505
confirmed cases
8 524 000 recovered
124 563 deaths

Russia
(7-days incidence 90,0)
↓
10 405 684
confirmed cases
9 730 000 recovered
306 710 deaths

Situation by WHO Region, as of 28 December

Global epidemiological situation overview; WHO as of 28 December 2021

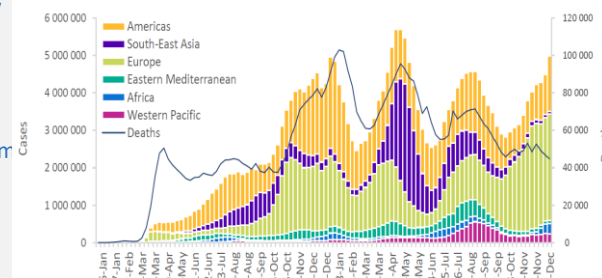
During the week 20–26 December, following a gradual increase since October, the global number of new cases increased by 11% as compared to the previous week; while the number of new deaths remained similar to the number reported during the previous week. This corresponds to just under 5 million new cases and over 44 000 new deaths. As of 26 December, over 278 million cases and just under 5.4 million deaths have been reported globally (Figure 1).

The Region of the Americas reported the largest increase in new cases in the last week (39%), followed by the African Region, which reported an increase of 7%. The South-East Asia Region continued to report a decrease in new cases as compared to the previous week (12%) while in the European, Eastern Mediterranean, and Western Pacific Regions, the number of new cases was similar to those reported during the previous week. The African Region reported the highest increase in the number of new deaths (72%), followed by the South-East Asia Region (9%) and the Region of the Americas (7%). The European and Eastern Mediterranean Region reported decreases of 12% and 7% respectively, in the incidence of deaths, while in the Western Pacific Region, the incidence was similar to the previous weeks.

The European Region continued to report the highest incidence of weekly cases (304.6 new cases per 100 000 population), followed by the Region of the Americas (144.4 new cases per 100 000 population). Both regions also reported the highest weekly incidence in deaths of 2.6 and 1.2 per 100 000 population, respectively, while all other regions reported <1 new death per 100 000. The highest numbers of new cases were reported from

- United States of America (1 185 653 new cases; 34% increase),
- United Kingdom (611 864 new cases; 20% increase),
- France (504 642 new cases; 41% increase),
- Italy (257 579 new cases; 62% increase) and,

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 26 December 2021**

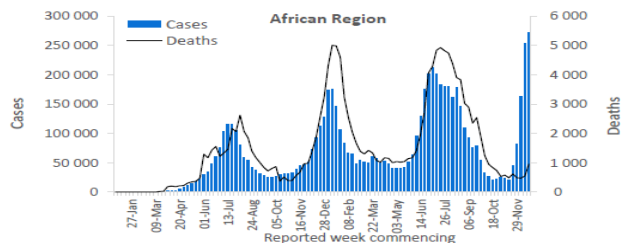


WHO regional overviews Epidemiological week 20 – 26 December 2021

African Region

The African Region reported over 274 000 new cases, however, the weekly increase in incidence was smaller (7%) as compared to the incidence of the previous week (53%). Increases in case incidence of over 50% were observed in nearly two-thirds (32/49; 65%) of countries in the Region. The highest numbers of new cases were reported from South Africa (115 328 new cases; 194.5 new cases per 100 000 population; a 29% decrease), Ethiopia (19 940 new cases; 17.3 new cases per 100 000 population; a 610% increase) and Kenya (19 023 new cases; 35.4 new cases per 100 000; a 207% increase).

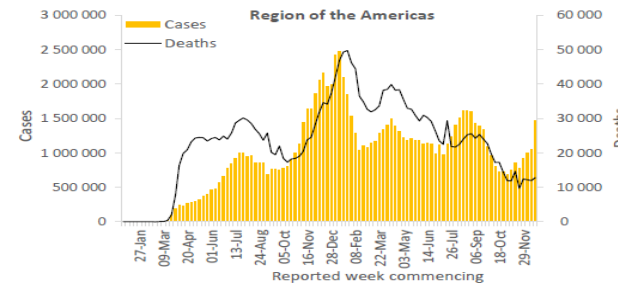
The Region reported over 900 new weekly deaths, a 72% increase as compared to the number reported during the previous week. The highest numbers of new deaths were reported from South Africa (428 new deaths; <1 new death per 100 000 population; an 87% increase), Zimbabwe (103 new deaths; <1 new death per 100 000; a 119% increase) and the Democratic Republic of the Congo (79 new deaths; <1 new death per 100 000; an 888% increase).



Region of the Americas

The Region of the Americas reported over 1.4 million new cases and over 12 000 new deaths, increases of 39% and 7% respectively, as compared to the previous week. Half of the countries (28/56) reported increases of over 10%, with the highest increases reported from Saint Kitts and Nevis (38 vs 3 new cases, an 1167% increase albeit small numbers); the United States Virgin Islands (367 vs 42 new cases, a 774% increase) and Puerto Rico (32 162 vs 3736 new cases, a 761% increase). However, the highest numbers of new cases continued to be reported from the United States of America (1 185 653 new cases; 358.2 new cases per 100 000; a 34% increase), Canada (78 847 new cases; 208.9 new cases per 100 000; a 101% increase), and Argentina (65 966 new cases; 146.0 new cases per 100 000; a 106% increase).

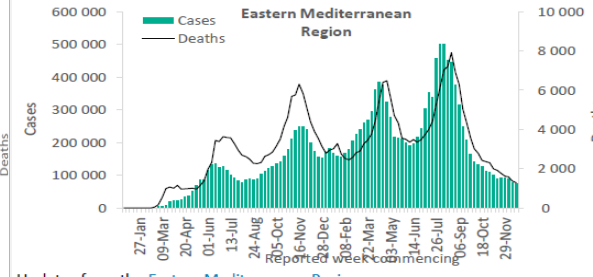
The highest numbers of new deaths were reported from the United States of America (9355 new deaths; 2.8 new deaths per 100 000; a 7% increase), Brazil (997 new deaths; <1 new death per 100 000; a 42% increase), and Mexico (797 new deaths; <1 new death per 100 000; a 41% increase).



Eastern Mediterranean Region

The weekly incidence of cases in the Eastern Mediterranean Region remained similar to the incidence reported during the previous week, with over 76 000 new cases reported. Half of the countries (11/22) reported increases in cases of over 10%, with the highest increases reported from the United Arab Emirates (5678 vs 1133 new cases, a 401% increase); Somalia (363 vs 95 new cases, a 282% increase) and Saudi Arabia (1668 vs 549 new cases, 204% increase). The highest numbers of new cases continued to be reported from Jordan (17 952 new cases; 267.9 new cases per 100 000; a 34% decrease), the Islamic Republic of Iran (13 894 new cases; 16.5 new cases per 100 000; a 16% decrease), and Lebanon (11 795 new cases; 172.8 new cases per 100 000; an 8% increase).

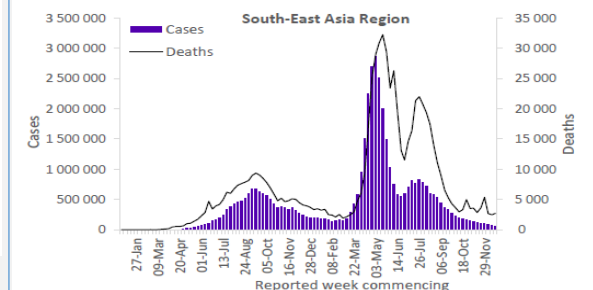
The weekly incidence of deaths in the Region decreased by 7%, while the highest numbers of new deaths continued to be reported from the Islamic Republic of Iran (315 new deaths; <1 new death per 100 000; a 15% decrease), Egypt (256 new deaths; <1 new death per 100 000; a 15% decrease), and Jordan (253 new deaths; 2.5 new deaths per 100 000; similar to the previous week).



South-East Asia Region

The declining trend in the number of weekly cases reported has continued in the South-East Asia Region, with over 76 000 new cases reported, a 12% decrease as compared to the number reported during the previous week. However, the number of new weekly deaths increased by 9%, with 2700 new deaths reported. Only two countries in the Region reported an increase in weekly cases: Bangladesh (2170 vs 310 new cases, a 23% increase) and the Maldives (907 vs 838 new cases, an 8% increase). However, the highest numbers of new cases continued to be reported from India (46 527 new cases; 3.4 new cases per 100 000; a 7% decrease), Thailand (18 442 new cases; 26.4 new cases per 100 000; a 19% decrease), and Sri Lanka (3964 new cases; 18.5 new cases per 100 000; a 42% decrease).

