



# Update 94 COVID-19 Coronavirus Disease 01 December 2021



## GLOBAL



263 010 414

Confirmed cases

248 900 000 recovered

5 218 330 deaths

## USA

(7-days incidence 173,4)



48 339 181

confirmed cases

46 170 000 recovered

776 514 deaths

## India

(7-days incidence 4,5)



34 596 776

confirmed cases

33 970 000 recovered

469 247 deaths

## Brazil

(7-days incidence 35,3)



22 094 459

confirmed cases

21 330 000 recovered

614 681 deaths

### News:

- **WHO:** will hold a [Pandemic Ethics and Policy Summit](#) to discuss about bridging the gap between ethics and decision-making in pandemics.
- **WHO:** Released a [joint statement](#) on dose donation of COVID-19 vaccines to African countries including standards for donation.
- **WHO:** Published more information about the Omicron variant. Find the information [here](#) and [here](#).
- **ECDC:** Find the Epidemiological update on the Omicron variant of concern [here](#).
- **WHO:** Published an [interim statement on COVID-19 vaccination for children and adolescents](#) examining the role of COVID-19 vaccines in adolescents and children in the global context of inequitable vaccine distribution across countries and globally limited vaccine supply.
- **WHO/MPP:** Announced the [first transparent, global, non-exclusive licence](#) for COVID-19 serological antibody technology. The test effectively checks for the presence of anti-SARS-CoV-2 antibodies developed either in response to a COVID-19 infection or to a vaccine.
- **WHO/ECDC:** A [new study](#) estimates that 470,000 lives have been saved among those aged 60 years and over since the start of COVID-19 vaccination roll-out in 33 countries across the WHO European Region.
- **ECDC:** Published a [technical report on surveillance of COVID-19](#) in long term care facilities in the EU.
- **ECDC:** Published an [assessment on the current SARS-CoV-2 epidemiological situation](#) in the EU/EEA, with a projections for the end-of-year festive season and strategies for response.
- **WHO:** Updated their [advice for international traffic](#) in relation to the SARS-CoV-2 Omicron variant (B.1.1.529).

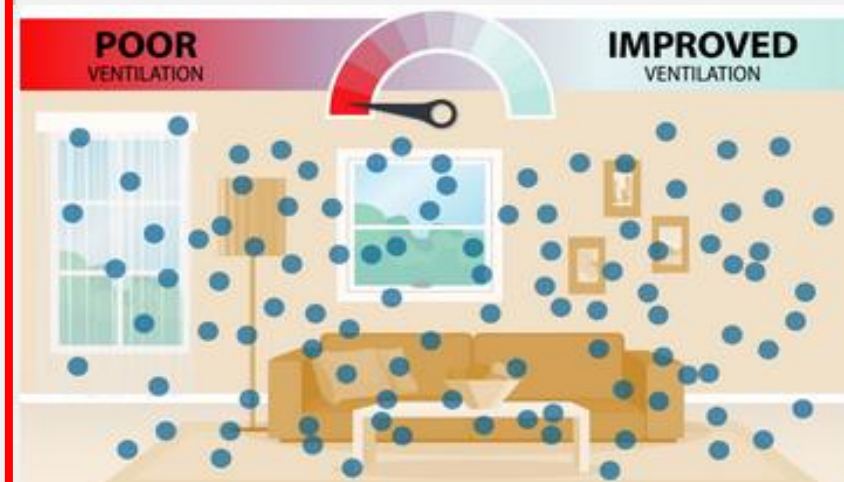
### Topics:

- Global situation
- European situation
- Vaccination news
- SARS-CoV-2 VOIs and VOCs
- Poster "Crowd adaptive mask" presented at the Force Health Protection Event
- Flu Awareness Campaign 2021
- Other Infectious Disease Outbreaks

**0%** particle reduction achieved in your home by using ventilation.

The risk of getting COVID-19 varies according to individual susceptibility and the number of virus particles to which a person is exposed. The **fewer** virus particles in the air, the better.

You can decrease particles even more by continuing to ventilate for an extra hour after the visitor leaves.



#### Disclaimer:

This update provided by the NATO Centre of Excellence (NATO MILMED COE) on its website is for general information purposes only and cannot be considered as official recommendation. All national and international laws, regulations, and guidelines as well as military orders supersede this information.

All information is provided in good faith, however, the NATO MILMED COE makes no representation or warranty of any kind, express or implied, regarding the accuracy, adequacy, validity, reliability, availability or completeness of any information.

The information published on this website is not intended to substitute professional medical advice, diagnosis or treatment.

The NATO MILMED COE disclaim any liability in connection with the use of this information.

## EUROPE



83 302 463

confirmed cases

75 980 000

recovered

1 495 293 deaths

## GBR

(7-days incidence 446,1)



10 228 776

confirmed cases

9 429 000 recovered

144 969 deaths

## Russia

(7-days incidence 156,9)



9 468 640

confirmed cases

8 651 000 recovered

269 900 deaths

## Turkey

(7-days incidence 239,5)



8 797 558

confirmed cases

8 334 000 recovered

76 842 deaths

# Situation by WHO Region, as of 28 November

## Global epidemiological situation overview; WHO as of 28 November 2021

Globally, weekly case incidence plateaued this week (22-28 November 2021), with nearly 3.8 million confirmed new cases reported, similar to the previous week's figures. However, new weekly deaths decreased by 10% in the past seven days as compared to the previous week, with over 47 500 new deaths reported. As of 28 November, over 260 million confirmed cases and nearly 5.2 million deaths have been reported globally.

The African, Western Pacific and European Regions reported increases in new weekly cases of 93%, 24% and 7%, respectively, while the Regions of the Americas and South-East Asia reported decreases of 24% and 11%, respectively. To note, the increase in the African Region was largely due to batch reporting of antigen tests by South Africa last week, therefore the trends should be interpreted with caution. The incidence in cases in the Eastern Mediterranean Region was stable with figures similar to the previous week. New weekly deaths decreased by 36% and 8% in the Regions of the Americas and the Eastern Mediterranean, respectively, and increased by 26% and 7% in the South-East Asia and African Regions, respectively. The number of new deaths were similar to the numbers reported in the previous week in both the European and Western Pacific Regions.

The highest numbers of new cases were reported from:

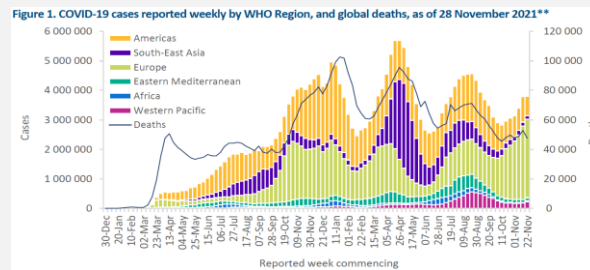
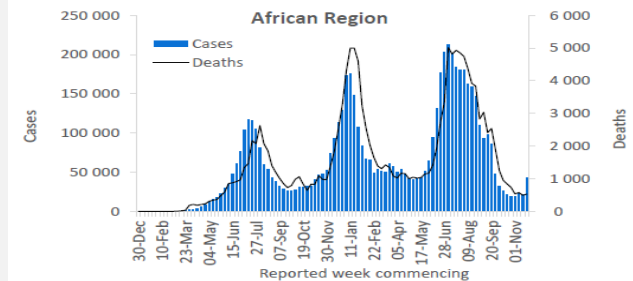
- United States of America (464 800 new cases; 31% decrease),
- Germany (406 754 new cases; 22% increase)
- United Kingdom (304 374 new cases; 8% increase),
- Russian Federation (239 215 new cases; 8% decrease),
- France (190 402 new cases; 62% increase)

## WHO regional overviews Epidemiological week 22-28 November 2021

### African Region

Following a declining trend since late June 2021, the case incidence in the African Region increased by 93%, with over 43 000 new cases reported during the week of 22-28 November. To note, 43% of the new cases were from a batch reporting of antigen tests from South Africa in the last week. Twenty-one of the 49 countries in the region (43%) reported an increase of >10% in new cases as compared to the previous week, with the highest numbers of new cases reported from South Africa (29 373 new cases; 49.5 new cases per 100 000 population; an 740% increase), Mauritius (3474 new cases; 273.2 new cases per 100 000; a 63% decrease) and Réunion (1875 new cases; 209.4 new cases per 100 000; a 43% increase).

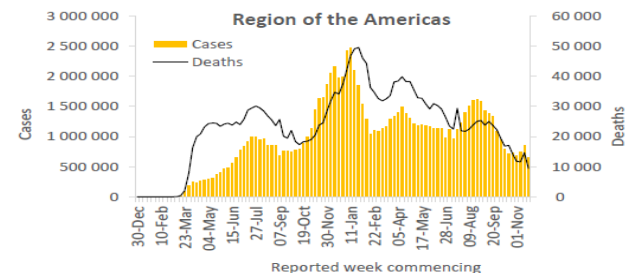
Eleven of the 49 countries reported an increase of over 10% in the number of new weekly deaths with the highest numbers of new deaths reported from South Africa (219 new deaths; <1 new death per 100 000 population; a 128% increase), Ethiopia (64 new deaths; <1 new death per 100 000; an 8% increase), and Mauritius (50 new deaths; 3.9 new deaths per 100 000; a 52% decrease).



### Region of the Americas

The Region of the Americas reported a 24% decline in case incidence in the last week, with over 659 000 new cases reported. This trend is largely driven by the 31% decrease in the incidence of cases in the United States of America despite the country continuing to report the highest number of cases (464 800 new cases; 140.4 new cases per 100 000) in the region. It is important to note that the public holiday in the United States of America which took place at the end of last week may have impacted testing and reporting. Twenty-seven percent (15/56) of countries in the region reported increases of over 10%. In addition to the United States of America, countries reporting the highest numbers of cases included Brazil (64 313 new cases; 30.3 new cases per 100 000; similar to the previous week's figures) and Canada (19 737 new cases; 52.3 new cases per 100 000; a 16% increase).

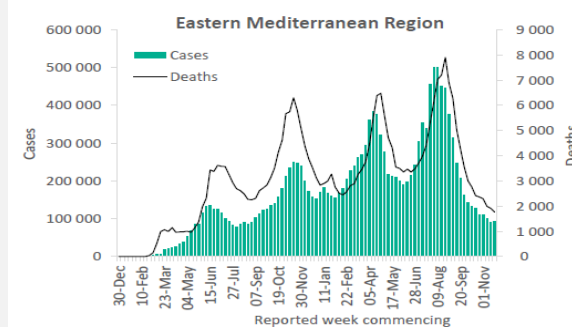
The incidence of deaths also declined with just under 9400 new deaths reported, a 36% decrease compared to the previous week. Despite having the highest number of deaths in the Region, the United States of America and Brazil saw reductions in the number of new deaths (5003 new deaths; 1.5 new deaths per 100 000; a 52% decrease and 1587 new deaths; <1 new death per 100 000; a 16% decrease, respectively), as compared to the numbers reported in the previous week.



### Eastern Mediterranean Region

The weekly incidence of cases in the Eastern Mediterranean Region remained stable with over 94 000 reported (similar to the previous week's figures). The number of weekly deaths decreased by 8%, with just over 1700 reported. However, nearly one-third (7/22) of countries in the region reported >10% increase in weekly incidence, the highest including Sudan (143%), Tunisia (80%) and Lebanon (69%). The highest numbers of new cases were reported from the Islamic Republic of Iran which contributed to just over a third of the cases in the region (32 003 new cases; 38.1 new cases per 100 000; a 23% decrease), followed by Jordan (28 023 new cases; 274.7 new cases per 100 000; a 30% increase), and Lebanon (9401 new cases; 137.7 new cases per 100 000; a 69% increase).

