

# Weeks 4-5: COVID-19 Update

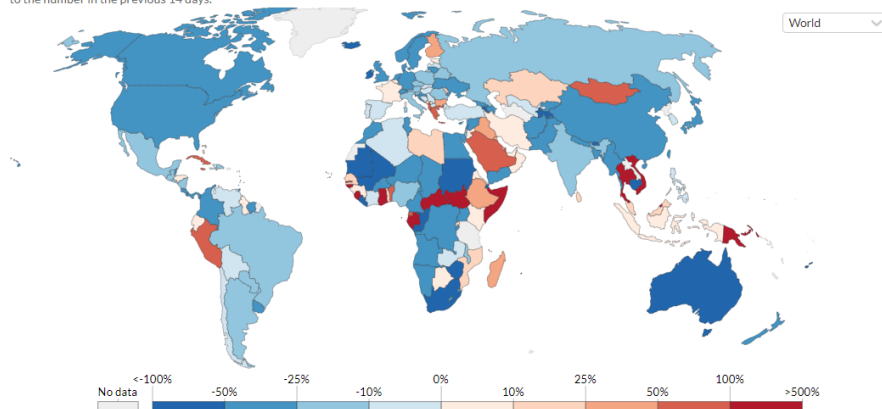
24 January – 6 February 2021

Over **105.2 million cases confirmed** and reported, with **over 2.2 million deaths** reported to date (**unofficially** over 106.4 million cases and over 2.3 million deaths, over 25.8 million active cases (increase) and over 78.1 million recovered). **The US, Mexico, Brazil, the UK, reporting the highest daily incidences in death** in the last 24 hours. **The US, Brazil, France, the UK, Russia, Italy, Mexico, Indonesia, India, Germany are reporting the highest daily increases**, all **reporting above 10,000 newly confirmed cases in the past 24 hours**.<sup>1</sup> Once again total reported new cases have declined (by 13%), with the peak in global incidence of COVID-19 being the first week of January. Southeast Asia was the only region to see an increase. While global deaths declined, Western Pacific, Southeast Asia, MENA, and Americas saw a rise. **The countries reporting the highest number of new cases continues to be the US, Brazil, the UK, France, and Russia.** January 31 2021 marks one year since the WHO declared COVID-19 a Public health Emergency of International Concern.

Biweekly change of confirmed COVID-19 cases, Feb 6, 2021

The biweekly growth rate on any given date measures the percentage change in the number of new confirmed cases over the last 14 days relative to the number in the previous 14 days.

Our World in Data



Source: Johns Hopkins University CSSE COVID-19 Data - Last updated 7 February, 09:02 (London time)

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## Global COVID-19 cases surpasses 100 million

- 1 case to 20 million: 220 days
- 20 to 40 million: 68 days
- 40 to 60 million: 38 days
- 60 to 80 million: 32 days
- 80 to 100 million: 32 days

## News / Context

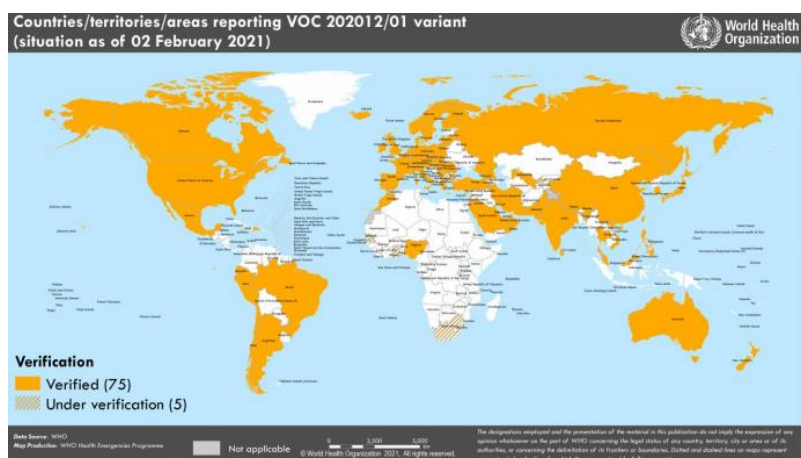
- Countries with **highest reported new cases per 1 million daily increases** (Feb 7<sup>th</sup>)<sup>2</sup>:
  1. Seychelles: 2,186
  2. Saint Lucia: 1,400
  3. Montenegro: 909
  4. Czechia: 806
  5. Portugal: 601
- Countries with **highest reported new deaths per 1 million** (Feb 7<sup>th</sup>)
  1. San Marino: 29.5
  2. Portugal: 21
  3. Slovakia: 15.6
  4. Czechia: 14.3
  5. Andorra: 12.9
- Test positivity is highest in Oman (36%), Mexico (35%), Tunisia (34%), Mozambique (30%), Bolivia (30%), Malawi (30%).
- A review of data submitted to WHO shows an estimated 8% of all COVID-19 cases were reported from healthcare workers (around 1,29 million cases). Infection rates at the beginning of the pandemic were much higher and reduced then leveled off.
- Cases of COVID-19 detected in Minks on a farm in Poland, leading to all infected mink on the farm to be culled