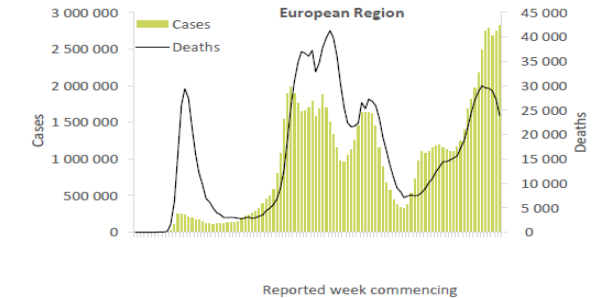
The highest numbers of new deaths also continued to be reported from India (2260 new deaths; <1 new death per 100 000; a 14% increase), Thailand (203 new deaths; <1 new death per 100 000; similar to the previous week), and Sri Lanka (132 new deaths; <1 new death per 100 000; similar to the previous week).



European Region

The European Region reported over 2.8 million new cases, similar to the number reported during the previous week. However, the weekly incidence of deaths decreased by 12%, with over 24 000 new deaths reported. Despite the stable trend, one third of countries (20/61) reported a weekly increase in cases of over 10%, with the highest increases reported from Malta (4107 vs 1103 new cases, an 272% increase), Israel (9076 vs 4886 new cases, an 86% increase) and Portugal (55 217 vs 30427 new cases, an 81% increase). The highest numbers of new cases were reported from the United Kingdom (611 864 new cases; 901.3 new cases per 100 000; a 20% increase), France (504 642 new cases; 775.9 new cases per 100 000; a 41% increase) and Italy (257 579 new cases; 431.9 new cases per 100 000; a 62% increase).

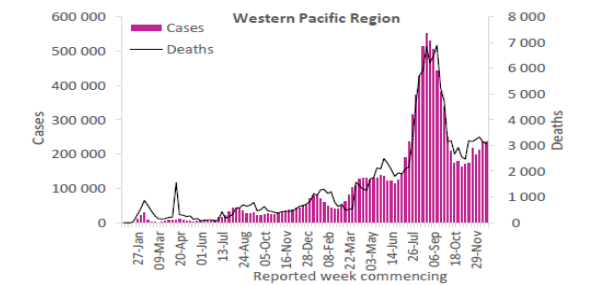
The highest numbers of new deaths continued to be reported from the Russian Federation (7015 new deaths; 4.8 new deaths per 100 000; a 9% decrease), Poland (2842 new deaths; 7.5 new deaths per 100 000; a 5% decrease), and Germany (2131 new deaths; 2.6 new deaths per 100 000; an 18% decrease).



Western Pacific Region

The incidence of cases and deaths reported in the Western Pacific Region was similar to those reported during the previous week, with over 238 000 new cases and over 3000 new deaths reported. However, seven of the 27 countries in the region, reported an increase in case incidence of over 10%, with the highest increases reported from French Polynesia (40 vs 8 new cases, a 400% increase), Fiji (192 vs 39 new cases, a 392% increase) and Australia. The highest numbers of new cases were reported from Viet Nam (112 087 new cases; 115.2 new cases per 100 000; a 11% decrease), Australia (45 560 new cases; 178.7 new cases per 100 000, a 135% increase), and the Republic of Korea (42 367 new cases; 82.6 new cases per 100 000; an 11% decrease).

The highest numbers of new deaths were reported from Viet Nam (1656 new deaths; 1.7 new deaths per 100 000; similar to the previous week), the Republic of Korea (523 new deaths; 1.0 new death per 100 000; a 12% increase), and the Philippines (512 new deaths; <1 new death per 100 000; a 12% decrease).



Updates from the [Western Pacific Region](#)

Global Situation

Notable Update:

It has been just over two years since the emergence of SARS-CoV-2 in December 2019. As of January 3, 2022, there have been a total of 291,811,470 COVID-19 cases and 5,463,791 associated deaths since the beginning of the pandemic. As of January 3, the top five countries with the highest seven-day rolling average number of daily new cases are the **United States, France, United Kingdom, Italy, and Spain**. The top five countries with the highest seven-day rolling average number of daily new cases per million population are **Aruba, Andorra, Guernsey, Jersey, and Gibraltar**.

As of January 3, 2022, Europe is the continent with the largest proportion of countries (75%, or 38 out of 51) with a high incidence rate (>350 per 100,000 over the past 14 days) and a stable or increasing trend in daily new cases over the last seven days. South America has the highest proportion of countries (64%, or nine out of 14) with a low (<=140) to moderate (140.1 - 350) incidence rate and an increasing trend in new cases over the last seven days. Both Africa (38%, or 21 out of 56) and Asia (38%, or 18 out of 48) have the highest proportion of countries reporting a low incidence rate (<= 140) with a stable or decreasing trend in new cases.

WHO: Experts have highlighted that although there is promising data pointing in the direction that Omicron might be a milder variant, certainty will not be provided until there are significant outbreaks among the unvaccinated and communities experiencing vulnerabilities, and if after a considerable period, there is not a significant degree of hospitalization from these populations. The prevailing concern, however, is **that even if the Omicron variant proves to be milder, with a massive number of new cases, a small percentage of hospitalizations could overwhelm healthcare systems**. According to the WHO, this variant has been shown to evade previous immunity in individuals. People who have previously recovered from COVID-19 are three to five times more likely to be reinfected with the new Omicron variant when compared to Delta.

DEN: As of December 21, 2021, Denmark's Omicron variant case data may not be fully representative of the true extent of this outbreak. Health authorities have indicated that due to the sharp increase of COVID-19 infections, the Statens Serum Institut testing strategy has changed, going forward only a portion of positive specimens will undergo variant PCR COVID-19 testing. Previously, until December 19 all positive specimens had been tested with the variant PCR test.

CAN: In a follow-up on the cluster of cases and deaths categorized as a neurological syndrome of unknown origin in the Moncton and the northeastern region of New Brunswick, a [recent media article](#) has indicated that while the official numbers remain at 48 (no changes since our last report on October 2021), the number of cases under investigation has grown up to at least 150 people. This is inclusive of a backlog of cases involving young people amongst caretakers and close contacts of the previous cases. Additional information indicates that this new affected group has no prior underlying conditions, and has mostly presented with rapid weight loss, insomnia, hallucinations, difficulty thinking and limited mobility. Recall that the last BlueDot update highlighted the fact that local authorities have declared that at least eight cases and deaths are the results of "misdiagnoses" and that it was ruled out due to several causes such as food, behavioural, and/or environmental exposure. A new report with findings is expected to be released in early 2022. <https://www.theguardian.com/world/2022/jan/02/neurological-illness-affecting-young-adults-canada>

Spotlight on CAN:

Cases of COVID-19 have been exponentially increasing and have reached a record high in Canada since the beginning of the pandemic. These figures come amid growing concerns from governments and public health officials over the spread of the new, highly contagious Omicron variant (B.1.1.529). As of December 28, 2021, the number of Omicron cases in Canada has reached 9,297. While the Delta variant (B.1.617.2) is still spreading in many areas, the rapid rise in cases during this fifth wave across many provinces is mostly attributed to the Omicron variant.

In less than a week, there has been a rapid acceleration of epidemic activity in many provinces across Canada:

- **The province of Ontario** marked all-time highs of 10,412 new cases of COVID-19 on December 25 and 9,826 on December 26. As of December 23, Public Health Ontario is reporting a test positivity rate of 18.7%. As of December 28, the province accounts for 16% of the country's total Omicron variant cases.
- Similarly, the **province of Quebec** reported more than 9,000 cases on December 25, and more than 7,000 on December 26. Within a week the total number of cases in the province tripled. As of December 28, the province of Quebec has the largest proportion of confirmed Omicron variant cases nationwide at 36%.
- **The province of Alberta** has reported about 6,300 cases since December 22, this is the highest jump in new COVID-19 cases since late May. On Christmas Day, Calgary's positivity rate topped 30%. Alberta is just second to the province of Quebec in the proportion of Omicron variant cases nationwide at 28%.
- It is also noteworthy that, **many new COVID-19 outbreaks have been reported in Canadian schools and childcare centers** in the first weeks of December, driving up the infection rate for kids under 12. As of December 12, there were over 380,000 reported cases in children and youths up to 19 years of age. This is a susceptible group (i.e., between the ages of five and 11) given the low vaccine coverage.
- The infection rate among kids aged five to 11 has been over 20 cases per 100,000 people - **four times higher than the rate for any other age group**.