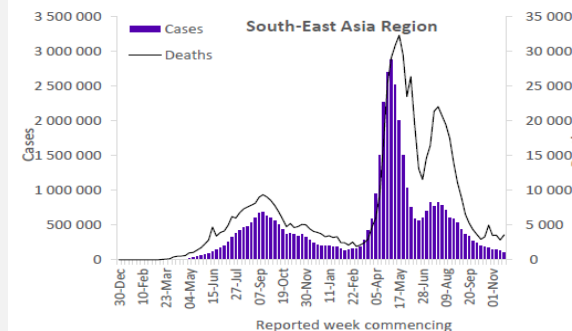
The highest numbers of new deaths were reported from the Islamic Republic of Iran (697 new deaths; <1 new death per 100 000; a 14% decrease), Egypt (433 new deaths; <1 new death per 100 000; similar to the previous week's figures), and Jordan (168 new deaths; 1.6 new deaths per 100 000; a 27% increase).



### South-East Asia Region

Since July 2021, the incidence of cases in the South-East Asia Region has continued to decline with 120 000 new cases reported this week, an 11% decrease as compared to the previous week. However, three countries reported an increase of over 10% including Sri Lanka (16%), Bhutan (14%) and Bangladesh (7%). Sri Lanka also reported the third highest number of new cases (5894 new cases; 27.5 new cases per 100 000; a 16% increase), after India (62 110 new cases; 4.5 new cases per 100 000; a 15% decrease) and Thailand (42 232 new cases; 60.5 new cases per 100 000; a 9% decrease).

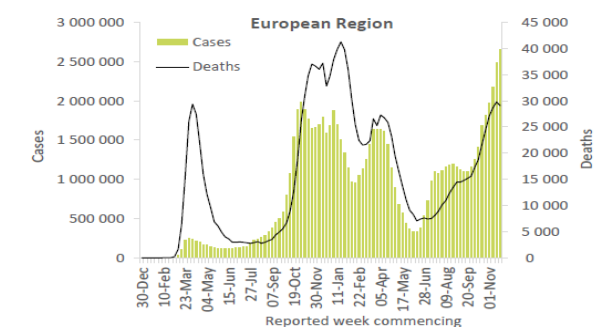
The number of weekly deaths increased by 26% as compared to the previous week, with over 3500 new deaths reported this week. Three countries reported an increase of >10% including Nepal (27 new deaths; <1 new death per 100 000; a 42% increase); India (2892 new deaths; <1 new death per 100 000; a 36% increase) and Sri Lanka (178 new deaths; <1 new death per 100 000; a 35% increase). Thailand reported the second highest number of deaths after India but the number of deaths declined (320 new deaths; <1 new death per 100 000; a 9% decrease) as compared to the previous week.



### European Region

The European Region has continued to report an increase in cases since early-October 2021, with over 2.6 million new cases reported this week (a 7% increase as compared to the previous week). The incidence in deaths has remained stable compared to the previous week, with over 29 000 new deaths reported. Thirty-eight percent of countries in the region (23/61) reported an increase in new weekly cases of over 10%. Just over a third of all new cases continue to be reported from three countries: Germany (406 754 new cases; 489.1 new cases per 100 000; a 22% increase), the United Kingdom (304 374 new cases; 448.4 new cases per 100 000; an 8% increase), and the Russian Federation (239 215 new cases; 163.9 new cases per 100 000; an 8% decrease).

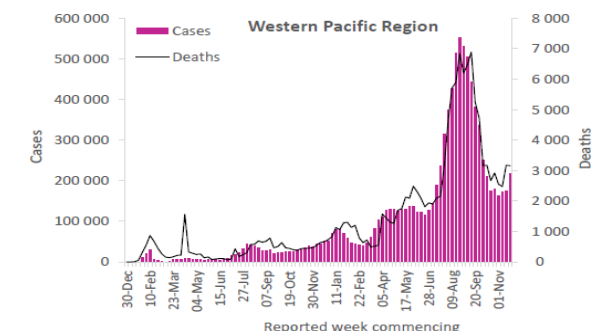
The highest numbers of new deaths were reported from the Russian Federation (8660 new deaths; 5.9 new deaths per 100 000; similar to the previous week's figures); Ukraine (3845 new deaths; 8.8 new deaths per 100 000; a 16% decrease) and Poland (2214 new deaths; 5.8 new deaths per 100 000; a 13% increase).



### Western Pacific Region

Following a relatively stable trend over the past month, the weekly case incidence in the Western Pacific Region increased by 24% this week with over 220 000 new cases reported. Six of the 27 countries in the region reported an increase in case incidence of >10%, including the Northern Mariana Islands (222%), Viet Nam (70%), Brunei Darussalam (40%), the Republic of Korea (28%), Australia (15%) and Lao People's Democratic Republic (13%). The highest number of new cases continued to be reported from Viet Nam (112 779 new cases; 115.9 new cases per 100 000; a 70% increase), Malaysia (37 830 new cases; 116.9 new cases per 100 000; a 7% decrease) and the Republic of Korea (25 466 new cases; 49.7 new cases per 100 000; a 28% increase).

The region reported over 3100 new deaths this week, similar to the previous week's figures. The highest numbers of new deaths continued to be reported from the Philippines (1302 new deaths; 1.2 new death per 100 000; a 20% decrease), Viet Nam (1007 new deaths; 1.0 new deaths per 100 000; a 51% increase), and Malaysia (302 new deaths; <1 new death per 100 000; a 13% decrease).





# Global Situation



## Notable Update:

Worldwide, there have been over **260.6 million reported cases** and approximately **5.2 million reported deaths** attributed to COVID-19. According to the WHO, over **3.5 million new cases (7.5% increase over last week)** and over **51,000 new deaths (3.6% increase over last week)** were reported globally during the week of **November 15 to November 21**. The European region continues to report an increase in new cases (+11%) and deaths (+3%) compared to last week. Although the **Americas and Western Pacific regions** reported no change in new weekly cases, both regions reported the **largest increase in new deaths** with a **19% and 29% increase** respectively. The remaining regions observed a decrease in new cases and deaths, with South-East Asia reporting the largest decrease in new cases (-11%). Based on the BlueDot COVID-19 Data Suite, as of November 25, the top five countries with the highest seven-day rolling average number of daily new cases are the **United States, Germany, United Kingdom, Russia, and Turkey**. The top five countries/territories with the highest seven-day rolling average number of daily new cases per million population are **Cayman Islands, Anguilla, Czech Republic, Austria, and Jersey**. As of November 25, **Europe** is the continent with the largest proportion of countries (51%, or 26 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. **Africa** has the highest proportion of countries (25%, or 14 out of 56) with a **low** (<=140) **to moderate** (140.1 - 350) incidence rate and an increasing trend in new cases over the last seven days. **South America** has the highest proportion of countries (79%, or 11 out of 14) reporting a **low incidence rate** (<= 140) with a stable or decreasing trend in new cases.

**Notable Update: COVID-19 in the European Region** The European region has had a **consistent increase in COVID-19 activity** over the past several months. The WHO estimates that the region could **surpass two million COVID-19 related deaths by March 2022** and hospital systems will experience undue burden due to the consistently high disease activity.

As of November 25, the top five countries in Europe with the highest seven-day rolling average number of daily new cases account for 46% of the number of new cases in the European region in the last seven days, including **Germany, United Kingdom, Russia, France, and the Netherlands**. The top five countries in Europe with the highest seven-day rolling average number of daily new cases per million population are **Czech Republic, Austria, Jersey, Slovakia, and Belgium**. Near to all listed regions have consistently reported a **high incidence rate with stable or increasing trends**. The top five countries in Europe with the highest seven-day rolling average number of daily new deaths are **Russia, Ukraine, Poland, Germany, and Romania**; while the top five countries in Europe with the highest seven-day rolling average number of daily new deaths per million population are **Bulgaria, Croatia, Hungary, Moldova, and Latvia**. In recent weeks, many countries are imposing **additional restrictions in an attempt to control surging cases**. For example, Austria has begun a nationwide lockdown as of November 22 and is expected to enforce mandatory vaccination in 2022, Ireland is enforcing a midnight curfew on recreational activities as of November 18, and Belgium has announced stricter restrictions starting November 26. The increased COVID-19 cases in Europe are mainly attributed to three reasons. First, the dominating variant in the region is the Delta variant, which is highly transmissible. All countries in Europe are reporting that **almost 100% of cases are attributed to the Delta variant**. Second, protective measures against COVID-19 have been eased over the past several months. Many countries such as Norway and Denmark removed major COVID-19 restrictions in September including gathering limits and facemask requirements. As the winter season brings in colder weather, more indoor gatherings are occurring, which is also contributing to rising cases. Lastly, there are still **large proportions of populations that remain unvaccinated**, combined with potential waning immunity from an early vaccine rollout. While vaccinations provide protection, particularly against severe illness, it is still recommended that people continue to additionally **follow other protective measures** such as avoiding large in-person gatherings, continuing physical distancing and wearing well-fitting face masks. Addressing indoor ventilation, providing access to widespread testing, supporting work-from-home and sick-leave policies are additional measures that can limit transmission within communities.

**WHO:** The World Health Organization (WHO) is pushing with dramatic words for an international treaty to prevent future pandemics. "All of this will be repeated if you, the nations of the world, do not unite and say with one voice: Never again!" Said WHO chief Tedros Adhanom Ghebreyesus with a view to the corona situation at the opening of a special session of the World Health Assembly in Geneva. The appearance of the Omicron variant currently shows "that Covid is not finished with us". "That's why the world needs this new agreement."

**EU:** In view of the new Corona variant Omicron, the EU is calling on its member states to do more to discover new variants. Some lagged behind in this regard, writes EU Health Commissioner Stella Kyriakides in a letter to the 27 members that the Reuters news agency was able to see. She did not name the countries that were not sequencing adequately. "Because of the highly contagious Delta variant, we were already facing a challenge this winter. Because of the Omikron variant, the pressure should increase even further."

**GBR:** After several months of freedom, people in England have to get used to wearing masks again. Due to the spread of the worrying Omicron variant, a mask requirement in shops and public transport has been in effect again in England since Tuesday. Previously, this had only applied in individual locations, such as a few supermarkets and the London "Tube", but was hardly ever enforced. In theaters, restaurants, bars, clubs and cinemas, there is still no need for a mask, vaccination or test certificates. Scotland, Wales and Northern Ireland have their own somewhat stricter rules.

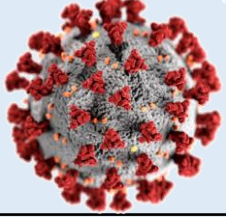
**GBR** tightened its corona entry rules. According to Prime Minister Johnson, all those arriving in the future will have to take a PCR test and go into quarantine until they receive a negative result. There are two confirmed Omicron cases in the country. Great Britain is tightening its entry rules for travellers from all over the world in view of the newly discovered Corona variant Omicron.

**CHN:** To protect against the new Omicron corona variant, the financial metropolis of Hong Kong is closing its borders. People residing in Angola, Ethiopia, Nigeria and Zambia will be banned from entering the country from November 30, the government of the Chinese Special Administrative Region announced. In addition, foreigners who have stayed in Germany, Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Israel or Italy in the past 21 days are no longer allowed to enter the country from December 2nd. Hong Kong is still open to fully vaccinated residents: however, they must first go to a state quarantine facility for seven days and isolate themselves in a hotel for another two weeks at their own expense.