<sup>1</sup> Official numbers and WHO visualizations available [here](#)

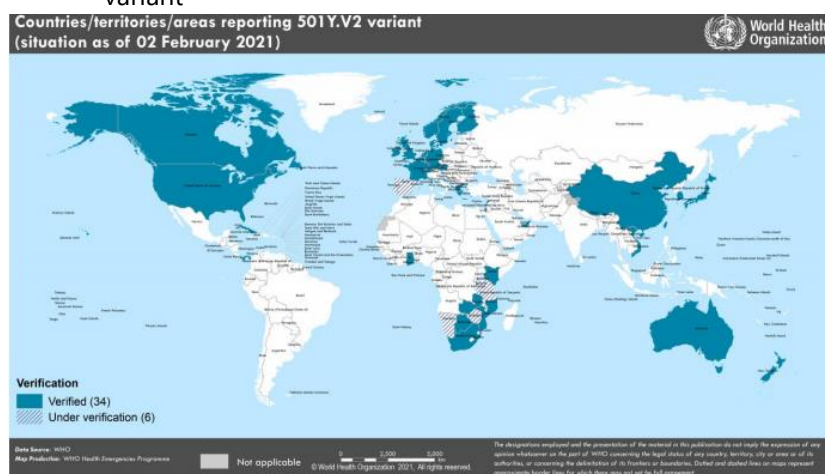
<sup>2</sup> Our World in Data [Incidence](#)

## New variants of SARS-CoV-2

New variants are expected as virus mutations are common, but the detection of several variants of concern highlights the need to continue genetic sequencing of samples – noted that these detections are likely underestimates due to low genetic sequencing.<sup>3</sup>

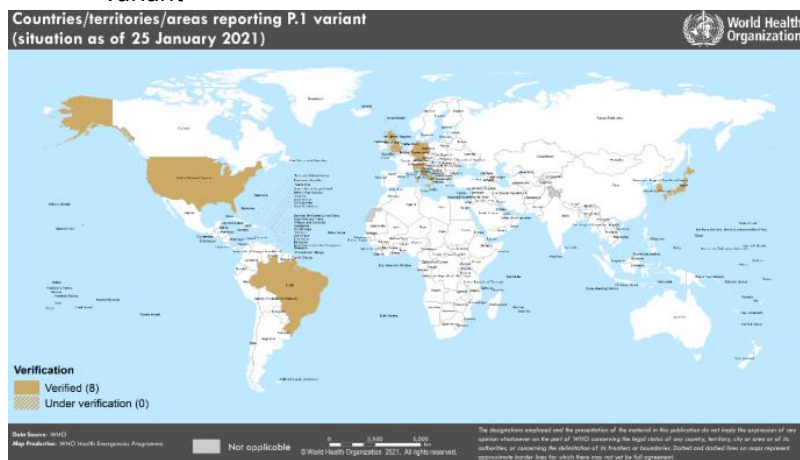


- **(SARS-CoV-2 VUI 202012/01 or “B.1.1.7”)** detected in the UK has now been detected in **80** countries. The variant is associated with higher transmissibility (of potentially 50-70%)
  - Reports show that **cough, sore throat, fatigue, myalgia and fever are more common symptoms**, and loss of taste and smell are consistently less common ([BMJ](#)).
  - Notably more **evidence suggests the new variant has a higher risk of mortality** estimated at 30-40% among some individuals, with additional research underway.
    - [New and Emerging Respiratory Virus Threats Advisory Group](#) (NERVTAG) found that that mortality risk was significantly higher in individuals infected with the B.1.1.7 variant across multiple age groups, with increases ranging from 29% to 91% in multiple studies.
    - ***It should be noted that results are preliminary, and increased mortality has also been associated with increased ICU occupancy overall***
  - Ongoing studies on the variant are available [here](#) from Public Health England
  - Currently evidence shows that the vaccines in use are still effective with this new variant