While there is a drastic spike in reported cases, it should be noted that this is a **considerable underestimation**. Due to factors such as increased usage of self-administered rapid tests and a lag in testing and reporting as a result of holiday closures, it is expected that the true number of cases is much higher.

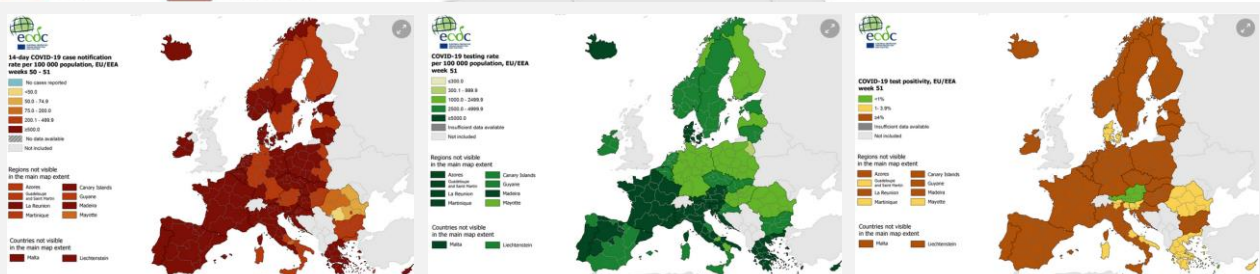
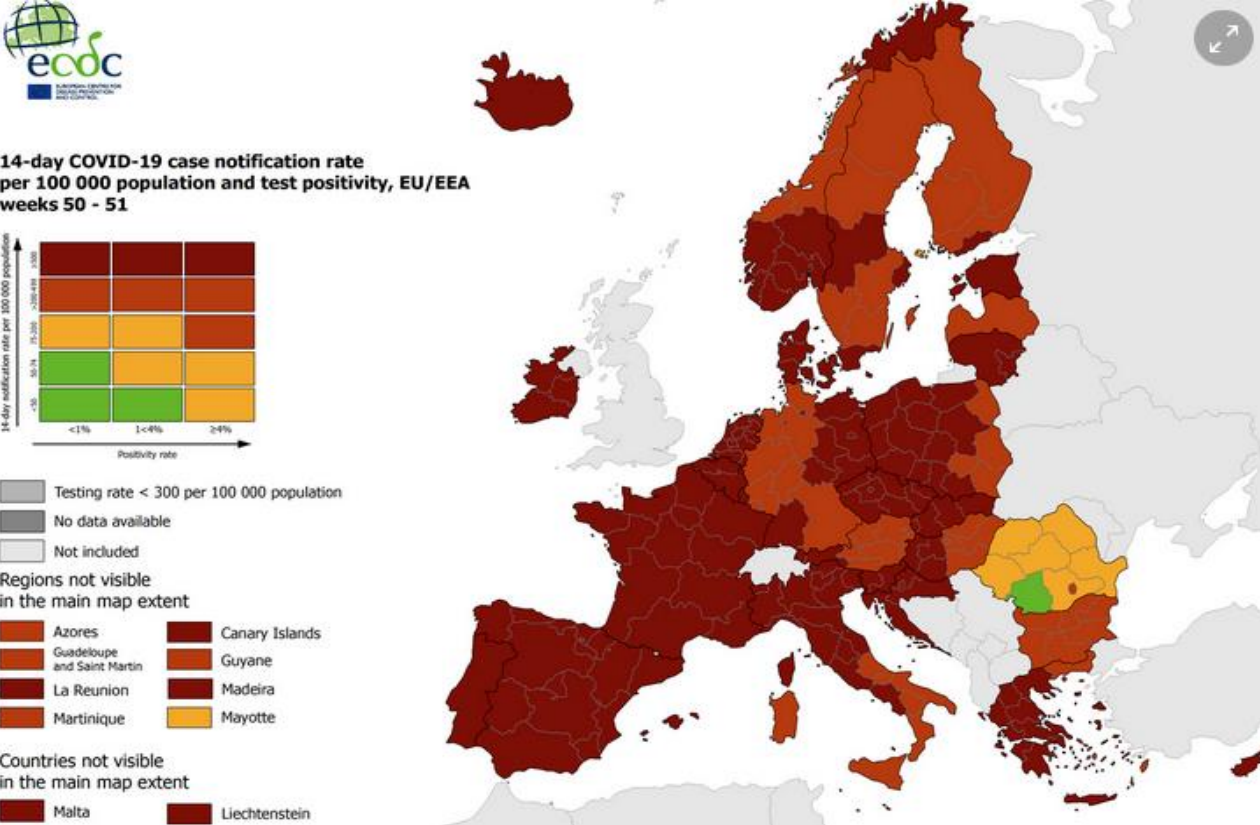
Despite significant surges nationwide, preliminary Omicron variant data across Canada has so far shown that although the variant has the potential to spread faster than the Delta variant, hospitalizations, and severity, has not increased. The Public Health Agency of Canada has released a report on Omicron variant data. This report contains data up until December 21 and is based on 4,166 Omicron variant cases. Experts, however, have highlighted that **this data is preliminary and subject to change** as it contains data for only three weeks since the first Omicron variant was reported:

- Of the total Omicron cases, **fewer than 1%** have so far required hospitalization across the country. This compares to a hospitalization rate of 6% for the Delta Variant.
- 77% of individuals infected with the Omicron variant have been under 40 years old, and 71% have been fully vaccinated. Hospitalizations could change as those percentages change.
- No deaths have been associated with confirmed Omicron infection.
- **14%** of total Omicron cases with available information were asymptomatic.

New restrictions across the country are being implemented amid the rising cases. Many provinces have reinstated indoor and outdoor capacity limits for large gatherings, extended holiday school closures to mid-January, and cancelled holiday events.

European Situation

Maps in support of the Council Recommendation on a coordinated approach to the restriction of free movement in response to the COVID-19 pandemic in the EU, as of 30 December 2021



14-day case notification rate per 100 000 inhabitants Testing rates per 100 000 inhabitants Positivity rates

ECDC COVID-19 country overviews report Week 50, as of 23 December 2021

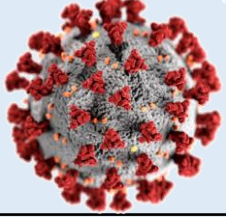
At the end of week 50 (week ending Sunday 19 December 2021), the overall epidemiological situation in the EU/EEA is characterised by a high overall case notification rate which appears to have peaked in the last two weeks and a death rate which has stabilised following a prolonged period of slow increase. High case notification rates or an epidemiological situation of high concern are observed in most EU/EEA Member States. This situation is largely driven by the high transmissibility of the Delta variant, increased spread of Omicron in some countries, and the recent strengthening of non-pharmaceutical interventions in many countries. The overall COVID-19 case notification rate for the EU/EEA was 756.2 per 100 000 population (801.3 the previous week). This rate has been decreasing for one week. The 14-day COVID-19 death rate (59.0 deaths per million population, compared with 59.2 deaths the previous week) has been stable for four weeks. Of 29 countries with data on hospital or ICU admissions or occupancy up to week 50, nine reported an increasing trend in at least one of these indicators compared to the previous week. ECDC's assessment of each country's epidemiological situation is based on a composite score based on the absolute value and trend of five weekly COVID-19 epidemiological indicators. As shown below, for week 50, 22 countries (Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Malta, the Netherlands, Norway, Poland, Slovakia, Spain and Sweden) were categorised as of high concern, seven countries (Austria, Belgium, Bulgaria, Greece, Luxembourg, Portugal and Slovenia) as of moderate concern and one country (Romania) as of low concern. Compared with the previous week, two countries (Iceland and Malta) moved to a higher category, six countries (Belgium, France, Liechtenstein, Luxembourg and Portugal) moved to a lower category and 22 countries stayed in the same category. Forecasts of cases and deaths from the [European COVID-19 Forecast Hub](#) and of hospital and ICU admissions produced by ECDC provide predictions for weeks 51 and 52. Compared with the current week, increasing trends in cases, stable trends in hospital admissions, decreasing trends in ICU admissions and stable trends in deaths are forecast in the EU/EEA by the end of week 52. By the end of week 50, the cumulative uptake of at least one vaccine dose in the EU/EEA was 83.6% (range: 33.5–100.0%; pooled data from 30 countries) among adults aged 18 years and older and 72.1% (range: 28.1–90.1%; pooled data from 30 countries) in the total population. Cumulative uptake of full vaccination was 79.2% (country range: 32.2–96.3%) among adults aged 18 years and older and 67.8% (country range: 27.0–82.5%) in the total population.