**DEU:** In the fight against the corona virus, Latvia, which has recently been severely affected by the latest wave of pandemics, has received German help. According to the German Ambassador Christian Heldt, the last shipment of the medical equipment worth 2.5 million euros arrived in the Baltic EU country today. This should support the Latvian health facilities in the crisis, wrote the diplomat on Twitter, next to pictures of the handover to Health Minister Daniels Pavluts. The Latvian minister in turn thanked the short message service for the "generous support" in these difficult times.

**POL:** Due to concerns about the spread of the Omicron variant discovered in southern Africa, Poland is banning flights to seven countries in the region. South Africa, Namibia, Zimbabwe, Botswana, Mozambique, Eswatini and Lesotho are affected by this regulation, said Health Minister Adam Niedzielski in Warsaw. Travelers who return to Poland from these countries have to go into quarantine for 14 days and cannot be released early even with a negative test result.





# Vaccination News

A total of 10 countries accounted for **66.8%** of all vaccinations administered globally as of November 25. The top five countries/territories with the highest number of cumulative people fully vaccinated per 100,000 population are **Gibraltar** (118,190), **Singapore** (91,910), **United Arab Emirates** (88,400), **Portugal** (87,780), and **Malta** (83,620). Conversely, the top five countries with the lowest number of cumulative people fully vaccinated per 100,000 population are **Burundi** (0), **Congo (Kinshasa)** (50), **Chad** (420), **Haiti** (580), and **Guinea-Bissau** (910).

**CDC:** [The CDC recommends booster vaccination](#) for all vaccinated people who are 18 years of age or older. Everyone ages 18 and older should get a booster shot either when they are 6 months after their initial Pfizer or Moderna series or 2 months after their initial J&J vaccine. The recent emergence of the Omicron variant (B.1.1.529) further emphasizes the importance of vaccination, boosters, and prevention efforts needed to protect against COVID-19.

## **Joint statement of African Vaccine Acquisition Trust (AVAT), the Africa Centres for Disease Control and Prevention (Africa CDC) and COVAX on dose donation of COVID-19 vaccines to African countries:**

The majority of the donations to-date have been ad hoc, provided with little notice and short shelf lives. This has made it extremely challenging for countries to plan vaccination campaigns and increase absorptive capacity. Countries need predictable and reliable supply. Having to plan at short notice and ensure uptake of doses with short shelf lives exponentially magnifies the logistical burden on health systems that are already stretched. Therefore donations to COVAX, AVAT, and African countries must be made in a way that allows countries to effectively mobilise domestic resources in support of rollout and enables long-term planning to increase coverage rates. That's why the organizations adhering to the following standards, beginning from 1 January 2022:

- **Quantity and predictability:** Donor countries should endeavour to release donated doses in large volumes and in a predictable manner, to reduce transaction costs. We acknowledge and welcome the progress being made in this area, but note that the frequency of exceptions to this approach places increased burden on countries, AVAT and COVAX.
- **Earmarking:** These doses should be unearmarked for greatest effectiveness and to support long-term planning. Earmarking makes it far more difficult to allocate supply based on equity, and to account for specific countries' absorptive capacity. It also increases the risk that short shelf-life donations utilise countries' cold chain capacity – capacity that is then unavailable when AVAT or COVAX are allocating doses with longer shelf lives under their own purchase agreements.
- **Shelf life:** As a default, donated doses should have a minimum of 10 weeks shelf life when they arrive in-country, with limited exceptions only where recipient countries indicate willingness and ability to absorb doses with shorter shelf lives.
- **Early notice:** Recipient countries need to be made aware of the availability of donated doses not less than 4 weeks before their tentative arrival in-country.
- **Response times:** All stakeholders should seek to provide rapid response on essential information. This includes essential supply information from manufacturers (total volumes available for donation, shelf life, manufacturing site), confirmation of donation offer from donors, and acceptance/refusal of allocations from countries. Last minute information can further complicate processes, increasing transaction costs, reducing available shelf life and increasing risk of expiry.
- **Ancillaries:** The majority of donations to-date do not include the necessary vaccination supplies such as syringes and diluent, nor do they cover freight costs - meaning these have to be sourced separately – leading to additional costs, complexity and delay. Donated doses should be accompanied with all essential ancillaries to ensure rapid allocation and absorption.

**BioNTech:** The Mainz vaccine manufacturer BioNTech prefers to deliver millions of vaccine doses to Germany in view of the great demand for vaccines. This week, the federal government will receive 5.8 million doses of vaccine, because a delivery batch of 2.9 million doses, which is actually only planned for next week, will be brought forward to this week, said a company spokeswoman. The "Spiegel" had previously reported on it. With this step, BioNTech is responding to the skyrocketing need for booster vaccinations. In the course of December, BioNTech wants to deliver two batches: another 2.9 million doses in the week after next and 2.4 million doses of children's vaccine just before Christmas, the report said.

In addition to the ongoing laboratory tests to examine the new Omicron variant, the Mainz-based vaccine manufacturer BioNTech is also working on the development of an adapted vaccine - as a preventative measure in the event that it might become necessary. "In order not to lose time, we are tackling these two tasks in parallel until the data are available and we have more information on whether the vaccine should be adapted or not," said a BioNTech spokeswoman for the DPA. BioNTech announced on Friday that the new variant differs significantly from the previously observed variants because it has additional mutations on the spike protein. The data from the laboratory tests that are now ongoing will soon provide information on whether an adaptation of the vaccine will be necessary if this variant spreads internationally. The company expected findings by the end of next week at the latest. Together with the US partner Pfizer, preparations were made months ago to adapt the vaccine within six weeks in the event of a so-called escape variant of the virus and to deliver the first batches within 100 days, BioNTech explained.

**ITA:** Italy is preparing to vaccinate children aged five to eleven against Corona from Christmas onwards. Permission from the national drug agency Aifa is expected later this week, after the European agency EMA recently gave the green light for approval. Vaccinations in Italy will then begin "on December 23, maybe a day earlier or later," said Locatelli.

**GBR:** After the appearance of the new Omicron variant, Great Britain is once again expanding its program for booster vaccinations. Everyone aged between 18 and 39 should be offered a booster vaccination. So far, this has only applied to people aged 40 and over and people who are particularly at risk from the virus. The change means that around 13 million people will be able to get an additional booster vaccination.

**IND:** India has offered corona vaccines to African countries where the omicron variant has occurred. These could be provided either through the UN vaccination program Covax or bilaterally, the Indian Foreign Ministry announced on Monday evening. The government has also approved previous orders for the India-made AstraZeneca vaccine Covishield from Malawi, Ethiopia, Zambia, Mozambique, Guinea and Lesotho. India is also ready to supply medicines, test kits, protective suits and ventilators.

**PHL:** The Philippines want to curb the spread of the coronavirus, including the omicron variant, with a huge vaccination campaign. Starting today, nine million people are to be vaccinated within three days. In the past week, according to the Ministry of Health, an average of around 810,000 doses were injected per day. For the current vaccination campaign, around three million people would have to be vaccinated every day. Tens of thousands of helpers are deployed across the country to support the campaign.



# 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

833,103,762

632,868,379

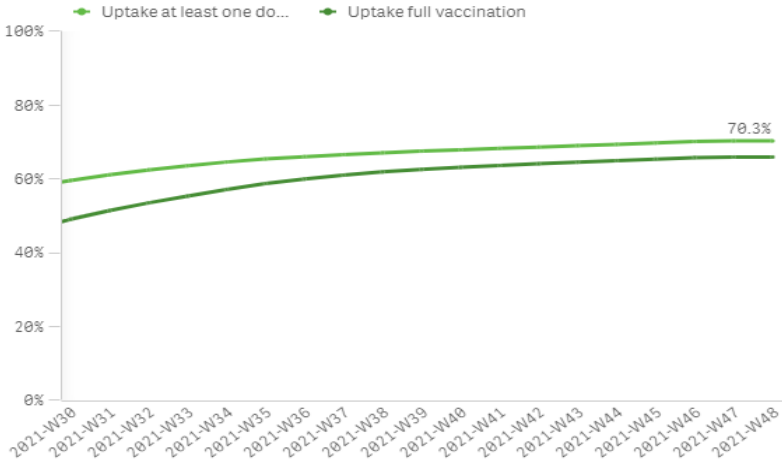
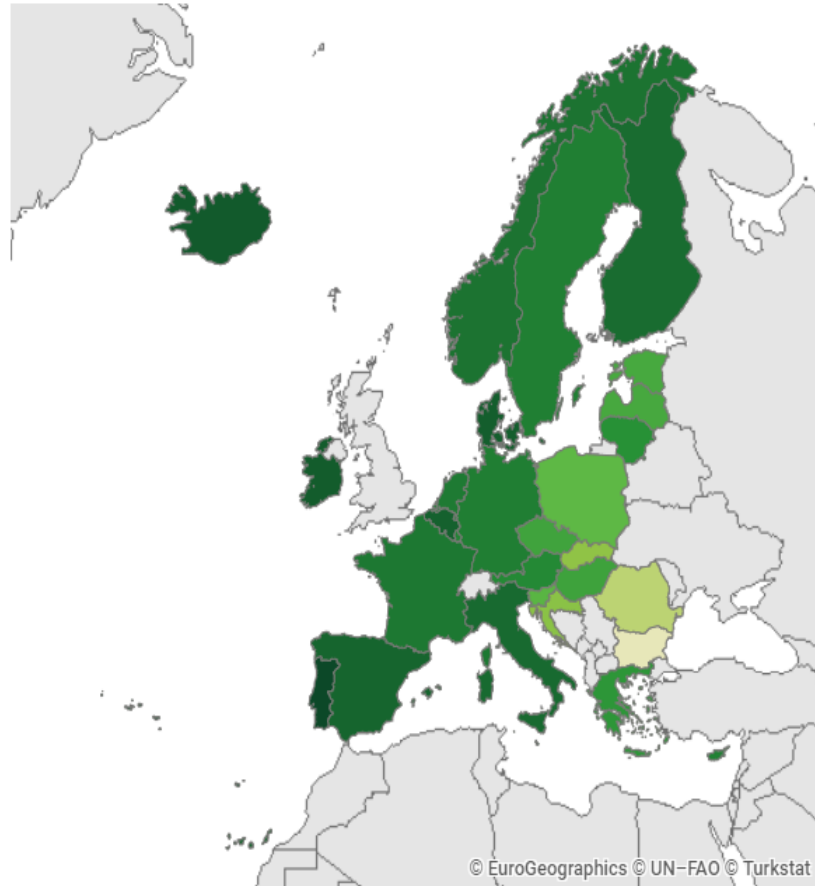
Cumulative uptake (%) of full vaccination by age group in EU/EEA countries as of 2021-11-30

Indicator: Uptake full vaccination

Cumulative uptake (%) of at least one vaccine dose and full vaccination in the total population in EU/EEA countries as of 2021-11-30

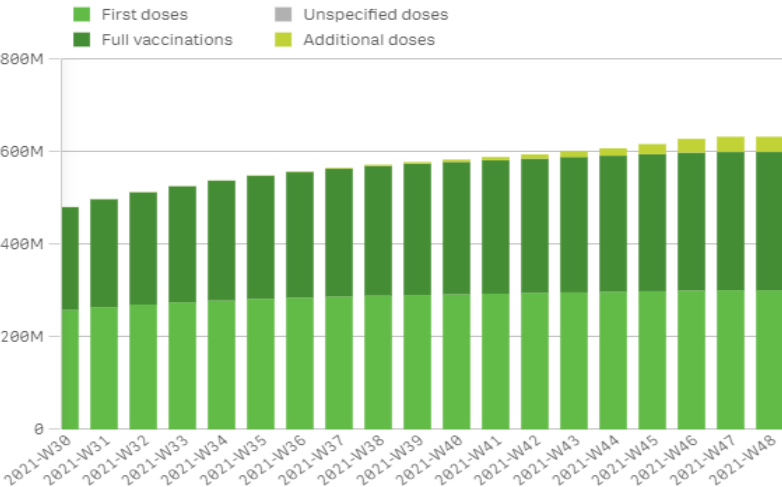
by reporting week (data for the current week are preliminary)