<sup>3</sup> Additional useful sources: [US CDC](#), [WHO](#), [Sit Rep 19 Jan \(WHO\)](#), [ECDC Risk Assessment related to SARS-CoV-2 VOC in the EU/EEA](#), [Public Health England investigation of novel SARS-CoV-2 variant](#). [Additional resources shared on the last page in the resource section.](#)

- **(501Y.V2 or “B.1.351”) detected in South Africa** has been detected in 41 countries.
  - Preliminary investigations show the variant is more transmissible, although it does not cause more severe illness it has placed health systems under greater pressure. More details [here](#).
  - The variant has been found to be less susceptible to antibody neutralization than previously known variants
  - Preliminary studies with the Moderna vaccine show a potential reduction in immune response with the identified variant (however, still higher immune response than found following natural infection). The company is investigating the potential of using a booster candidate component.
    - Similar results have been found in the Johnson and Johnson trials
    - Astra Zeneca also report lower effectiveness among those with the B.1.351 variant



- **B.1.1.28 (P.1) detected in Japan from 4 travellers coming from Brazil** has now been reported 10 countries.
  - Transmission of the new variant has been detected in an increasing proportion of the population in Brazil, suggesting an increase in transmission, but research is still underway.
- In a Global Transmission Seminar on SARS-CoV-2, experts discussed VoC, suggesting that some variants may be **more transmissible**, possibly due to mutations that improve the virus’s ability to bind to human cells, but available studies have found that the **modes of transmission have not changed**.

## Regional Trends

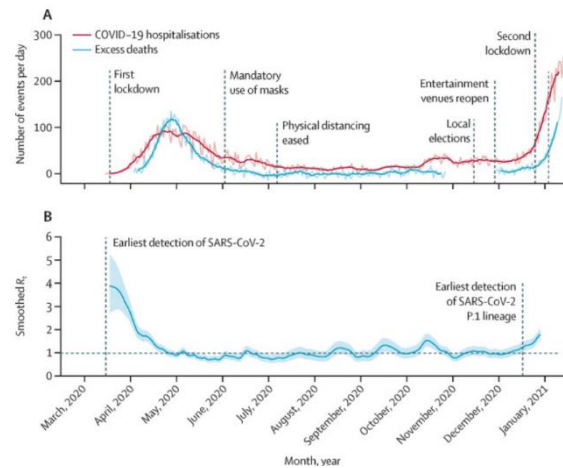
- **Africa Region**
  - For two weeks the region has experienced a decrease in new cases (27% decrease in the past week) with a decrease in deaths compared to the previous week (8%).
  - Countries reporting the highest new cases include: **South Africa, Nigeria**, and **Zambia**, with South Africa, **Zimbabwe** and **Malawi** reporting the highest number of deaths.
- **Americas Region**
  - After an increase in new cases last week, the region saw an 11% decrease in new reported cases this week. The majority of cases have been reported from the **US, Brazil, Mexico**, with the highest number of new deaths reported in the US, Brazil and Mexico.
  - COVID-19 cases **continue to accelerate throughout the Caribbean**