The estimated distribution (median and range of values from 22 countries for weeks 48 to 49, 29 November to 12 December 2021) of variants of concern (VOC) was 96.0% (79.1–99.9%) for B.1.617.2 (Delta), 1.3% (0.0–12.2%) for B.1.1.529 (Omicron) and 0.0% (0.0–0.1%) for B.1.351 (Beta). The distribution was 0.0% (0.0–1.5%) for B.1.1.7 (Alpha), which was downgraded from the list of VOCs on 3 September 2021. B.1.1.529 (Omicron) is being detected in increasing numbers in multiple EU/EEA countries, some of which report community transmission. A description of trends in aggregate detections and of the epidemiology of 4 786 reported cases is available in the [virus variants summary](#) and [variants](#) sections.

Weekly COVID-19 epidemiological category by country, weeks 36 to 50 2021
Composite score (1-10) based on value and trend of five indicators. Categories are derived from score quintiles.

Level of concern	very low (1 - 2.8)	low (2.8 - 4.6)	moderate (4.6 - 6.4)	high (6.4 - 8.2)	very high (8.2 - 10)
EU/EEA	4.2	4.2	4.2	4.7	6.3
Austria	5.7	6.3	4.0	3.7	5.0
Belgium	4.6	4.1	4.5	3.6	3.1
Bulgaria	6.7	6.8	6.1	6.0	6.0
Croatia	7.3	6.7	6.3	6.2	6.2
Cyprus	4.5	3.4	3.5	3.5	4.5
Czechia	3.7	3.7	4.0	4.0	4.0
Denmark	3.7	2.6	2.3	4.0	4.6
Estonia	7.3	7.5	6.3	6.7	6.3
Finland	4.3	4.3	4.0	4.0	4.0
France	6.0	5.8	6.5	7.0	6.0
Germany	4.0	4.5	4.3	5.0	6.0
Greece	5.8	5.6	5.6	5.6	6.7
Hungary	3.7	4.7	5.0	5.0	6.0
Iceland	3.5	3.6	4.2	4.6	4.0
Ireland	6.0	6.0	6.5	7.0	6.0
Italy	4.0	3.8	2.7	2.2	2.3
Latvia	6.3	7.3	6.7	6.0	6.3
Liechtenstein	7.7	4.4	4.2	3.7	2.9
Lithuania	6.0	6.2	6.0	6.3	6.2
Malta	4.8	3.3	3.5	1.7	3.5
Netherlands	4.6	3.7	3.5	4.0	4.6
Norway	6.0	4.2	3.7	4.0	4.0
Poland	3.9	3.9	3.7	4.3	4.0
Portugal	3.7	3.9	3.8	2.8	3.7
Romania	7.3	6.3	6.3	6.7	10.0
Slovakia	4.1	4.3	4.6	7.0	8.0
Slovenia	7.7	6.0	7.3	6.5	4.0
Spain	3.5	2.8	2.8	2.3	2.8
Sweden	6.0	6.6	6.0	2.7	3.0

14-day case notification rate per 100 000 inhabitants Testing rates per 100 000 inhabitants Positivity rates



Vaccination News



Globally, a total of 8.81 billion doses of a COVID-19 vaccine have been administered, with 10 countries accounting for 65% of all vaccinations as of January 3. The top five countries/territories with the highest number of cumulative people fully vaccinated per 100,000 population are Gibraltar (118,920), the United Arab Emirates (90,680), Portugal (89,530), Brunei Darussalam (87,290), and Singapore (87,000). Conversely, the top five countries with the lowest number of cumulative people fully vaccinated per 100,000 population are Burundi (30), the Democratic Republic of Congo (110), Chad (480), Haiti (640), and Guinea-Bissau (1,150).

There have been five WHO-labeled variants of concern (VOCs) designated since the start of the pandemic; a classification applied to variants that exhibit increased infectivity and/or transmissibility. The designation of VOCs includes Alpha (B.1.1.7) and Beta (B.1.351) on December 18, 2020, Gamma (P.1) on January 11, 2021, Delta (B.1.617.2) on May 11, 2021, and Omicron (B.1.1.529) on November 26, 2021.

WHO: As we enter the third year of the pandemic, some experts have said that COVID-19 may transition into an endemic disease. It is important to note that new variants could still emerge, and it is unlikely that the virus will be eradicated entirely. However, it is possible that there may be low levels of transmission with occasional outbreaks among under-vaccinated populations. The WHO continues to advocate for equitable distribution of vaccines around the world. Currently, **the WHO target is to vaccinate 70% of the population by mid-2022**, which will require at least 11 billion COVID-19 vaccine doses and collaborative efforts through institutions such as COVAX, the African Vaccine Acquisition Trust (AVAT) and other bilateral contracts. [Source: WHO](#)

WHO: On December 17 WHO issued an emergency use listing (EUL) for NVX-CoV2373. The vaccine, named CovovaxTM, is produced by the Serum Institute of India under licence from Novavax. On December 10th they issued an emergency use listing (EUL) for Nuvaxovid, following its assessment and approval by the European Medicines Agency (EMA) earlier that day. The vaccine was developed by Novavax and the Coalition for Epidemic Preparedness Innovations (CEPI), and is the originator product for the CovovaxTM vaccine that received WHO emergency use listing on 17 December. Both vaccines are made using the same technologies. They require two doses and are stable at 2 to 8 °C refrigerated temperatures.

[Source: WHO and here](#)

Pfizer: Pfizer and BioNTech announced through a press release that an evaluation of **third doses** of the COVID-19 vaccine (Comirnaty) **two months after the second dose** will be included in an ongoing clinical trial for children **six months to five years** of age. This additional dose will be at the same concentration (3 µg) as the initial two-dose series for the six months to five years age group (determined through an earlier dose-escalation study). A scheduled analysis of a small subset (sample size undefined) of the participants one month after the second dose suggests that the vaccine is at least equally effective in the six to 24-month age group as the 16 to 25 year age group after a two-dose series. The results, however, indicate that the **two to five year age group did not meet the same non-inferiority margin after the second dose alone, which may necessitate a third dose for appropriate protection.**

Additional third dose studies will include the age groups five to 12 years (dose of 10 µg) and 12 to 17 years (dose of 10 µg or 30 µg). The decision to assess third doses (boosters) in children and adolescents was prompted **by the vaccine effectiveness of the additional dose in people 16 years and older and the protection gained against variants of concern, including Omicron.** The company will submit for an **Emergency Use Authorization** with regulatory bodies for boosters in the **six month to five year age group** in early 2022 based on further results from the clinical trial. [Source: here.](#)

What does available research suggest about vaccine effectiveness against Omicron?

Preliminary results from test [negative case control study in the United Kingdom](#) included 56,439 Delta cases and 581 Omicron cases to assess vaccine effectiveness against symptomatic infections from November 27 to December 6. Individuals received either AstraZeneca or Pfizer vaccine for the first two doses and Pfizer only for the third dose. Results indicate that vaccination is less effective against infection with the Omicron than the Delta variant regardless of the number of doses. **However, a third dose of the Pfizer vaccine increased vaccine effectiveness in preventing symptomatic infection to 71% (AstraZeneca primary course) or 76% (Pfizer primary course) two weeks after receiving the third dose.** The longer-term duration of this effect cannot be ascertained until sufficient time has elapsed and studies can be performed.

Preliminary results on vaccine efficacy against the [Omicron variant was announced by BioNTech](#) as a press release and a [pre-print study from the Africa Health Research Institute](#). Both small studies suggest a **reduction in neutralization against the Omicron variant compared to the ancestral strain after two doses of the BioNTech vaccine.** However, **vaccination with a third dose restores neutralization against the Omicron variant to similar antibody levels as two doses against the ancestral strain.** However, in individuals who received two doses of BioNTech vaccine and had a previous infection with a non-Omicron lineage, there was still a reduction in neutralization against the Omicron variant compared to the ancestral strain.