Cumulative uptake (%) of full vaccination in the total population in EU/EEA countries as of 2021-11-30



Cumulative number of vaccine doses administered to the total population in EU/EEA countries as of 2021-11-30

by reporting week (data for current week are preliminary)



Country	60+ years	50-59 years	25-49 years	18-24 years	<18 years
Austria	88.2%	77.0%	68.1%	64.2%	15.8%
Belgium	93.6%	90.4%	82.7%	79.4%	27.8%
Bulgaria	33.6%	33.9%	27.4%	22.0%	1.2%
Croatia	70.8%	60.8%	46.9%	33.2%	1.9%
Cyprus	92.7%	84.0%	77.5%	60.8%	11.2%
Czechia	82.5%	74.5%	59.8%	59.5%	13.4%
Denmark	99.1%	93.0%	81.4%	78.3%	24.4%
Estonia	72.9%	70.6%	63.0%	64.5%	15.3%
Finland	93.4%	85.8%	77.5%	70.4%	23.9%
France	85.9%	80.5%	76.1%	76.9%	23.2%
Germany	-	-	-	-	-
Greece	79.8%	76.0%	67.2%	61.0%	10.3%
Hungary	80.2%	72.2%	61.5%	49.1%	17.0%
Iceland	100.0%	92.1%	86.6%	85.1%	25.8%
Ireland	100.0%	97.7%	87.5%	83.8%	24.3%
Italy	89.4%	83.0%	75.9%	80.7%	23.1%
Latvia	65.5%	69.9%	67.9%	70.3%	14.6%
Liechtenstein	-	-	-	-	-
Lithuania	75.5%	74.7%	73.7%	69.8%	12.4%
Luxembourg	86.9%	83.7%	71.8%	64.7%	22.5%
Malta	98.8%	88.0%	91.0%	83.1%	25.5%
Netherlands	-	-	-	-	-
Norway	97.9%	92.7%	82.0%	80.4%	4.4%
Poland	74.9%	65.3%	55.9%	50.3%	12.8%
Portugal	99.5%	93.3%	86.7%	84.0%	29.1%
Romania	42.4%	51.3%	44.4%	42.4%	4.8%
Slovakia	67.6%	57.1%	47.6%	45.9%	7.3%
Slovenia	80.7%	66.9%	53.1%	54.3%	8.1%
Spain	97.5%	88.5%	75.9%	70.5%	26.2%
Sweden	93.1%	88.6%	76.9%	68.6%	10.3%

Uptake full vaccination (%)



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



The World Health Organization (WHO) designated the SARS-CoV-2 variant B.1.1.529 as a new Variant of Concern (VoC) - 'Omicron' - based on early evidence for a detrimental change in COVID-19 epidemiology on Nov 26, 2021.<sup>1</sup> The first specimen known thus far was collected on Nov 9 in South Africa. The Omicron VoC has an unusually large number of mutations, 32, all in the spike protein which is the part of the virus that affects its ability to infect cells and often is targeted by vaccine-induced immunity.<sup>2</sup> Experts have stated that the large number of mutations in the Omicron VoC appear to have accumulated during a chronic infection of a person with a weakened immune system and that the abnormally high number of spike mutations present in the variant is of serious concern to public health. Known geographic spread, as of Nov 26 (**Figure 1**) - The Omicron VoC was first identified in Botswana from a sample collected on Nov 11 in vaccinated travellers arriving by land. The variant has since been detected in a vaccinated traveller who arrived in Hong Kong via Qatar after staying in South Africa between Oct 22 to Nov 11. Another case in Hong Kong was acquired in a vaccinated traveller returning from Canada within the quarantine hotel after a reported brief exposure. The traveller had received a second dose of Comirnaty on May 25. On Nov 26, media sources reported that Israel detected the variant in a traveller who returned from Malawi<sup>6</sup>, and in Belgium from a traveller arriving from Egypt via Turkey<sup>7</sup>. Since its initial detection, the Omicron VoC has been identified in Guateng province in South Africa and genomic sequencing has been prioritized to this province.

## REASONS FOR CONCERN

Evidence on the negative clinical and epidemiological consequences of the Omicron VoC is preliminary and limited at this time. However there are several signals that warrant further investigation:

Is it more transmissible? Population-based studies have not been conducted yet to explore transmissibility. However from a laboratory standpoint, this VoC may contain some mutations previously associated with higher transmissibility and some immune escape. In Tshwane, Guateng province (South Africa), the SARS-CoV-2 test positivity rate has increased over the last three weeks from less than 1 percent to over 30 percent, indicating a rapidly growing case surge and a substantial degree of community transmission. Almost all sequenced samples from Nov 12 - 20 in Guateng province (77 cases) have been confirmed to be Omicron. Officials are concerned that if cases continue to rise, the public health system could be unable to adequately respond.

It is not yet possible to determine whether the Omicron variant is capable of out-competing the Delta variant for the following reasons: Cases appeared to be low in Guateng province previous to the recent surge, implying that Omicron did not necessarily out-compete existing circulating virus. Low vaccine coverage (31.2% of the province's adult population are fully vaccinated) places the region at risk for rapid spread of COVID-19.

Does it cause more severe disease, impact vaccine effectiveness? Early indications from South African officials are that there is no evidence of a negative impact on vaccine effectiveness but this cannot be excluded. Recent cases do not appear to be more severe but suggest a potential shift towards a younger demographic.

Importantly, cases presenting to hospital with severe symptoms in their 20s and 30s are all unvaccinated or partially vaccinated (single mRNA vaccine dose). At this time there has also not been an observed increase in hospital admissions in the affected region although this is a lagging indicator. It is too early to concretely determine functional significance of the mutations identified in the Omicron VoC. As with previous variants, there is evidence of breakthrough infections among hospital admissions in South Africa and some of the reported cases among travellers. Importantly, the majority of cases in South Africa are among the unvaccinated (4:1 ratio of unvaccinated: vaccinated). This suggests a maintained effectiveness against severe disease by existing vaccines.

Geographic spread - Reported importation of cases to date and limited testing in the region suggests that the true origin is not certain and extent of the variant within and outside of South Africa is likely greater than what is currently known.



**Figure 1.** Countries that have detected travel related cases of the Omicron VoC (orange: origin, blue: destination).

## OUTLOOK

The designation of Omicron as a VoC will prompt countries to enhance sequencing and subsequent detection. The VoC possesses a mutation (Del69/70) that was similar to Alpha VoC, making proxy tests used for Alpha applicable as a detection method. It can be expected that cases will be reported in different countries. It is expected to take several weeks before enough data is collected and analyzed to provide more definitive evidence regarding the transmissibility and the effectiveness of vaccines and therapeutics against the VoC. The origin location of Omicron VoC is unclear. Exported cases identified to date (from Egypt, Malawi and South Africa) indicate likely wider dispersal internationally. Air travel volumes from South Africa indicate a number of countries in Africa are at risk of exportation from this country, in addition to those connected by land borders (Lesotho, Mozambique, Botswana, Namibia). Limited testing and genomic surveillance on the African continent suggest circulation of this VoC in other African countries cannot be excluded at this time.

## Notable Update: Mutations contained in Omicron that are driving overall concerns :

Country Reporting Cases	Originating Country	Number of Cases	Comments
South Africa	N/A	77	
Botswana	N/A	4	It is unknown at this time what country travellers came from
Hong Kong	South Africa via Qatar	1	
	Canada	1	Believed to be due to exposure to other HK case
Israel	Malawi	1	2 additional cases are pending investigation
Belgium	Egypt via Turkey	1	
Netherlands	South Africa	13	Additional cases pending completion of genomic sequencing
Denmark	South Africa	2	
Australia	Southern Africa via Qatar	2	
Italy	Mozambique	2	
United Kingdom	Southern Africa	11	Not all cases have recent travel history, community transmission is suspected
Germany	South Africa	2	
Canada	Nigeria	2	
Sweden	South Africa	1	
Portugal	South Africa	13	All cases are from a soccer team, 1 player had recent travel to South Africa
<b>Total Cases: 135</b>			

**Omicron (B.1.1.529)** contains many mutations which have raised concerns about the potential impacts on transmissibility, vaccine-related or infection-induced immunity; and/or disease severity. It has been identified that Omicron contains 50 mutations with at least 32 mutations on the spike protein alone, which is a key component of the virus used to penetrate human cells and the driver of many potential impacts. In comparison, previous variants of concern (VOC) have had far fewer mutations. For example, Delta had only nine changes on the spike protein and this variant quickly became dominant worldwide due to increased transmissibility. So far, no other variants that have arisen since the Delta variant became dominant have proven capable of out-competing it in regions with predominantly Delta infections. While researchers are still working on identifying the source of all the mutations seen with the Omicron VOC. It is feasible and has been speculated that it first appeared among an immunocompromised individual/population. According to existing evidence, viruses can replicate for weeks in people with weakened immune systems since their immune systems cannot effectively clear the virus.

## Key takeaway points from this potential scenario are:

defining appropriate isolation measures for these populations, setting science-informed strategies to ensure the virus has cleared among those infected, and supporting prevention through prioritization of vaccines, testing and early treatment to those with immunocompromised conditions are needed.

## Overall, the mutations found in Omicron can be grouped into several categories:

- those identified in other VOCs that suggest that Omicron can be more transmissible and more infective than the original SARS-CoV-2 strain (see Table),
- mutations that have not been identified in previous variants, but lab data suggest that they might pose a threat (G339D, S371L, S373P, S375F),
- mutations that have not been identified in previous variants, and for which the impacts are currently unknown (A67V, N440K, E484A, G446S, Q493K, G496S, Y505H, T547K, N764K, D796Y, N856K, Q954H, N969K, L981F), and
- those that have been identified in other variants and are not considered to be of concern (D614G).

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



It is still too early to determine the potential impact of the Omicron on pre-existing immunity, whether acquired through vaccination or previous infection, or the impact on severe disease among unvaccinated and vaccinated people.

While preliminary data suggests that there are increasing rates of hospitalization in South Africa, this may be due to increasing overall numbers of people becoming infected, rather than a result of a specific infection with Omicron.

There is little evidence yet from South Africa or elsewhere that points to this variant causing more severe symptoms. A recent report from the physician who first identified Omicron variant cases in South Africa highlighted that the affected individuals experienced mild symptoms and were treated at home.

However, these early cases are too few to make reasonable assessments about severity, especially as they were identified in younger individuals who tend to have a milder presentation of the disease. Until more time passes, and data emerges, it is not possible to understand the potential impacts of Omicron on disease severity. It is still too early to tell if this variant could cause a less severe disease as it has mutations that indicate that its infection can lead to more severe symptoms. If the combination of mutations present is found to lead to higher transmissibility that surpasses Delta VOC, we should still anticipate serious impacts on healthcare systems anywhere with uncontrolled spread.

It is important to highlight that while there are many uncertainties with the Omicron variant, strategies that can be used to reduce transmission of the Delta variant are still critical. Improving vaccination coverage and providing access to third doses based on scientific evidence, providing timely and widespread access to testing, supporting isolation of those infected, and improving precautions for airborne transmission, including public education strategies, are likely to reduce the potential impacts of any new VOCs that emerge, including Omicron.