- **Mexico** has surpassed 150,000 deaths
- **MENA Region**
  - Following a decrease in deaths since November, the region experienced an increase in deaths by 3% for two weeks, but continued to see a decrease in reported cases. The Islamic Republic of **Iran, Lebanon, and UAE** reported the highest number of cases over the past week, with Lebanon, Iran, **Tunisia** reporting the highest number of deaths.
  - Given daily increases in several countries, many have implemented new restrictions in response to the virus.
- **European Region:**
  - The region continued to see a decrease in cases (18%) compared to the previous week, and a decrease in deaths (8%) compared to the previous week. The highest number of cases were reported in the **UK, Russia and France**, with the highest number of deaths reported by the UK, **Germany, Russia**.
  - **Portugal** continues to show a dramatic increase in the incidence of new cases and deaths reported due to COVID-19
  - Mortality rate for EU/EEA & the UK was estimated at 103.2 per 1 million people across 31 countries. ICU new admissions were 3.6 per 100,000 (which is 42% of the new ICU rate).
  - **Switzerland** ([14-day incidence available here](#)) has a 7-day incidence of 270.6 new cases per 100,000 population, occupancy rate for ICU for COVID-19 estimated at 27.2% (total ICU occupancy at 71.1%). Positive test rate 9% (PCR) and 6.7% (Antigen). Reproductive number estimated at 1.01
- **Asia Pacific Region:**
  - Following a decline for several weeks in the region, the WHO South East Asia region saw a plateau in both cases (3% increases) and deaths. Countries with the highest number of new cases include **India, Indonesia and Sri Lanka**. New deaths were highest in Indonesia, India and **Bangladesh**.
  - New cases in the Western Pacific Region decreased for the first time in weeks (by 11%), with an increase in new deaths (21%) was reported. Compared to the previous week **Japan, Malaysia & the Philippines** continue to report the highest number of new cases in the region, highest deaths reported by Japan, the Philippines and **Malaysia**.
  - **Afghanistan** has been working to scale up their surveillance capacity ahead of vaccination campaigns, working with WHO to increase testing capacity. 500,000 doses of Astra Zenica arrived from India prior to WHO approval for vaccination efforts.

### Recent Research/ Evidence

- Recent study from South Korea found **medium time to viral clearance in culture from symptom onset was 7 days**, with median viral clearance in PCR 34 days ([NEJM](#)).
- In a cohort study maternal IgG antibodies to SARS-CoV-2 were transferred across the placenta after asymptomatic as well as symptomatic infection during pregnancy suggesting the antibodies could be passed to and provide protection to neonates ([JAMA](#)).
- Recent **outbreak of multi-drug resistant antibiotic has been linked to earlier surge in COVID-19 and decreased IPC behaviours** during a reported reduction in PPE and personal ([JAMA](#))
- A cohort study in Catalonia, Spain found **increased transmission (secondary attack rate) among those with a higher viral load** (ranging from 12-24% among participants) ([Lancet](#)).

- In a [preprint article](#), researchers have found a strong **correlation between high saliva viral loads of SARS-CoV-2 and severe disease and death**
- Research continues to show that the most common **transmission** – and the driver of community transmission is through respiratory droplets and aerosols, with very limited evidence towards fomites, suggesting there should be reduce emphasis on surface area decontamination and increased efforts to improve ventilation systems ([Nature](#)).
- Studies continue to show that **wastewater surveillance for SARS-CoV-2 might allow early detection of local outbreaks**, especially where access to healthcare services is limited. Wastewater SARS-CoV-2 RNA levels preceded new clinical cases in Minnesota by 15-17 days ([preprint](#))
- **Large resurgence of COVID-19 in Manaus, Brazil** raises alarms given the previously high seroprevalence of COVID-19 in the region, meaning: 1) increased transmissibility of the new variants may lead to an unexpected increase in new cases, 2) the immune response triggered during the first infection may not be sufficient for new variants, 3) immunity against the infection has already begun to wane, and/or 4) the attack rate during the first wave was overestimated ([Lancet](#)).
- Recent research supports the use of multi-layered, well-fitting **masks** could achieve >90% efficiency at reducing aerosol transmission. Additional mask filters significantly increased filtration ([preprint](#)).
- **Modeling the most effective vaccine roll-out** showed that the greatest benefit was found when vaccinations for adults over 60 are prioritized, with the greatest benefit found when matched with those with negative seroprevalence. While incidence was reduced when younger age groups were targeted, it only had an impact on deaths when incidence is over 1.15 ([Science](#)).
- Recent small study has found the **Moderna vaccine appears to remain effective against new variants** of the SARS-CoV-2, including the B.1.351 ([preprint](#)).
- In a clinical trial of 24 adults, the use of **iodine mouth and nasal spray** were found to reduce nasopharyngeal viral loads in COVID-19 patients. The small study size however should be noted, the younger average age of the intervention group, and the adverse high thyroid disfunction in 42% of the patients who received the intervention ([JAMA](#))
- Cohort study in New York found that **Persons living with an HIV diagnosis experienced poorer COVID-related outcomes** (principally, higher rates of severe disease requiring hospitalization) relative to those without an HIV diagnosis ([JAMA](#))
- Cross-sectional study in **Japan found higher suicide rates** in younger men, women, and women 30-49 in 2020 during the pandemic compared to 2019 and 2016 ([JAMA](#))
- An investigation of the effects of lock-downs in South Africa and HIV testing and access to care found that ART provision was maintained but there was an estimated 47.6% decrease in HIV testing in April, 2020 (during lockdown) suggesting improved testing strategies during these measures is needed ([Lancet](#))