Increased protection following an additional Pfizer dose is also supported by [preliminary work from the Israel's Sheba Medical Center and Health Ministry's Central Virology Laboratory](#). Researchers assessed the serum of vaccinated individuals 6 months after a second dose of the Pfizer/BioNTech vaccine and those one month after receiving an additional dose of the same vaccine for neutralizing antibody titers against the Omicron variant. Results suggest that the individuals vaccinated with two doses post-six months may have limited protection against infection with the Omicron variant, while an additional dose provides significantly increased protection. However, the level of protection provided by three doses against infection with Omicron is estimated to be four times lower than a third dose against the Delta variant. Notably, this does not include protection derived from a cellular immune response and it has been indicated earlier that a third dose strongly increases T cell (CD8+) levels against multiple spike protein epitopes, which may provide added protection against severe disease.

Conclusion

The assessment at this time continues to support the anticipation of more breakthrough infections in vaccinated individuals and those with immunity from previous infections. We may see less impact on the rate of severe disease among those infected who have pre-existing immunity acquired through vaccination or natural infection, but longitudinal data is needed to confirm this hypothesis. The extremely high transmissibility observed to date will likely pose a challenge in disease management (although the severity of illness among both vaccinated and unvaccinated individuals, is still not well understood). The current two dose regime is insufficient to provide adequate protection against infections from the Omicron variant and a third dose of a COVID-19 vaccine is warranted. Data on immunity over time after a third dose and protection with the other available vaccine types is required.

FDA: On January 03 the U.S. Food and Drug Administration amended the emergency use authorization (EUA) for the Pfizer-BioNTech COVID-19 Vaccine to:

- Expand the use of a single booster dose to include use in individuals 12 through 15 years of age.
- Shorten the time between the completion of primary vaccination of the Pfizer-BioNTech COVID-19 Vaccine and a booster dose to at least five months.
- Allow for a third primary series dose for certain immunocompromised children 5 through 11 years of age.

[Source: https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-takes-multiple-actions-expand-use-pfizer-biontech-covid-19-vaccine](https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-takes-multiple-actions-expand-use-pfizer-biontech-covid-19-vaccine)

European Situation on Vaccination

Source: <https://gap.ecdc.europa.eu/public/extensions/COVID-19/vaccine-tracker.html#uptake-tab>

Total doses distributed to EU/EEA countries

943,173,325

741,702,669

Total doses administered in EU/EEA countries

Indicator: Uptake full vaccination

Country: All EU/EEA countries

Adults 18+

Total Population

EU

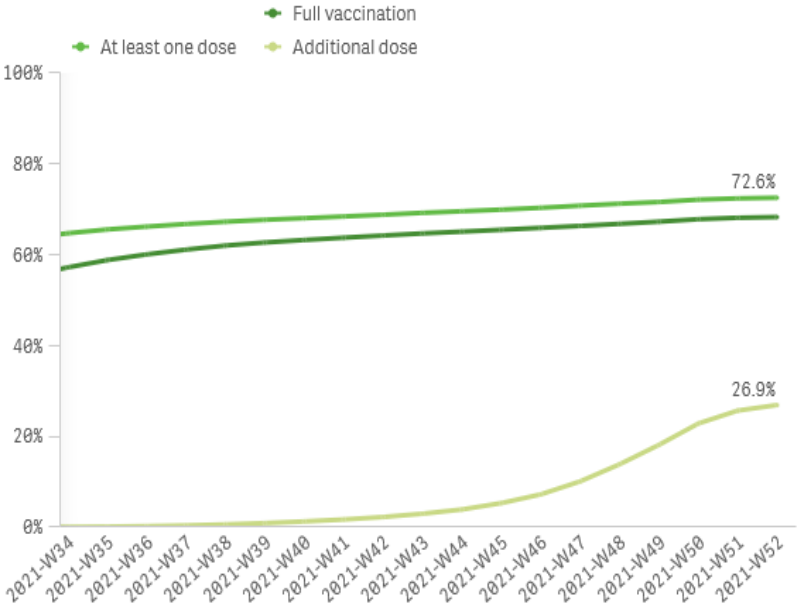
EU/EEA

Cumulative uptake of at least one dose in the total population in EU/EEA	Cumulative uptake of full vaccination in the total population in EU/EEA
72.6%	68.3%

Number of people with at least one dose in EU/EEA	Number of full vaccinations in the total population in EU/EEA
328,777,622	309,485,857

Cumulative vaccine uptake (%) in the total population in EU/EEA countries as of 2022-01-04

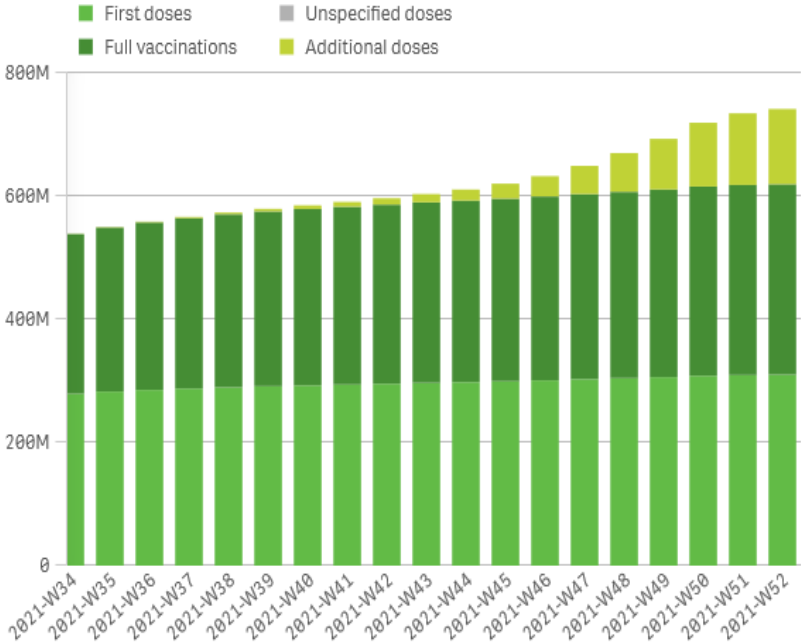
by reporting week (data for the current week are preliminary)



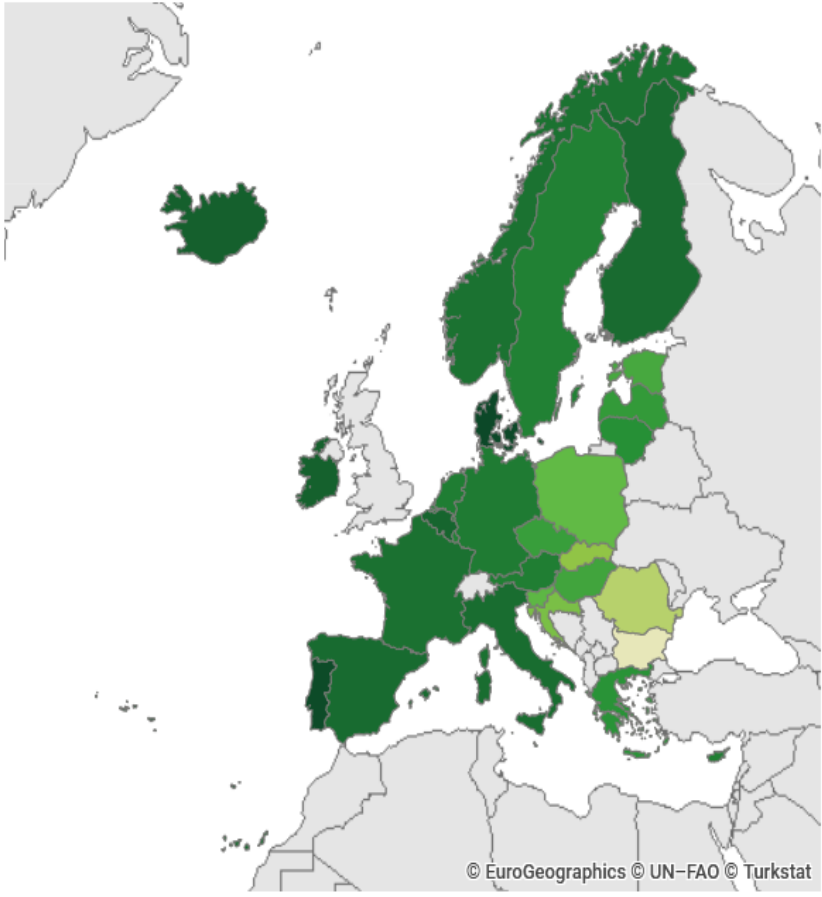
Uptake (%) of additional vaccine dose is based on 30 countries

Cumulative number of vaccine doses administered to the total population in EU/EEA countries as of 2022-01-04

by reporting week (data for current week are preliminary)



Cumulative uptake (%) of full vaccination in the total population in EU/EEA countries as of 2022-01-04



Uptake full vaccination (%)



SARS-CoV-2 Variant of Concern: Omicron (B.1.1.529)



As of January 3, the Omicron variant has spread to 132 countries/ territories. The top five countries reporting the highest number of Omicron-related cases include **the United Kingdom** (246,780), **Denmark** (57,125), **the United States** (33,120), **Germany** (30,325), and **Norway** (16,312). Due to about 50 mutations in the Omicron variant making it more transmissible, cases worldwide have quickly surged. Several countries report that it has already become a dominant strain within their borders, such as the United States, France, Portugal, and the United Kingdom. It is suspected that most cases of infection are mild, but due to the magnitude of infections, it is straining healthcare systems around the world. Cases counts are expected to continue to rise as lags in testing during holiday closures catch up and people return from holiday breaks.