- Sources:**  
<https://www.fiercebiotech.com/medtech/thermo-fisher-qiagen-and-other-covid-19-test-makers-prepare-for-oncoming-omicron-variant>  
<https://www.nature.com/articles/s41418-021-00846-4>  
<https://www.news-medical.net/news/20210920/Novel-spike-NTD-mutations-in-SARS-CoV-2-Delta-variant-associated-with-increased-viral-loads-and-immune-evasion.aspx>  
<https://www.nytimes.com/interactive/2021/health/coronavirus-variant-tracker.html>  
<https://www.digi24.ro/stiri/actualitate/varianta-omicron-ar-fi-putut-aparea-prima-data-la-pacienti-hiv-imunolog-german-1753333>

Mutation	Known mutations in previous VOC(s)	Potential Impacts
P681R	Delta	Of great concern, facilitates spike protein cleavage and enhances viral entry into cells. It indicates higher pathogenicity.  Played a key role in the Alpha-to-Delta variant replacement.
N501Y	Alpha, Beta, Gamma	Considered to be a major determinant of improved affinity of the spike protein to bind to cells. The mutations in the spike protein (S protein) could have impacts on diagnostic detection, antiviral immunity, and virus infectivity, all of which contribute to increased transmission of VOCs.
^69-70	Alpha, Beta, Gamma	In combination with N501Y gene, a deletion at positions 69 and 70 of the spike glycoprotein (ΔH69-V70) of 501Y.V1 variant results in what is called S-gene target failure (SGTF). This has been used to screen for the Alpha VOC and can similarly be applied to screen positive COVID-19 cases for the Omicron VOC using some existing diagnostic tests, and to prompt further genomic sequencing. Particularly in regions without adequate sequencing capacity, this test could be used as a proxy for Omicron, as it differentiates from the predominant globally-circulating Delta VOC. <sup>1,2</sup>
T95I	Delta	Both G142D and T95I are associated with higher viral loads when an individual is infected with a Delta variant of SARS-CoV-2.  In addition, when these two mutations are both present, there are changes in the structure of the spike protein's N-terminal domain. This change in the surface topography exposes new antibody-facing residues, which are considered likely to reduce antibody binding to this region. This implies a potential negative impact on immunity acquired from a previous infection or vaccination with the current vaccines in use. <sup>3</sup>
G142D	Delta	
K417N	Delta, Beta, Gamma	May help the virus bind more tightly to cells. <sup>4</sup>
H655Y	Gamma	Increased transmissibility due to more efficient entry to cells.
N679K	Gamma	

As of November 30, according to media and official sources, a total of 207 confirmed cases of the Omicron variant (B.1.1.529) have been reported across 18 countries. However, we have also found reports with limited details describing 226 total cases across 20 countries (link Countries currently identified as potential origins of the Omicron variant include South Africa, Nigeria, Malawi, Egypt, Mozambique, and Namibia. It may be reasonable to assume that community transmission is occurring in these locations. Canada has also been identified as a location of origin, however, it is uncertain if the person contracted the virus in Canada. Cases of the Omicron variant have been reported for the first time today in Austria, Japan, and Reunion. Additional cases were also reported in the United Kingdom, Canada, Denmark, Australia, Italy, Sweden and Germany.

## Omicron Q&A

It will likely take several weeks before there is more certainty on the implications of the mutations observed in the Omicron variant on its transmissibility, virulence, and immune evasion of existing vaccines or previous infection. However, there are features of the genomic structure and epidemiological data observed to date that can give us some clues towards the potential implications. The following is a current assessment of the potential implications and degree of uncertainty in relation to some important questions:

### 1. Will Omicron demonstrate greater transmissibility?

This appears likely in comparison to the original strain given the epidemiological data could be seen to date (in southern Africa and internationally). **Confidence = moderate to high.** The number and types of mutations on the spike protein align with that hypothesis. Where it falls in transmissibility in relation to the Delta VOC is unclear.

### 2. Will it cause reduced vaccine effectiveness against infection?

While clinical epidemiological data are still coming in, it appears that fully vaccinated travellers are being infected. Some travellers are reportedly approximately 6 months from their last vaccine dose, and these data are biased towards the collection from those vaccinated. Neutralizing antibody studies are forthcoming, but given the number of mutations and locations observed on the genome, it is likely there will be reduced protection against infection among vaccinated persons and those with natural immunity. **Confidence = moderate.**

### 3. Will vaccine effectiveness be reduced against severe disease/hospitalization/death?

While it is too early to say with confidence, it is anticipated that B cell immunity/neutralizing antibodies will be diminished based on the changes observed in the genome. It is believed that it is more likely that T cell/cellular immunity will largely be preserved. This means that the immune system may not prevent as many infections from occurring, but the immune components responsible for clearing the virus may still largely prevent infections from leading to more severe disease. **Confidence = low-moderate.**

### 4. What does this mean?

The assessment at this time is that it is anticipated more breakthrough infections in vaccinated/naturally immune populations. Neutralizing antibody studies are forthcoming, but given the number of mutations and locations observed on the genome, it is anticipated there will be reduced protection. 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. In unvaccinated/non-immune populations, however, the likely high transmissibility may pose a challenge (although the severity of illness in susceptible populations is still unknown). If the circulation of Omicron leads to more breakthrough infections in those vaccinated or previously infected by earlier variants, this will be a significant setback in terms of a return to a sense of societal normalcy even if it causes mild illness, given the large segments of society that have no underlying immunity including in the regions with greater vaccine access.

Country	# of confirmed cases	Date of first report*	Evidence of local transmission
South Africa	99	24-Nov-21	
Botswana	19	25-Nov-21	
Hong Kong	3	26-Nov-21	
Israel	1	26-Nov-21	
Belgium	1	26-Nov-21	
Netherlands	14	28-Nov-21	
Denmark	4	28-Nov-21	
Australia	6	28-Nov-21	
Austria	1	30-Nov-21	Yes
Italy	9	27-Nov-21	Yes
United Kingdom	22	27-Nov-21	Yes
Germany	4	27-Nov-21	Yes
Canada	5	28-Nov-21	
Sweden	3	29-Nov-21	
Portugal	13	29-Nov-21	Yes
Spain	1	29-Nov-21	
Japan	1	30-Nov-21	
Reunion (France)	1	30-Nov-21	

\*Date of first report refers to the earliest date that confirmed cases were reported.



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

Source: <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---30-november-2021>

On 28 November 2021, WHO published a [technical brief with priority actions for Member States](#). Cases of Omicron have already been identified in a number of countries, with a high likelihood of further spread. Based on available evidence, a list of priority actions for Member States has been recommended including:

- Enhance surveillance and sequencing activities to understand the extent of circulation of SARS-CoV-2 variants, including Omicron.
- Submit complete genome sequences and associated metadata to a publicly available database, such as GISAID.
- Where applicable, use the S gene target failure (SGTF) on certain Polymerase Chain Reaction (PCR) tests as a marker for Omicron infection.
- Report initial cases/clusters of Omicron infections to WHO through the International Health Regulations (2005) mechanism; thereafter, report the relative prevalence of Omicron amongst sequenced samples and/or, where available, the number of SGTF out of the number of samples tested.
- Continue to report evidence-based information on other circulating variants by authorities in a regular, timely and transparent manner.
- Accelerate the coverage of COVID-19 vaccination as rapidly as possible, particularly amongst those who are unvaccinated or partially vaccinated and are in a population at high priority for vaccination.
- Use a risk-based approach to adjust [international travel measures](#) in a timely manner, and report to WHO the application of time-limited measures affecting international travel and trade.
- Reduce transmission of SARS-CoV-2 via the use of well-fitted masks, physical distancing, hand hygiene, adequate ventilation of indoor spaces, and avoiding crowded spaces.
- Allow public health and social measures to be adjusted efficiently, depending on the local transmission scenario.
- Prepare and ensure essential health services can be maintained including the necessary health care resources, when demand on health care services is high.

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

WHO label	Alpha	Beta	Gamma	Delta	Omicron
<b>Transmissibility</b>	Increased transmissibility <sup>5</sup>	Increased transmissibility <sup>6,7</sup>	Increased transmissibility <sup>7,8</sup>	Increased transmissibility <sup>7,9,10</sup>	No direct evidence for increased transmissibility.
<b>Disease severity</b>	Possible increased risk of hospitalization <sup>11,12</sup> , possible increased risk of severe disease and death <sup>13,14</sup>	Possible increased risk of hospitalization <sup>12</sup> , possible increased in-hospital mortality <sup>15</sup>	Possible increased risk of hospitalization <sup>12</sup> , possible increased risk of severe disease <sup>16</sup>	Possible increased risk of hospitalization <sup>17,18</sup>	Not yet known. Clinical outcome data are under review.
<b>Risk of reinfection</b>	Neutralizing activity retained <sup>19</sup> , risk of reinfection remains similar <sup>20</sup>	Reduction in neutralizing activity reported; T cell response elicited by D614G virus remains effective <sup>21</sup>	Moderate reduction in neutralizing activity reported <sup>22</sup>	Reduction in neutralizing activity reported <sup>23-25</sup>	Preliminary evidence suggests a possible increased risk of reinfection <sup>26</sup>
<b>Impacts on diagnostics</b>	Limited impact – S gene target failure (SGTF), no impact on overall result from multiple target RT-PCR; No impact on Ag RDTs observed <sup>27</sup>	No impact on RT-PCR or Ag RDTs observed <sup>25</sup>	None reported to date	No impact on RT-PCR or Ag RDTs observed <sup>28</sup>	PCR continues to detect Omicron. Impact on Ag-RDTs is under investigation.

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

## Vaccine performance against Variants of Concern

Since the 17 November update, six notable new studies have provided evidence of COVID-19 vaccine performance against the other Variants of Concern.

**A peer-reviewed, test-negative case-control study from India** evaluated the effectiveness of Bharat-Covaxin, an inactivated whole-virion vaccine, in preventing symptomatic disease among employees of a tertiary care hospital in New Delhi from 15 April 2021 to 15 May 2021, when Delta was the dominant circulating variant. The VE of one and two doses of the vaccine at preventing symptomatic disease 14 or more days after vaccination was -1% (95% CI: -51-33%, not statistically significant) and 50% (33-62%), respectively. When excluding persons who had been previously infected with SARS-CoV-2, the VE of two doses of the vaccine was 47% (29-61%) against symptomatic disease among this population with high exposure, with a median follow-up time of 50 days from receipt of the second dose.

**A second test-negative case-control study** (not yet peer-reviewed) assessed the effectiveness of Sinovac-CoronaVac among 19 838 pregnant women 18-49 years of age in Brazil from 15 March 2021 to 3 October 2021. Gamma was the predominant circulating variant during most of this period, while Delta became the predominant circulating variant during the last 1-2 months of the study. The effectiveness of one and two doses of the vaccine at preventing symptomatic disease 14 or more days after vaccination was 5% (-18.2%-23.7%, not statistically significant) and 41% (27.0-52.2%), respectively. The VE of one and two doses against progression to severe disease (defined as dyspnea or respiratory discomfort, persistent pressure or pain in the chest, oxygen saturation less than 95% on room air, cyanosis of the lips or face) or COVID-19 hospitalization or death, among pregnant women infected with SARS-CoV-2, was 67.7% (20.0-87.0) and 85.4% (59.4-94.8%), respectively. The maximum possible follow-up time post final dose was approximately 28 weeks.