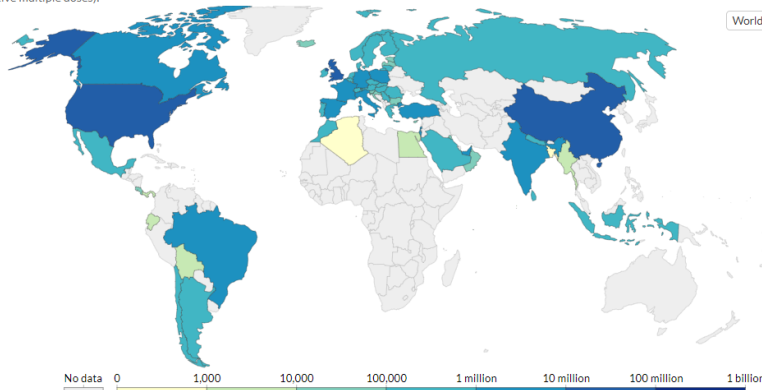
## Vaccination Updates

### New additions and recent updates

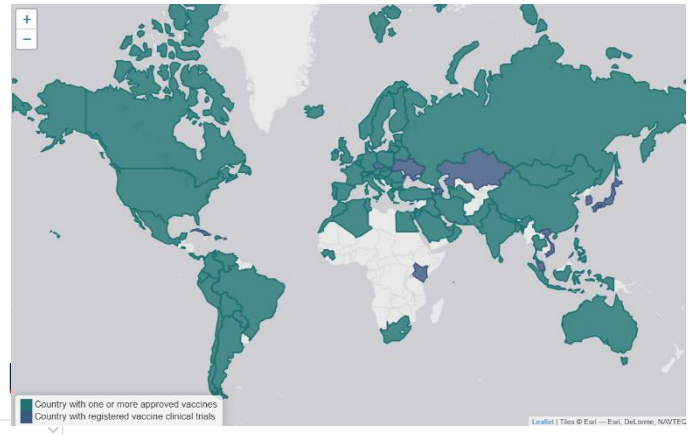
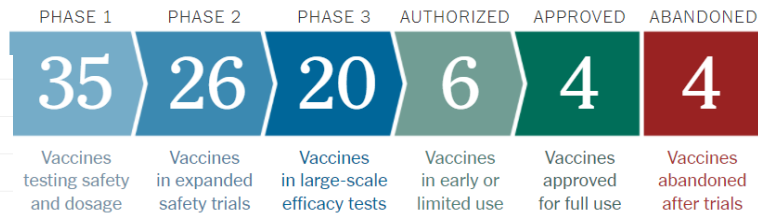
- Feb. 6 China gives conditional approval to the **Sinovac** vaccine.
- Feb. 6 New York-based **COVAXX** moves to Phase 2.
- Feb. 3 **Vaxart** stock plunges after a reported low antibody response.
- Feb. 3 Mexico authorizes Russia's **Sputnik V** vaccine.
- Feb. 2 Russia's **Sputnik V** vaccine has an efficacy of 91.6%.
- Feb. 2 Cuba's **Abdala** vaccine moves to Phase 2.
- Jan. 30 Hungary is the first E.U. country to authorize **Sinopharm's** vaccine.
- Jan. 29 The E.U. authorizes the **Oxford-AstraZeneca** vaccine.
- Jan. 29 **Johnson & Johnson** reports lower efficacy data in South Africa.
- Jan. 28 **Novavax** reports lower efficacy data in South Africa.
- Jan. 28 South Korea's **EuBiologics** launches a Phase 1/2 trial.
- Jan. 28 Canada's **Providence Therapeutics** enters Phase 1.
- Jan. 28 **Imperial College London** abandons its Phase 1/2 RNA vaccine.
- Jan. 25 **Merck** abandons two vaccines being developed with Themis and IAVI.