Globally, many countries have implemented new restrictions to curb new infections from this recent variant. Countries like Canada, Portugal, and Germany have reinstated capacity limits for indoor gatherings and ordered extended closures of schools and establishments such as bars, restaurants, and nightclubs. The Netherlands has mandated a strict lockdown until mid-January. While many countries continue to grapple with controlling the spread of COVID-19, **South Africa announced on December 30, 2021, that it has passed its Omicron fourth wave. The variant peaked in South Africa within four weeks of detection and quickly declined within the following two weeks.**

Notable updates

On December 14, 2021, Discovery Health - South Africa's largest private health insurance administrator- released **the first real-world analysis of Omicron variant outbreak**. Discovery Health explored the components of Omicron infection, including the rate of spread, the severity of illness relative to prior waves, clinical manifestations, and the relative reduction of risk conferred by prior proven COVID-19 infection.

Our partner BlueDot has summarized these findings and provided further insights. Please note that this represents preliminary data as it is based on the first three weeks of the outbreak in South Africa, and thus, is subject to change. This data is inclusive of **211,000 positive COVID-19 PCR test results**, of which **41%** are from adult members had received two doses of the Pfizer-BioNTech vaccine. Approximately **78,000 (37%)** of these COVID-19 test results were attributed to Omicron variant between November 15, 2021, and December 7, 2021 [\(1\)](#):

1. For South Africa's Omicron variant wave, **hospital admission is at 20%** of what was seen during the peak of the Delta wave, of note the peak of Omicron is yet to be determined.
2. According to preliminary data, there is evidence that among **non-hospitalized Omicron variant cases**:
 - 2.1. There is a **higher rate of breakthrough infections**.
 - 2.2. A **shorter incubation period (3-4 days)**, but also, a faster recovery (within three days).
3. Among Omicron variant cases that **required hospitalization**:
 - 3.1. Many hospitalized patients are unvaccinated while **16%** are fully vaccinated
 - 3.2. The proportion of patients that require **oxygen supply and ICU care is lower**.
4. Overall, the **risk of re-infection** (following prior confirmed infection) is **increased with Omicron variant**:
 - 4.1. People who were infected with COVID-19 in South Africa's third wave (Delta variant) face a **40%** relative risk of reinfection with Omicron variant.
 - 4.2. People who were infected with COVID-19 in South Africa's second wave (Beta variant) face a **60%** relative risk of reinfection with Omicron.
 - 4.3. People who were infected with COVID-19 in South Africa's first wave (D614G mutation) face a **75%** relative risk of reinfection with Omicron.
5. The **two-dose Pfizer-BioNTech vaccination** provides significant protection against hospitalizations across individuals with Omicron variant infection, however, there is an overall reduction from **80% to 33% protection against infection**.

These data reported from **South Africa evidenced a lower hospitalization rate of Omicron variant infections when compared with Delta variant cases**. This **contrasts with the latest report from Denmark** released on December 20 with data gathered from November 22 to December 15. Denmark's report showed that the **proportion of cases hospitalized Omicron variant cases has been similar**, even slightly lower, to the proportion of those infected by other variants in the same timeframe, including Delta variant. This **highlights** the diversity of immune responses across different populations and geographies, but also how other factors such as accessibility of testing and genome sequence capacity may contribute to such differences. The WHO has estimated that since the beginning of the pandemic, more than 70 million COVID-19 tests have been reported by African countries, which is only a fraction of the continent's 1.3 billion people (2). To date, **COVID-19 detection in Africa** has focused on people reporting to health facilities with symptoms, in addition to the testing of arriving and departing international travellers. **This has led to large-scale under-reporting given the high percentage of asymptomatic cases on the continent.**

South Africa's excess deaths show that the effects of COVID-19 are far more severe than those reflected in the national data. Excess deaths" or "excess mortality" is a term used to describe the number of deaths occurring above what would be expected for a population of interest, based on the population's mortality rate during normal circumstances. The South African Medical Research Council (SAMRC) compares South Africa's estimated weekly excess deaths with the number of COVID-19 deaths reported by the South African Ministry of Health, to assess what proportion of excess deaths are attributable to COVID-19 (3). As SAMRC does not have the ability to access coded causes of death in real or near-real time, in early 2021 they estimated across South Africa, **85-95% of excess natural deaths were attributable to COVID-19**. The remaining 5-15% may be attributable to collateral causes such as the overwhelming of health service capacity. **More recently, trends have shown that as the estimated excess deaths have begun to decline, the number of confirmed COVID-19 deaths has done the same.** This supports the notion that a **substantial proportion of current mortality in South Africa is attributable to COVID-19**. It is notable that on Dec 12, 2021, SAMRC estimated **2,602 excess deaths but there were only 229 reported COVID-19 deaths** (4). This discrepancy between excess deaths and officially reported COVID-19 deaths has been noted for most of the pandemic. Published research indicates that there may be a large amount of underreporting as officially reported deaths only include individuals who died with a prior positive SARS-CoV-2 test result or tested positive post-mortem. Furthermore, there are known reporting delays which means deaths are recorded by the date of report not the date of occurrence. Although South Africa's officially reported deaths remain low compared to other waves of the pandemic, caution is advised when interpreting officially reported COVID-19 deaths.

References:

1. <https://www.discovery.co.za/corporate/news-room#/documents/press-release-dot-pdf-417948>
2. <https://www.bmj.com/company/newsroom/impact-of-covid-19-in-africa-vastly-underestimated-warn-researchers/>
3. [Report on Weekly Deaths in South Africa | South African Medical Research Council \(samrc.ac.za\)](https://www.samrc.ac.za/sites/default/files/files/2021-12-22/Weekly18Dec2021.pdf)
4. <https://www.samrc.ac.za/sites/default/files/files/2021-12-22/Weekly18Dec2021.pdf>

Practical Recommendations to Prevent Airborne Transmission of SARS-CoV-2



Since the beginning of the pandemic many governing bodies have acknowledged airborne transmission as the predominant way that SARS-CoV-2 spreads. As a result, guidelines on how to better prevent the spread and infection of the SARS-CoV-2 virus require immediate changes to reflect new evidence, since current droplet precautions do not adequately prevent transmission. The Omicron variant (B.1.1.529) is anticipated to cause further issues to healthcare system capacity and community transmission without adequate prevention tactics. While vaccines (particularly 3rd dose coverage for prevention of Omicron variant spread) are one of the most critical tools to protect populations, this report focuses on the airborne mitigations that should be used concurrently.

Airborne transmission of SARS-CoV-2 has largely been overlooked over the course of the pandemic. There are examples of countries, such as the Netherlands and Denmark, where measures were lifted, and airborne transmission was not recognized. The locations subsequently experienced a surge in cases despite relatively high vaccination coverage. With increasingly transmissible and immune-evading variants dominating case incidence, it is currently insufficient to solely rely on vaccines to protect against SARS-CoV-2. The emergence of the Omicron variant with preliminary research indicating substantial immune erosion, particularly in those who have not received third vaccine doses, underscores the dire need to also implement measures against airborne transmission in order to protect schools and businesses, and allow for safe social activities. Fortunately, there are practical measures that can be implemented in general settings (school, work, transit) to address airborne transmission. These include moving towards the use of higher quality masks (beyond cloth masks) for the general population, focusing on improving air ventilation and filtration in indoor spaces, and limiting the duration of possible exposure to virus. These measures alongside continued vaccination efforts are needed to minimize the growth of the COVID-19 outbreak, particularly in the context of the Omicron variant.