**A third retrospective cohort study** (not yet peer-reviewed) from the **United Arab Emirates** assessed the VE of the Beijing CNBG- BBIBP-CorV vaccine against hospitalization and death among residents of Abu Dhabi from September 2020 to April 2021. During the study period, there was initially a high prevalence of non-VOCs, followed by a period of Alpha predominance, then a period of Beta predominance at the very end. Authors note that Alpha and Beta variants comprised the majority of cases over the study period, although the study did not present variant-specific VE estimates. A single dose of Beijing CNBG- BBIBP-CorV vaccine was not effective at preventing hospitalization (VE: -35%, 95% CI: -45 to -26%) and showed low VE against death 14 or more days after vaccination (VE: 12%, 95% CI: -95%-61%, not statistically significant). However, two doses of the vaccine had VE against hospitalization and death of 74% (72-76%) and 96% (69-99%) 14 or more days following immunization. The maximum possible follow-up time post final dose was approximately 33.5 weeks.

**A fourth, peer-reviewed retrospective cohort study from Singapore** evaluated the combined VE of Moderna-mRNA-1273 and Pfizer BioNTech-Comirnaty vaccines at preventing infection, symptomatic disease, and severe disease among 1204 household contacts of 301 confirmed Delta index cases. Two doses of either vaccine was 61.6% (95% CI: 37.5-80.4%), 67.9% (41.3-87.8%), and 100% (no CI available due to no events among vaccinated persons) effective at preventing infection, symptomatic disease, and severe disease, respectively, 15 or more days following receipt of the second dose. Lower VE estimates for infection and symptomatic disease than in other studies likely reflect the high exposure risk among household contacts of cases. In addition, after adjusting for age, gender, and vaccination status of household contacts, vaccinated index cases were less likely to infect household contacts compared to unvaccinated contacts, though this finding was not statistically significant (VE against transmission: 27%, 95% CI: -40-62%).

**A fifth prospective cohort study from the United Kingdom** (not yet peer-reviewed) evaluated the VE of AstraZeneca-Vaxzevria and Pfizer BioNTech-Comirnaty against transmission of SARS-CoV-2 infection to household contacts of Alpha index cases and Delta index cases, separately. After adjusting for age and vaccination status of contacts, two doses of AstraZeneca-Vaxzevria or Pfizer BioNTech-Comirnaty vaccines were 35% (95% CI: -26%-74%, not statistically significant) and 57% (5-85%) effective at preventing transmission to household contacts of Alpha index cases, respectively, and 42% (14-69) and 31% (-3-61%, not statistically significant) effective at preventing transmission to household contacts of Delta index cases, respectively.

Finally, **a test-negative case-control study from the United Kingdom** (not yet peer-reviewed) assessed the VE of a third dose of Pfizer BioNTech-Comirnaty in addition to the primary series of either two doses of AstraZeneca-Vaxzevria or two doses of Pfizer BioNTech-Comirnaty among persons 50 years and older during a period when Delta was the dominant variant. Compared to persons receiving two doses of AstraZeneca-Vaxzevria 140 or more days prior to testing with no booster, the relative VE of two doses of AstraZeneca-Vaxzevria plus an additional dose of Pfizer BioNTech-Comirnaty was 87.4% (84.9-89.4%) against symptomatic disease 14 or more days after the additional dose. The relative VE against symptomatic disease of a third dose of Pfizer BioNTech-Comirnaty following a primary series of Pfizer BioNTech-Comirnaty compared to two doses of Pfizer BioNTech-Comirnaty only was 84.4% (82.8%-85.8%). Using the unvaccinated group as the comparator, the absolute VE of a third dose of Pfizer BioNTech-Comirnaty following a primary series of AstraZeneca-Vaxzevria was 93.1% (91.7-94.3%); the absolute VE of three doses of Pfizer BioNTech-Comirnaty was 94.0% (93.4-94.6%).

The Table on the next slide summarizes the impact of variants on product specific vaccine efficacy/effectiveness (VE) and quantifies the reduction in VE in the setting of variants compared to non-VOC settings. As of the writing of this update, no studies of neutralization or vaccine performance against Omicron are available.

# SARS-CoV-2 Variants of Interest and Variants of Concern

## Summary of vaccine performance against Variants of Concern

Source: <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---30-november-2021>

	WHO Emergency Use Listing (EUL) Qualified Vaccines											Vaccines without WHO EUL		
	AstraZeneca-Vaxzevria/SII-Covishield	Beijing CNBG-BBIBP-CorV	Bharat-Covaxin	Janssen-Ad26.COV 2.5	Moderna-mRNA-1273	Moderna-mRNA-1273/Pfizer BioNTech-Comirnaty	Pfizer-BioNTech-Comirnaty	Sinovac-CoronaVac	Anhui ZL-Recombinant	Gamma-Gamaleya-Sputnik V	Novavax-Covavax			
<b>Alpha<sup>35,36</sup></b>														
<b>Summary of VE*</b>	Protection retained against all outcomes													
- Severe disease	↔ <sub>2</sub>	-	-	-	↔ <sub>2</sub>	↔ <sub>1</sub>	↔ <sub>6</sub>	-	-	-	-	-		
- Symptomatic disease	↔ to ↓ <sub>5</sub>	-	-	-	↔ <sub>1</sub>	↔ <sub>1</sub>	↔ <sub>4</sub>	-	-	-	-	↓ <sub>1</sub>		
- Infection	↔ to ↓ <sub>4</sub>	-	-	-	↔ <sub>3</sub>	-	↔ <sub>3</sub>	-	-	-	-	-		
<b>Neutralization</b>	↔ to ↓ <sub>8</sub>	↔ <sub>1</sub>	↔ <sub>2</sub>	↔ <sub>4</sub>	↔ to ↓ <sub>13</sub>	↔ to ↓ <sub>2</sub>	↔ to ↓ <sub>42</sub>	↔ to ↓ <sub>6</sub>	↔ <sub>2</sub>	↔ to ↓ <sub>4</sub>	↓ <sub>1</sub>	-		
<b>Beta<sup>37-40</sup></b>														
<b>Summary of VE*</b>	Protection retained against severe disease; reduced protection against symptomatic disease; limited evidence													
- Severe disease	-	-	-	↔ <sub>1</sub>	↔ <sub>1</sub>	-	↔ <sub>3</sub>	-	-	-	-	-		
- Symptomatic disease	↔ to ↓ <sub>2</sub>	-	-	↔ <sub>1</sub>	↔ <sub>1</sub>	-	↔ <sub>2</sub>	-	-	-	-	↓ <sub>1</sub>		
- Infection	-	-	-	-	↔ <sub>1</sub>	-	↓ <sub>1</sub>	-	-	-	-	-		
<b>Neutralization</b>	↓ to ↓ <sub>8</sub>	↔ to ↓ <sub>2</sub>	↓ <sub>2</sub>	↓ to ↓ <sub>8</sub>	↓ to ↓ <sub>17</sub>	↓ to ↓ <sub>2</sub>	↓ to ↓ <sub>42</sub>	↓ to ↓ <sub>6</sub>	↔ to ↓ <sub>3</sub>	↓ to ↓ <sub>5</sub>	↓ <sub>1</sub>	↓ <sub>1</sub>		
<b>Gamma</b>														
<b>Summary of VE*</b>	Unclear impact; very limited evidence													
- Severe disease	↔ <sub>1</sub>	-	-	-	↔ <sub>1</sub>	-	↔ <sub>2</sub>	-	-	-	-	-		
- Symptomatic disease	↔ <sub>1</sub>	-	-	-	↔ <sub>1</sub>	-	↔ <sub>1</sub>	-	-	-	-	-		
- Infection	↔ <sub>1</sub>	-	-	-	↔ <sub>1</sub>	-	↔ <sub>1</sub>	↔ <sub>1</sub>	-	-	-	-		
<b>Neutralization</b>	↔ to ↓ <sub>3</sub>	-	-	↔ to ↓ <sub>4</sub>	↓ <sub>8</sub>	-	↔ to ↓ <sub>26</sub>	↔ to ↓ <sub>4</sub>	↔ <sub>1</sub>	↓ to ↓ <sub>3</sub>	-	-		
<b>Delta<sup>41</sup></b>														
<b>Summary of VE*</b>	Protection retained against severe disease; possible reduced protection against symptomatic disease and infection; limited evidence													
- Severe disease	↔ <sub>3</sub>	-	-	-	↔ <sub>3</sub>	-	↔ <sub>6</sub>	-	-	-	-	-		
- Symptomatic disease	↓ to ↓ <sub>5</sub>	-	↓ <sub>1</sub>	-	↔ <sub>1</sub>	-	↔ to ↓ <sub>4</sub>	-	-	-	-	-		
- Infection	↔ to ↓ <sub>4</sub>	-	-	↓ <sub>1</sub>	↔ <sub>3</sub>	-	↔ to ↓ <sub>3</sub>	-	-	-	-	-		
<b>Neutralization</b>	↓ <sub>9</sub>	-	↔ to ↓ <sub>3</sub>	↔ to ↓ <sub>8</sub>	↓ <sub>9</sub>	↓ to ↓ <sub>2</sub>	↔ to ↓ <sub>21</sub>	↓ to ↓ <sub>4</sub>	↔ to ↓ <sub>2</sub>	↓ to ↓ <sub>3</sub>	-	-		
<b>Omicron</b>														

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% reduction in VE, or VE >90% with no comparator, or that there was a <2-fold reduction in neutralization; "↓" 10 to <20% reduction in VE, or 2 to <5-fold reduction in neutralization; "↓↓" 20 to <30% reduction in VE, or 5 to <10-fold reduction in neutralization; "↓↓↓" ≥30% reduction in VE, or ≥10-fold reduction in neutralization. When more than one neutralization study is available, the interquartile range (25th and 75th percentiles) of fold-reductions across all studies for specific vaccine/variant was used. "Moderna-mRNA-1273/Pfizer BioNTech-Comirnaty" indicates that both vaccines were evaluated together in study. The number of studies is shown as subscripts: vaccine effectiveness and neutralization studies informing this table can be found on the [VIEW-hub Resources Library](#). References indicated by superscripts next to VOC name in column 1 are vaccine efficacy results from randomized controlled trials informing this table. Information for the Omicron variant will be included in upcoming issues as data becomes available.



# Crowd Adaptive Mask

Presented as a poster at the FHP Event from 3<sup>rd</sup> to 4<sup>th</sup> NOV 21

Dr Saurabh Kwatra Resolve  
Trimmed Innovations

## Introduction & Challenge; Function vs. Structure

Face masks are, would be & ought to be a priority in personal health care kits, least in present and till a while in future. Continuous discomfort from wearing breathing mask or respirator or alike is obvious. Fact remains that its functionality is accomplished only when other people are around. This causes an on-off effect in masking; people when socially close to others pull it up, and when socially distant (relatively alone) pull it down or even remove and pocket it. If uncorrected, masks will soon evolve as face mask-neck band!

Not only is it an inconvenienced option, it can be an erroneous habit (forgetting many times to wear when mandatory). And frequent tinkering of protective nose-mouth device by not-always sanitized hands can increase chances of infection spreading. Mileage gained from use of mask can be lost or even overtaken by harm caused in such cases.

A social contradiction, viz. wearing or not wearing mask is transformed to a technical contradiction and solution outputted is an adaptive mask with holes of varying size. A mask with dual-structure needs to be designed and manufactured; mask with holes far-apart when one is alone & same mask with holes closer-by when one is in a crowd. A functionally and structurally adaptive mask.