### Cumulative COVID-19 vaccination doses administered, Feb 6, 2021

This is counted as a single dose, and may not equal the total number of people vaccinated, depending on the specific dose regime (e.g. people receive multiple doses).



Source: Official data collated by Our World In Data - Last updated 7 February, 10:40 (London time)



Above: Vaccine trial & approval map (source: [McGill](#)) Left: Vaccination progress shown above (Source: [Our World in Data](#))

### Resources:

- o Coronavirus Vaccine Tracker (above [NYT](#))
- o COVID-19 vaccine tracker ([LSHTM](#))
- o COVID-19 Vaccine Tracker ([McGill](#))
- o COVID-19 vaccine tracker ([RAPS](#))

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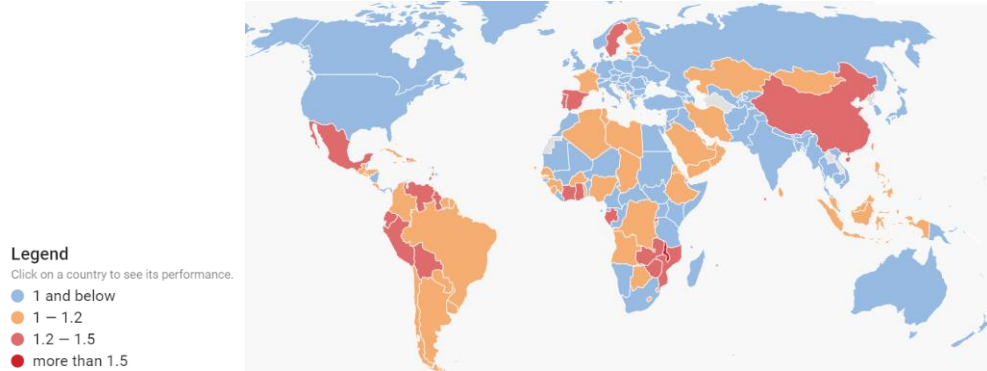
- o Vaccine doses administered globally have increased by 68% compared to the previous week
- Clinical trial initiated to determine whether it is safe and effective to mix vaccines (i.e. have a different brand first vaccine from the second vaccine), this would allow for more flexibility in vaccination plans ([Press release](#))
- Interim analysis of phase 3 trials of **Gam-COVID-Vac ("the Sputnik vaccine") showed 91.6% efficacy** against COVID-19 and was well tolerated ([Lancet](#)).
- **Johnson and Johnson released interim efficacy results of 66%** for its single-dose vaccine from a phase 3 trial of adults 18 and older. Efficacy was much higher in the US (72%) compared to South Africa (57%) where the majority of new cases were linked with the B.1.351 variant ([Johnson and Johnson](#)).
- Researchers found that after the **first dose of Astra Zenica the vaccine remained 76% effective throughout the first 12 weeks**. Vaccine efficacy was 82.4% among participants who received their booster dose 12 weeks or longer after the first dose, compared to 54.9% in those who received their 2 doses less than 6 weeks apart. The study also supports the vaccine may protect against transmission, however more research is needed (*pre-print* for the [Lancet](#)).
- **Merck** has cancelled its vaccination program for SARS-CoV-2 due to poor results
- **Moderna** is already working on a booster to better protect individuals against emerging variants. While [preliminary research](#) show that the vaccine does not have reduce effectiveness against B.1.1.7, it does appear to have [reduced effectiveness](#) on the B.1351 variant (from

South Africa) by 6-fold. However, the vaccine does still boost a stronger immune response compared to natural infection.