What is the difference between droplet and aerosol (airborne) transmission?

There are critical differences between the concepts of droplet and aerosol transmission of respiratory pathogens which impact choices for control measures. Droplets containing respiratory pathogens (>100um) can travel distances of up to 6 feet before dropping to the ground or surfaces. Physical distancing, barriers, and surface cleaning are considered to provide safety against these droplets. On the other hand, aerosols (<100um) behave similarly to smoke; they float and accumulate in the air of enclosed spaces for longer periods of time. Activities such as speaking, singing, breathing, coughing, and sneezing can produce many more aerosols than droplets at close range. Additionally, these common activities have been found to produce more aerosols than aerosol-producing procedures completed at hospitals where aerosol precautions are typically in place.¹ Recently, the Delta variant became the most widely transmitted variant of concern (VoC) globally. The Delta variant produces 1000x the viral load compared to the previous variants circulating during this time, last year.¹ Furthermore, information surrounding the newly identified Omicron VoC suggest that it is more transmissible than the Delta variant and has substantial immune erosion capabilities due to several mutations, further pushing the need to improve guidelines and control measures as quickly as possible wherever they are requiring updates.

Aerosols can travel farther distances and linger for longer periods of time, meaning that physical distancing and other droplet precautions are not adequate for protection against transmission, particularly in indoor settings. As aerosols are much smaller than droplets and linger in the air for prolonged periods (building up in locations with inadequate ventilation), they increase susceptibility to disease, and drive super-spreader events where many people become infected in a given location. With the adoption of airborne transmission precautions, contact tracing should also further evolve into notifying not just close contacts of a case, but also all those who shared airspaces with the case.

What are key steps to prevent Airborne Transmission?

Current precautions focusing on droplet transmission do not adequately prevent the aerosol transmission of SARS-CoV-2 between individuals. In some instances, droplet precautions may actually increase the risk of transmission through aerosols.

For maximum protection, the layered approach (Swiss Cheese model) is the best tactic for preventing transmission of SARS-CoV-2. Reducing the risk of airborne transmission to the lowest possible level involves using a layered prevention approach, often referred to as “the Swiss Cheese model”, where each intervention or policy is a “slice” of cheese. No single slice is perfect at preventing transmission, each has its own flaws (holes). As a result, multiple “slices” or measures should be taken in combination to cover the limitations of each intervention.

Key actions targeting the use of appropriate **masking, improving ventilation, cleaning indoor air, and limiting the duration of exposure**

can be taken at both an individual and institutional levels to prevent airborne transmission. There is urgency to adopt these measures given the high transmissibility and evidence of immune erosion of the Omicron variant.

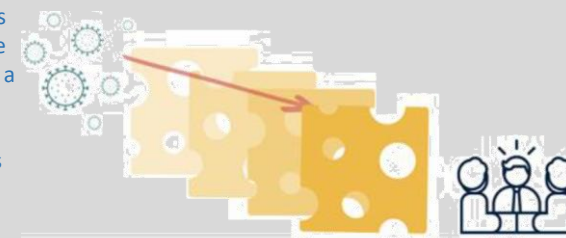


Figure 1. The Swiss Cheese Model

What are some DON'Ts for organizations and institutions to prevent airborne transmission?

Use plexiglass barriers	Unless properly placed, plexiglass can trap aerosol particles in a confined area, and prevent proper airflow through a space. As a result, aerosol particles can be left to linger and concentrate in specific parts of a room, increasing risk of transmission. ⁹	Obstruct portable air filters/ventilators	Improper use of, or obstruction of air filters and ventilators can increase transmission risk. Ensure that portable filters are placed in a central, unobstructed area. ¹⁰
Solely focus on contact transmission	Sanitizing spaces is encouraged, but the risk of SARS-CoV-2 transmission through contact of an infected object is much lower than the risk of transmission through aerosols.	Plan prolonged indoor events, especially in unventilated areas.	The duration of time spent indoors can substantially increase risk of transmission, especially if individuals are talking, shouting, singing, or performing exercise. The longer the exposure in low ventilated areas, the larger the risk.
Use ionizers, plasmas, etc. for filtration or cleaning of the air	Ionizers are not needed to filter viral particles in the air. Additionally, these features can be costly long-term. ⁹	Solely rely on one measure of prevention.	Remember the Swiss Cheese model - No single intervention is 100% effective on its own. Implementing many forms of prevention is key.
Rely on low-filter or cloth masks	These masks do not properly capture smaller particles that can easily turn into aerosol particles. The use of N95 or higher is recommended to properly capture and filter particles. Removing masks indoors is not recommended. ⁹		

Concluding Remarks

The COVID-19 pandemic has been a constantly evolving situation, requiring changes to guidelines and prevention measures. Similar to the Cholera epidemic and John Snow’s impact of recognizing the importance of water treatment systems, the recognition of airborne transmission of SARS-CoV-2 and implementation of appropriate strategies to control its spread not only creates immediate impacts on transmission, but long-term solutions for the prevention of illness and improved wellness. Upgrading building ventilation and filtration mechanisms and focusing on improving indoor air quality are long-term solutions that benefit the health and safety of all occupants. Many countries are ill-prepared to contain the spread of new variants with increased transmissibility and immune erosion capabilities (such as being observed with the Omicron variant) using droplet-based transmission prevention methods. Furthermore, adopting approaches that consider the airborne nature of transmission of SARS-CoV-2 will protect populations from other respiratory diseases and promote wellness, as well as protect against future pandemic threats.

Source: <https://www.eventbrite.ca/e/something-in-the-air-aerosol-and-pandemics-tickets-191703639747?https://www.sciencedirect.com/science/article/pii/S0048969721028357https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.htmlhttps://search.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/en/ppmedrxiv-21263684>

Other Infectious Disease Outbreaks / Human Disasters



Varicella

Kazakhstan - Cases of varicella (also known as chickenpox) continued to be reported in Almaty city, Kazakhstan's largest metropolis since the beginning of 2021. According to officially available information as of November 20, there was a 30% decrease when compared to the same period in 2020. In addition, according to the epidemiological report, the highest incidence was among children under the age of 14 at 87.4%, whereas 11.6% were among adults. Varicella cases in Kazakhstan were highest between 2013-2017 when more than 50,000 cases were reported every year, however a significant decrease has been confirmed since 2020.

Source: ProMed - <https://promedmail.org/promed-post/?id=8700641>

Visceral Leishmaniasis

India - Cases of visceral leishmaniasis (also known as Kala-Azar), and associated deaths have reached a seven-year peak according to data available from the National Center for Vector-Borne Diseases Control Program (NVBDCP) of the Union Health Ministry. The states with the highest incidence are Bihar, followed by Jharkhand. The World Health Organization estimates that there are approximately 50,000 to 90,000 visceral leishmaniasis cases worldwide yearly, of which India accounts for about two-thirds of the total global cases. In India, the disease is endemic in Bihar, Jharkhand, Kerala, Sikkim, Uttar Pradesh, and West Bengal.

Source: ProMed - <https://promedmail.org/promed-post/?id=8700621>

Unknown Illness

South Sudan - In a follow-up on the unknown illness in Fangak County, within Jonglei State in South Sudan, media reports have stated that, so far, 97 people have now succumbed to the disease. According to South Sudan's Ministry of Health, the reported deaths have been mostly among elderly individuals and children one to 14 years of age. The symptoms have included cough, diarrhea, fever, headache, chest pain, joint pain, loss of appetite, and body weakness. Officials have stated that the WHO team previously sent to investigate the outbreak in Fangak have since left the region but have not yet communicated their findings to local officials. Nongovernmental organizations have delivered medical supplies to Fangak and are in the process of setting up mobile clinical to help treat affected individuals.