## Mask as a Technical System (Product/Process)

**Most Useful Function (s)** : To prevent infected air from reaching human respiratory system. More accurately, to filter out water droplets in air carrying pandemic-spreading viruses, bacteria, etc.

**Most Harmful Attributes (s)** : Mass, Dimensions & Energy consumed. (all these three properties of a system are considered a necessary evil, lesser they are, better it is. In other words, a lean, light and low power consumption product is most desirable and an ideal. This Industry 4.0 trend applies more remarkably and usefully to a military personnel for whom a low-weight, pocket-friendly & minimal power rated mask would be an asset.

Whereas all available masks are in general light & slim (no problem with Mass, Dimensions), there is a problem with Energy consumed! Here is the challenge: Energy consumed while breathing = Elastic potential energy that is supplied by respiratory system's muscles. Presence of mask puts an additional power load thus raising Energy consumed by mask. It also transforms quiet breathing into noisy one and causes quicker fatigue.

## Challenge can be avoided

1. In solitary situations, which can be up to 75% of total time with mask-on, there isn't infected air and power consumed by mask is unnecessary and avoidable.
2. In crowded situations however, mask is highly useful as a preventive add-on wearable. *These situations may not exceed 25% of total time.*

**Inspiration drawn from a quite different area in engineering**  
Example lifted from airplane: If wings of plane are broadened, lift increases but drag increases too. If wings of plane are narrowed, lift decreases but drag decreases too. In this case, 'width of wing' is a physical characteristic (one of important dimensions) of airplane, while lift and drag are system properties (actually forces in aerodynamics). If we frame this challenge in without 'width of wing', we get this: if lift improves i.e. increases, drag worsens, i.e. increases; if lift degrades i.e. decreases, drag improves i.e. decreases. Little need to mention, that lift is a desired property while drag is an undesired one- reduction of latter is effectually betterment.

We call this a **Technical Contradiction** or TC. In TC, improvement of one system property inevitably leads to worsening of another system property. The same challenge could have been stated in terms of wing span alone: wings of plane must possess large area and small area together.

We call this a **Physicoal Contradiction** or PC, wherein one physicoal characteristic like mass, size, length, temperature must have 'dual' values simultaneously. The aircraft designer finally came with (partially) retractable wings; separation on condition has occurred. During take-off and landing when lift is supreme and necessary under low speeds, flaps are opened. During cruise when high speed can easily provide lift and drag becomes a strong evil, they are withdrawn. So this PC is resolved without a compromise.

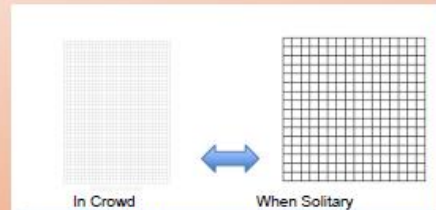


In-flight Adjustment during cruise



Take-off and Landing during take-off

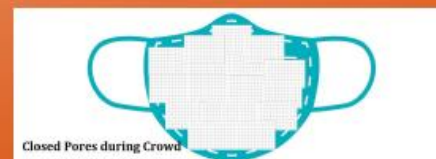
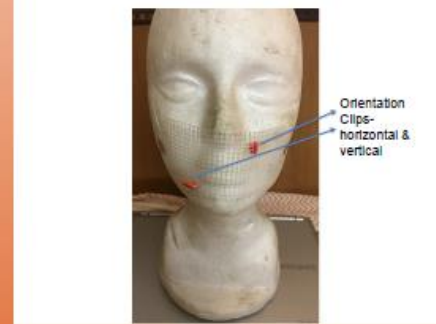
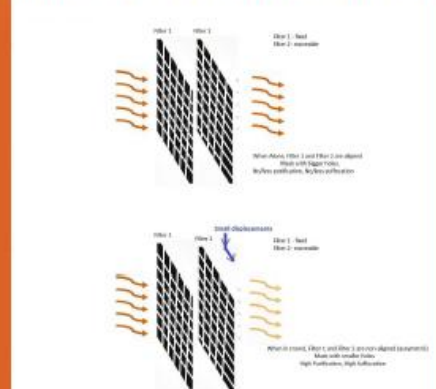
**Challenge & its Design Solution**  
A conventionally designed mask has a fixed pore size. The pore size of any protective equipment is the main physical characteristic. It functions to permit or prohibit passage of concerned pathogen. Whether it is an advanced surgical face masks used as personal protective gear or ordinary cloth coverings serving as make-shift mask or a N95 respirator, they have a common fundamental parameter: a fixed pore size. There is however a discomfort in wearing masks all the time. When in crowd, it is absolutely essential but when alone it can be removed off for a sigh of relief. But this is bad habit and cannot be encouraged. Also frequent removal and placement can cause too many hand touches and in fact can itself be a threat. Mask must be worn at all times when out! What if a mask exists that changes its pore size upon condition: bigger pore size when alone & smaller pore size when in crowd? A Physicoal Contradiction PC thus exists and needs to be resolved.  
If pore size is small, transmission of pathogen cannot occur but suffocation is felt, if pore size is large, transmission can occur, but suffocation isn't felt.  
So pore size (a physical characteristic) must be small and large. Of course at different times only. So, separation (separate pore sizes) upon condition is solution. When near people, pores size should narrow. When away from people, pore size should widen.



**Parallel from Welding:** The operator of the melting device to produce special refractory melts should see the manipulator well. Everything: capture of scoop with melt, line of crucibles, where melt be poured into. That's why he sits very close and he's got to be protected from hot metal sprays. People tried to use glass and many other materials, but nothing suited. They came to conclusion that only way of protection was a wire grid of the same metal. But they faced a contradiction: To see well, holes of the grid should be large (otherwise there should be no grid); For good protection from metal sprays, there should be small holes (smaller than sprays). The cells of grid should be small, in order well to defend eyes eyes of operator, and the cells of grid should be larger, in order to see without obstacles.  
**Physicoal Contradiction, PC: Cells should be simultaneously small-large.**



**Returning to mask problem:** Is a simple stretchable material suitable? How will it be stretched /relaxed? Will it be automatic or manual? Will it cause discomfort as forces act on facial structure. How many cycles can it endure? What be its fatigue strength? Can we use other controlling fields like electromagnetic on masks having ferromagnetic particles embedded in fabric? Technical Solution 1: Dynamical trend: Use two identical, parallel air-filters both with larger holes, whose relative position adjustable. Two states can exist:  
When alone, filters aligned: mask with effectively larger holes  
When in crowd, filters non-aligned: mask with effective smaller holes





# Other Infectious Disease Outbreaks / Human Disasters

## Malaria

**Sri Lanka** – Imported cases of malaria have been reported in Sri Lanka. According to officially available information, this year to date there has been a 42% decrease in cases when compared to the same period in 2020. Malaria was eliminated from Sri Lanka in 2012 and the country received WHO certification of malaria-free status in 2016. Given the continued importation of malaria, epidemiological surveillance of all imported cases and process to rule out the presence of autochthonous cases remains crucial

Source: News Media – <https://www.nation.lk/online/malaria-likely-to-spread-in-sl-through-imported-cases-147919.html>

## West Nile Fever

**Russia** - Locally acquired cases of the West Nile virus (WNV) have been reported for the first time ever in Moscow, the capital and largest city of Russia, located in the western country. This event is noteworthy as indicates an expansion of the natural foci of WNV in Russia due to warming climate change trends. In addition, West Nile fever in Russia is considered to be a rare tropical disease. The virus is carried by birds that migrate for the winter every year. The natural foci of WNV have been identified in the regions of Astrakhan, Volgograd, Rostov, Stavropol, and Krasnodar. Lastly, experts have indicated that WNV could have entered Moscow and the surrounding region from the Tula region, which is endemic for the disease

Source: ProMed - <https://promedmail.org/promed-post/?id=8699936>

## Rabies

**South Africa** - In October and November 2021, six cases of human rabies were confirmed from the Eastern Cape (n=4), KwaZulu Natal (n=1) and Limpopo (n=1) provinces. In addition, several suspected cases from these areas are under investigation at the time of this report. As of 23 November 2021, a total of seventeen laboratory-confirmed human rabies cases have been reported in South Africa. Although cases are reported annually in South Africa, the occurrence of cases in these provinces has increased compared to previous years. This compares to eight laboratory-confirmed cases for 2020, ten for 2019, sixteen for 2018, six for 2017 and one for 2016. The increased number of human cases is related to outbreaks of rabies in domestic dogs in the affected provinces. In the Eastern Cape, particularly the Nelson Mandela Bay and Buffalo City districts, more than 400 cases of rabies in dogs have been confirmed for 2021 up to 18 November. In KwaZulu Natal, the eThekweni and King Cetshwayo districts have been most affected with nearly 300 cases of rabies in dogs reported up to 18 November. The first occurrence of dog rabies cases in the Cape Town surrounds in decades have also been reported in recent months. A total of four dog cases were reported from Khayelitsha and Gordon's Bay. No additional cases have been reported since mid-October 2021. To date, no human rabies cases have been reported from the Western Cape province.

Source: Laboratory – <https://www.nicd.ac.za/increase-in-human-rabies-cases-in-south-africa-24-november-2021/>

## Influenza

**Europe** - Week 46/2021 (15 - 21 November 2021)

- Influenza activity was low throughout the European Region.
- Of the 1 487 specimens tested for influenza viruses in week 46/2021 from patients presenting with ILI or ARI symptoms to sentinel primary healthcare sites, 72 (5%) were positive for influenza virus; 61 influenza A viruses (32 subtyped as A(H3), 11 subtyped as A(H1)pdm09) and 11 influenza B viruses (none with lineage determined).
- Hospitalized laboratory confirmed influenza cases were reported from ICU wards (4 influenza A viruses), and from SARI cases (2 influenza type A viruses).
- Influenza viruses were detected sporadically from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions). Both influenza type A and type B viruses were detected.

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

## Onchocerciasis

**Global** - Data published by the WHO show that, in 2020, countries endemic for onchocerciasis continued to make progress in interrupting transmission of the disease, despite disruptions caused by the COVID-19 pandemic. Many countries were able to implement large-scale treatment campaigns by observing robust COVID-19 risk mitigation measures. As many as six countries in Africa were unable to implement planned large-scale treatment programmes and this resulted in a 27% reduction in coverage as compared with 2019. In the pre-pandemic years, several countries completed post-treatment surveillance resulting in 1.8 million people no longer requiring treatment. Although progress has been made to interrupt transmission, better programme guidance, tools and systems are required to ensure that decisions are based on sound evidence.

Source: WHO <https://www.who.int/news/item/26-11-2021-onchocerciasis-elimination-achieving-ntd-road-map-targets-despite-current-pandemic-challenges>

## Monkey pox

**USA** - On 16 November 2021, the IHR National Focal Point of the United States of America (USA) notified PAHO/WHO of an imported case of human monkeypox in Maryland, USA. The patient is an adult, resident of the USA, with recent travel history to Nigeria. The individual was in Lagos, Nigeria when they developed a rash. On 6 November, they travelled from Lagos, Nigeria to Istanbul, Turkey and, on 7 November, from Istanbul to Washington, D.C, USA. The patient has not been vaccinated against smallpox in the past and is currently in isolation in Maryland. Samples of skin lesions were positive on 13 November by RT-PCR assays for orthopoxvirus-generic and non-variola orthopoxvirus at the Maryland laboratory of the Laboratory Response Network (LRN). On 16 November, the US CDC confirmed the diagnosis on the same two lesion specimens by PCR assays for monkeypox, and also, specifically for the West African clade of monkeypox, the strain that re-emerged in Nigeria since 2017. At this time, while the patient had remained in Lagos throughout the stay in Nigeria, the source of infection for this case is unknown. This is the second time that an imported human monkeypox case has been detected in a traveler to the USA. The first imported human case in a traveler from Nigeria was reported on 15 July 2021.