- **GSK** announced partnerships with CureVac to work and develop vaccines targeting specifically emerging variants ([GSK](#))

## Modeling & Forecasting

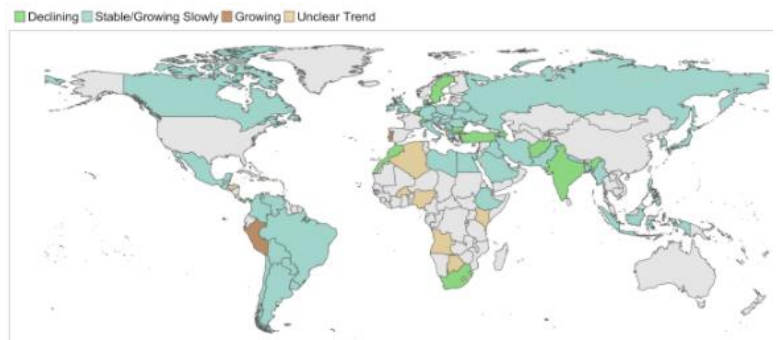
- Estimated current effective reproductive rate ([Lancet database](#)) as of 1 February 2020



- **Projections for the reproductive number** ([ICL weekly projections](#))<sup>4</sup>

**As of January 31<sup>st</sup> estimates for the effective reproductive number:**

- **Europe:** Average of about 1, Highest: **Albania:** estimated 1.5
- **Asia:** Average of about 1, Highest: **Philippines & Pakistan:** 1.5
- **Africa:** Average about 1, Highest: **Nigeria** 2
- MENA (not included): Highest: **UAE** 1.5
- **North & Central America:** Average of about 1, Highest: **Honduras & Dominican Republic** 1.5-2
- **South America:** Average of about 1, Highest: **Peru:** 1.5



## Humanitarian Impacts

- **Global Health Cluster** released 3 new products for humanitarian settings: [Key questions to ask when facing ethical dilemmas](#), [Guidance on prioritization of essential health services](#), [health workforce estimator tool](#).
- **Social safety nets** have been found to be successful in Ethiopia in improving food security in at risk households in 2020 during the pandemic which has increased food security by 11.7 percent worldwide ([IFPRI](#)).
- **In Myanmar**, more than 70 hospitals have stopped functioning in protest of the recent coup

<sup>4</sup> **Map:** Estimates of transmissibility in countries with active transmission for the week. A country is defined to be in the declining phase if the 97.5<sup>th</sup> quantile of the effective reproduction number is below 1. It is defined to be in the growing phase if the 2.5<sup>th</sup> quantile of the effective reproduction number is above 1 and the width of the 95% CrI is less than 1. If the 2.5<sup>th</sup> quantile of the effective reproduction number is below 1 and the width of the 95% CrI is less than 1, we define the phase as stable/growing slowly. If the width of the 95% CrI is more than 1, the phase is defined as uncertain. Note that estimates of transmissibility rely on a constant rate of reporting of deaths. This assumption does not always hold. [ICL short term forecast](#)

- [Mapping of COVID in Humanitarian settings available here depicted below showing COVID-19 cases compared to where vaccination campaigns have been postponed](#)
- [Updated repository of Maternal and Child health and Nutrition relating to COVID-19 can be found \*\*here\*\*.](#)

## Guidance Launched or Highlighted This week

Weekly update [from WHO available here \(last updated Epi 27 Jan& Feb 2\)](#)

- [WHO Updated guidance in the context of Contact Tracing](#)
  - Community engagement key principles were developed collaboratively through a working group in the Collective Service including IFRC.
- WHO: [COVID-19 Clinical management: living guidance](#)
- WHO: [Laboratory biosafety guidance related to coronavirus disease \(COVID-19\): Interim guidance, 28 January 2021](#)
- WHO: [Interim recommendations for use of the Moderna mRNA-1273 vaccine against COVID-19](#)
- WHO: [The Moderna COVID-19 \(mRNA-1273\) vaccine: what you need to know](#)
- WHO: [WHO publishes new Essential Diagnostics List and urges countries to prioritize investments in testing](#)
- WHO: [The selection and use of essential in vitro diagnostics - TRS 1031](#)
- 
- WHO: [Who can take the Pfizer-BioNTech COVID-19 vaccine?](#)
- WHO: [Interim recommendations for use of the Pfizer–BioNTech COVID-19 vaccine, BNT162b2, under Emergency Use Listing](#)