Source: NewsMedia - <https://abcnews.go.com/Health/investigating-mysterious-illness-south-sudan-killed-100-people/story?id=81913388>

Cholera

Cameroon - Since the beginning of 2021, Cameroon has reported sporadic cases of cholera. During week 43 of 2021, ending on 31 October, health authorities declared a cholera outbreak that is currently active in the South-West region, with cases also reported from the Centre and Littoral regions. Between 25 October and 10 December 2021, these three regions reported a cumulative number of 309 suspected and 4 laboratory-confirmed cholera cases, with 19 deaths (case fatality ratio (CFR) of 6.1%). The South-West region, reported the first two cases on 27 October in Kesse area, Bamusso commune in Ekondo Titi health district. Two stool samples were collected from the cases and tested positive for cholera by culture at the Laquintinie Hospital laboratory in Douala. As of 10 December, a cumulative number of 163 suspected cases with 7 deaths (CFR 4.3%) have been identified in Ekondo Titi health district. Sixty-six percent of cases were male and 16.6% were under the age of five. The outbreak has spread to the neighbouring health district of Bakassi, with 95 suspected cases and 11 deaths (CFR 11.6%). On 28 October 2021, the Centre region, notified a suspected case of cholera with no epidemiological link to cases reported in the South-West region, from the health area of Akok-Ndoe, Biyem-Assi health district part of the urban community of Yaoundé, the capital of Cameroon. A stool sample tested positive for cholera by Rapid Diagnostic Test, and on 29 October was confirmed positive by PCR and culture for Vibrio cholerae at the Pasteur Centre of Cameroon, Yaounde. A cumulative number of 50 suspected cases and one death (CFR 2%) have been reported from Biyem-Assi health district. Of these 52% were male and 8% were under the age of five. The last case to date in the Centre region was reported on 11 November 2021.

Source: WHO - <https://www.who.int/emergencies/disease-outbreak-news/item/cholera-cameroon>

Ebola Virus Disease

Democratic Republic of the Congo - On 16 December 2021, the Ministry of Health (MoH) of the Democratic Republic of the Congo (DRC) declared the end of the Ebola virus disease (EVD) outbreak that affected Beni Health Zone (HZ) in North Kivu Province, DRC. The declaration was made in accordance with WHO recommendations, 42-days after the second negative test of the last confirmed case.

Source: WHO - <https://www.who.int/emergencies/disease-outbreak-news/item/2021-DON351>

Hepatitis E Virus

South Sudan - Cases of Hepatitis E Virus (HEV) have been consistently reported in South Sudan since 2014, with recurrent outbreaks occurring in Bentiu, Rubkona county, Unity state (central-north part of South Sudan), where a camp for internally displaced persons (IDP) is located. In 2021, the number HEV cases have risen significantly in the country, increasing from 564 reported during the triennium 2018-2020, to 1143 suspected cases with five deaths in 2021 (as of 29 November). In last two years (2020-2021), a total of 1420 suspected cases were reported, of which 47 have been laboratory confirmed. The current 2021 outbreak is occurring in Unity State, with cases mainly being reported from Bentiu IDP camp. A proportion of cases (323; 28.3%) has been reported from outside the camp, in Bentiu and Rubkona towns, suggesting ongoing transmission in the surrounding community.

Source: WHO - <https://www.who.int/emergencies/disease-outbreak-news/item/hepatitis-e-virus-republic-of-south-sudan>

Yellow fever

West and Central Africa - In 2021, nine countries in the WHO African Region (Cameroon, Chad, Central African Republic (CAR), Côte d'Ivoire, the Democratic Republic of Congo (DRC), Ghana, Niger, Nigeria, and Republic of Congo,) reported human laboratory confirmed cases of yellow fever (YF) in areas that are at high risk for the disease and have a history of YF transmission and outbreaks. These outbreaks are growing in case numbers, necessitating an urgent response. Source: WHO - <https://www.who.int/emergencies/disease-outbreak-news/item/yellow-fever---west-and-central-africa>

Influenza

Europe - Week 50/2021 (13 December - 19 December 2021)

- Influenza activity continues to increase throughout the European Region particularly in countries of the Northern and Eastern areas of the Region.
- Albania, Kazakhstan, Kosovo*, Norway, Russian Federation and Sweden reported widespread influenza activity and/or medium to high influenza intensity.
- 9.5% of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms tested positive for influenza virus, with a predominance of A(H3) viruses.
- The influenza epidemic threshold is usually defined as two consecutive weeks in which, at the European Region level, $\geq 10\%$ of patients in sentinel primary care settings tested positive for influenza virus infection. Following on from 11.7% of such patients testing positive for an influenza virus in week 49/2021, there was 9.5% positivity in week 50/2021. Given how close this is to the threshold and in light of the on-going COVID-19 pandemic with its impact on health care systems, we consider it prudent not to wait for additional data (which often leads to a retrospective increase of prior weeks' positivity rates) before defining the influenza epidemic to have started.
- Five countries reported seasonal influenza activity above the 10% positivity threshold in sentinel primary care or hospital settings: Israel (66%), Armenia (47%), Sweden (43%), Russian Federation (35%), Republic of Moldova: (15%).
- Hospitalized cases with confirmed influenza virus infection were reported from intensive care units and SARI surveillance.
- Both influenza type A and type B viruses were detected with a dominance of A(H3) viruses across all monitoring systems and in nearly all SARI cases.

Source: ECDC - <https://flunewseurope.org/>

Travel Recommendations and other Useful Links

Travel Recommendations

Many countries have halted some or all international travel since the onset of the COVID-19 pandemic but now have re-open travel some already closed public-travel again. This document outlines key considerations for national health authorities when considering or implementing the gradual return to international travel operations.

The decision-making process should be multisectoral and ensure coordination of the measures implemented by national and international transport authorities and other relevant sectors and be aligned with the overall national strategies for adjusting public health and social measures.

Travel has been shown to facilitate the spread of COVID-19 from affected to unaffected areas. Travel and trade restrictions during a public health event of international concern (PHEIC) are regulated under the International Health Regulations (IHR), part III.

The majority of measures taken by WHO Member States relate to the denial of entry of passengers from countries experiencing outbreaks, followed by flight suspensions, visa restrictions, border closures, and quarantine measures. Currently there are exceptions foreseen for travellers with an essential function or need.

Information on COVID-19 testing and quarantine of air travellers in the EU and the US you can find following the link:

- <https://www.ecdc.europa.eu/en/publications-data/guidelines-covid-19-testing-and-quarantine-airtravellers>
- <https://www.cdc.gov/coronavirus/2019-ncov/travelers/how-level-is-determined.html>

More information about traveling worldwide:

- National regulation regarding travel restrictions, flight operation and screening for single countries you will find [here](#) (US) and [here](#) (EU).
- Official IATA travel restrictions. You will find [here](#).

More information about traveling in the EU

- by the **European Commission** you will find here:

<https://www.consilium.europa.eu/en/policies/coronavirus/covid-19-travel-and-transport/>

- The **ECDC** publishes a map of EU Member States, broken down by regions, which show the risk levels across the regions in Europe using a traffic light system. Find it [here](#).

As a general rule, information on new measures will be published 24 hours before they come into effect.

All information should also be made available on [Re-open EU](#), which should contain a cross-reference to the map published regularly by the European Centre for Disease Prevention and Control.

Useful links

ECDC:

- [All info about the COVID-19 pandemic](#); (situation updates, latest news and reports, risk assessments etc.)
- [COVID-19 Vaccine tracker](#)
- [SARS-CoV-2 variants dashboard](#) for EU
- [Latest Risk assessment on COVID-19](#), 15 Feb 2021
- All “guidance’s and technical reports” can be found under “All COVID-19 outputs” on this page [here](#)

WHO:

- Epi-WIN [webinars and updates](#)
- Status of “[COVID-19 Vaccines within WHO](#) EUL/PQ evaluation process” and the “Draft landscape and tracker of [COVID-19 candidate vaccines](#)”
- Weekly [Epidemiological and operational updates](#)
- COVID-19 new variants: [Knowledge gaps and research](#)
- COVID-19 [Dashboard](#)
- [Vaccines explained](#)
- Tracking [SARS-CoV-2 variants](#)
- Science in 5: [WHO’s series on science and COVID-19](#)
- [Quick links](#)

CDC:

- COVID [Data Tracker](#) and [weekly review](#)
- [What’s new and Updated](#)
- [Guidance for COVID-19](#)

References:

- European Centre for Disease Prevention and Control www.ecdc.europa.eu
- World Health Organization WHO; www.who.int
- Centres for Disease Control and Prevention CDC; www.cdc.gov
- European Commission; https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-and-transportation-during-coronavirus-pandemic_en
- Our World in Data; <https://ourworldindata.org/coronavirus>
- Morgenpost; <https://interaktiv.morgenpost.de/corona-virus-karte-infektionen-deutschland-weltweit/>
- BlueDot; <https://bluedot.global/>