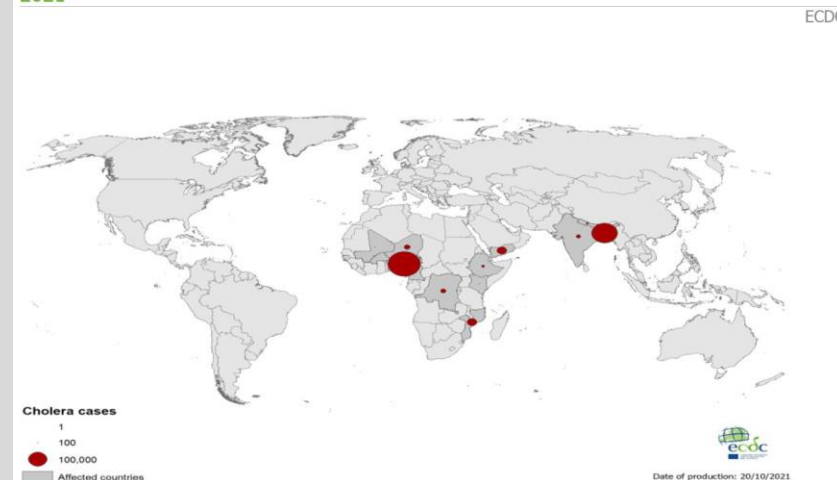
Source: WHO - <https://www.who.int/emergencies/disease-outbreak-news/item/2021-DON344>

## Cholera

**Global** - Several countries in Africa and Asia have reported cholera outbreaks in 2021. Major ongoing outbreaks are being reported from Bangladesh, Nigeria, and Niger. Haiti reported its last laboratory-confirmed case in February 2019. Since end of October 2021, approximately 26 648 suspected cholera cases, including 346 deaths, have been reported worldwide. Countries reporting most of the new cases are Nigeria, Bangladesh, Democratic Republic of the Congo, Mozambique, and Niger.

Source: ECDC - <https://www.ecdc.europa.eu/en/publications-data/communicable-disease-threats-report-21-27-november-2021-week-47>

Geographical distribution of cholera cases reported worldwide from August to October 2021



# Monthly Recap of Emerging Diseases – November 2021



30.11.2021

Region	Location	Disease	Brief Description	Article Link
North America	United States	Unknown illness	Mysterious Illness Hits 45 Students at a North Carolina Middle School	<a href="https://www.msn.com/en-us/news/us/mysterious-illness-hits-45-students-at-a-north-carolina-middle-school/ar-AAQxOgO">https://www.msn.com/en-us/news/us/mysterious-illness-hits-45-students-at-a-north-carolina-middle-school/ar-AAQxOgO</a>
	United States	Monkeypox	Maryland reports travel-associated monkeypox case	<a href="http://outbreaknewstoday.com/maryland-reports-travel-associated-monkeypox-case-69452/">http://outbreaknewstoday.com/maryland-reports-travel-associated-monkeypox-case-69452/</a>
	Montserrat	Dengue	No cases of dengue were reported in 2020 while one case of dengue was reported in 2019	<a href="https://www.paho.org/data/index.php/en/mnu-topics/indicadores-dengue-en/dengue-nacional-en/252-dengue-pais-ano-en.html">https://www.paho.org/data/index.php/en/mnu-topics/indicadores-dengue-en/dengue-nacional-en/252-dengue-pais-ano-en.html</a>
South America	Brazil	Rabies	The affected individual was a two-year-old child from Chapadinha, Maranhão, northeastern Brazil who was bitten by a fox. The last human rabies case and death in the state was confirmed in 2013.	<a href="https://promedmail.org/promed-post/?id=8699468">https://promedmail.org/promed-post/?id=8699468</a>
	Brazil	Unknown Illness	Unknown illness in Brazil	<a href="https://promedmail.org/promed-post/?id=8699816">https://promedmail.org/promed-post/?id=8699816</a>
Europe	Ukraine	Vaccine-derived Poliomyelitis	This event is noteworthy as health officials report that only 49.7% of children in the Zakarpattia region have been vaccinated against polio, which is one of the worst indicators of polio immunization in the country. No human cases of polio had been confirmed in Ukraine for several years.	<a href="https://tsn.ua/ukrayina/na-zakarpatti-v-12-richnoyi-divchinki-pidtvordili-poliomiyelit-u-ditini-paralizovana-noga-1900471.html">https://tsn.ua/ukrayina/na-zakarpatti-v-12-richnoyi-divchinki-pidtvordili-poliomiyelit-u-ditini-paralizovana-noga-1900471.html</a>
	Netherlands	Vaccine-derived Poliomyelitis	Another polio virus found in Bilthoven's sewer	<a href="https://www.rtvutrecht.nl/nieuws/3207149/w-r-poliavirus-in-bilthovens-riool-aangetroffen.html">https://www.rtvutrecht.nl/nieuws/3207149/w-r-poliavirus-in-bilthovens-riool-aangetroffen.html</a>
Oceania	New Zealand	Leprosy	Leprosy still exists in New Zealand, with new cases in Canterbury	<a href="https://www.stuff.co.nz/national/health/127039812/leprosy-still-exists-in-new-zealand-with-new-cases-in-canterbury">https://www.stuff.co.nz/national/health/127039812/leprosy-still-exists-in-new-zealand-with-new-cases-in-canterbury</a>
Asia	Hong Kong	Hepatitis E	Additional human cases of Hepatitis E (rat strain) have been confirmed in Hong Kong in 2021. Since the first case was identified in 2018, 16 cases have been confirmed throughout the country. To date, cases of Hepatitis E (rat strain) have only been confirmed in Hong Kong and have not yet occurred elsewhere worldwide, although the geographic distribution globally is not well understood.	<a href="http://outbreaknewstoday.com/hong-kong-officials-report-rat-hepatitis-e-virus-infection-95122/">http://outbreaknewstoday.com/hong-kong-officials-report-rat-hepatitis-e-virus-infection-95122/</a>
	Japan	Yezo Virus Infection	A novel virus, the Yezo virus, has been identified by genome sequencing by a group of scientists in Japan. According to available information, the disease may have first emerged in 2014, and since then, at least seven individuals from Hokkaido prefecture -the northernmost of Japan's main islands- have received laboratory confirmation of infection.	<a href="https://promedmail.org/promed-post/?id=8699481">https://promedmail.org/promed-post/?id=8699481</a>
	India	Unknown illness	Flu-type illness grips Jind village, 12 lives lost	<a href="https://www.tribuneindia.com/news/haryana/flu-type-illness-grips-jind-village-12-lives-lost-336052">https://www.tribuneindia.com/news/haryana/flu-type-illness-grips-jind-village-12-lives-lost-336052</a>
	Pakistan	Unknown Febrile Illness	Reports have indicated that although the affected individuals present with a dengue-like clinical picture, laboratory tests returned negative for the dengue virus.	<a href="https://www.geo.tv/latest/381709-karachi-witnessing-mysterious-dengue-like-viral-fever-say-experts">https://www.geo.tv/latest/381709-karachi-witnessing-mysterious-dengue-like-viral-fever-say-experts</a>
Asia/Europe	Russia	Swine Influenza H3N2	In the Tver region, two unvaccinated children contract the Hong Kong flu	<a href="https://pda.tver.kp.ru/online/news/4510825/">https://pda.tver.kp.ru/online/news/4510825/</a>
	Russia	West Nile	West Nile in russia	<a href="https://promedmail.org/promed-post/?id=8699936">https://promedmail.org/promed-post/?id=8699936</a>
Africa	Senegal	Unknown illness	Reports highlight that some experts are considering whether they need to rule out a combination of bio-toxins. It is noteworthy that this pattern of infection has emerged for two consecutive years among fishermen in the same region. However, the understandings of public health impact are still very limited.	<a href="https://www.rt.com/news/507274-senegalese-fishermen-skin-disease/">https://www.rt.com/news/507274-senegalese-fishermen-skin-disease/</a>
	South Africa	Crimean-Congo Hemorrhagic Fever (CCHF)	This is the first CCHF case in South Africa since February 2020	<a href="http://outbreaknewstoday.com/south-africa-reports-1st-crimean-congo-hemorrhagic-fever-case-of-2021/">http://outbreaknewstoday.com/south-africa-reports-1st-crimean-congo-hemorrhagic-fever-case-of-2021/</a>
	Central African Republic	Unknown Febrile Illness	Media has reported on four suspected cases and deaths attributed to Ebola virus	<a href="https://www.aa.com.tr/fr/afrique/la-maladie-à-virus-ebola-détectée-en-centrafrique/2418508">https://www.aa.com.tr/fr/afrique/la-maladie-à-virus-ebola-détectée-en-centrafrique/2418508</a>
	Ghana	Melioidosis	This event is noteworthy, as melioidosis is underreported in known disease-endemic foci, and modeling has suggested that it is probably endemic to 34 countries that have never reported cases, including 24 in Africa.	<a href="https://promedmail.org/promed-post/?id=8699755">https://promedmail.org/promed-post/?id=8699755</a>

# Flu Awareness Campaign 2021

## Influenza

during the COVID-19 pandemic

### How do I protect myself and others from COVID-19 during influenza vaccination?

- Don't come for a vaccination if you are ill or have had close contact with a COVID-19 case in the past two weeks.
- Keep a distance of at least one metre (ideally two) to other people, except for the vaccinator, in the facility.
- Schedule your vaccination during less busy times when there are no queues.
- Use a surgical face mask or a textile mask to protect against droplets.
- Wash your hands with soap and water before and after being in the facility for vaccinations. Alternatively, use alcohol-based disinfectant.
- Avoid touching surfaces with bare hands, or shaking hands with anyone in the facility.



The Flu Awareness Campaign is a communication campaign marked across the [WHO European Region](#) every year in October. It aims to raise awareness of the importance of vaccination for people's health and well-being and to increase the uptake of seasonal influenza vaccination of people with underlying risk factors.

ECDC supports the Flu Awareness Week by providing scientific evidence on vaccination and promoting vaccination uptake among risk- and priority groups.

Source:

<https://www.euro.who.int/en/health-topics/communicable-diseases/influenza>

<https://www.ecdc.europa.eu/en/news-events/flu-awareness-campaign-2021>

<https://flunewseurope.org/>

### Get ready for the upcoming flu season!



## Influenza

during the COVID-19 pandemic

### Why is it important to get vaccinated against influenza during the COVID-19 pandemic?

- By getting vaccinated, you help protect the vulnerable, such as the elderly and those with chronic underlying medical conditions. These are people who are at increased risk of severe outcomes such as respiratory difficulties or death.
- Both influenza and COVID-19 can cause severe disease, but note that the influenza vaccine only protects against influenza.
- Dual infection with COVID-19 and influenza is likely to cause more severe outcomes.
- Both COVID-19 and influenza can disrupt healthcare services and the functioning of nursing homes. It is especially important this year that healthcare staff get vaccinated against influenza and that healthcare services keep running.





# 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-air-travellers>

- <https://www.cdc.gov/coronavirus/2019-ncov/travelers/testing-air-travel.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](http://www.ecdc.europa.eu)
- World Health Organization WHO; [www.who.int](http://www.who.int)
- Centres for Disease Control and Prevention CDC; [www.cdc.gov](http://www.cdc.gov)
- European Commission; [https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-and-transportation-during-coronavirus-pandemic\\_en](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/>