## Useful Sources

### Resources on New Variants

1. NERVTAG paper on COVID-19 variant of concern B.1.1.7. The Government of the United Kingdom of Great Britain and Northern Ireland; 2021. Available at: <https://www.gov.uk/government/publications/nervtag-paper-on-covid-19-variant-of-concern-b117>
2. Wu K, et al. mRNA-1273 vaccine induces neutralizing antibodies against spike mutants from global SARS-CoV-2 variants. bioRxiv. 2021:2021.01.25.427948. Available at: <https://www.biorxiv.org/content/10.1101/2021.01.25.427948v1> (preprint)
3. Muik A, et al. Neutralization of SARS-CoV-2 lineage B.1.1.7 pseudovirus by BNT162b2 vaccine-elicited human sera. bioRxiv. 2021:2021.01.18.426984. Available at: <https://www.biorxiv.org/content/10.1101/2021.01.18.426984v1> (preprint)
4. COVID-19 Vaccine Retains Neutralizing Activity Against Emerging Variants First Identified in the U.K. and the Republic of South Africa. Moderna, Inc; 2021. Available at : <https://investors.modernatx.com/node/10841/pdf>
5. Collier D, et al. Impact of SARS-CoV-2 B.1.1.7 Spike variant on neutralisation potency of sera from individuals vaccinated with Pfizer vaccine BNT162b2. Medrxiv. 2021:2021.01.19.21249840. Available at: <https://www.medrxiv.org/content/10.1101/2021.01.19.21249840v1> (preprint)
6. Wang Z, et al. mRNA vaccine-elicited antibodies to SARS-CoV-2 and circulating variants. bioRxiv. 2021:2021.01.15.426911. Available at : <https://www.biorxiv.org/content/10.1101/2021.01.15.426911v1> (preprint)



7. Cele S, et al. Escape of SARS-CoV-2 501Y.V2 variants from neutralization by convalescent plasma. Medrxiv. 2021:2021.01.26.21250224. Available at: <https://www.medrxiv.org/content/10.1101/2021.01.26.21250224v1> (preprint)
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9. Xie X, et al. Neutralization of N501Y mutant SARS-CoV-2 by BNT162b2 vaccine-elicited sera. bioRxiv. 2021:2021.01.07.425740. Available at : <https://www.biorxiv.org/content/10.1101/2021.01.07.425740v1.full.pdf> (preprint)
10. Faria N, et al. Genomic characterisation of an emergent SARS-CoV-2 lineage in Manaus: preliminary findings. 2021. Available at : <https://virological.org/t/genomic-characterisation-of-an-emergent-sarscov-2-lineage-in-manaus-preliminary-findings/586>.

### References for COVID-19 in Health Workers

International Labour Organization, 2020, ILOSTAT, 2/2/2021, <https://ilostat.ilo.org/data/>

Nguyen LH et al., Risk of COVID-19 among front-line health-care workers and the general community: a prospective cohort study. Lancet Public Health. 2020;5(9):E475–E483

Chou et al., Epidemiology of and Risk Factors for Coronavirus Infection in Health Care Workers: A Living Rapid Review, Annals of Internal Medicine. 2020 Jul 21;173(2):120-136. doi: 10.7326/M20-1632. Epub 2020 May 5

Chou et al., Update Alert 6: Epidemiology of and Risk Factors for Coronavirus Infection in Health Care Workers, Annals of Internal Medicine. 2020 Nov 24 : L20-1323. Epub Nov 24. doi: 10.7326/L20-1323

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Some additional sources – such as specific journal articles are shared as a foot note and saved to the “Evidence” folder in Teams.

[ALNAP launched COVID-19 response portal](#)

[Atlantic COVID-19 Tracker](#) (US focus)

[BMJ COVID-19 resources](#)

[BMJ living Guidance on clinical treatment for COVID-19 \(from WHO, including visuals\)](#)

[European Centre for Disease Prevention and Control](#)

[End Coronavirus Visualizations](#)

[Evidence Aid COVID-19 Evidence](#)

[Center for Humanitarian Health: COVID-19 Maternal and Child Health, Nutrition Literature Reviews](#)

[The COVID tracking project \(US focus\)](#)

[COVID-19 Vaccine Tracker](#)

[Global Health 5050 Sex desegregated data](#)

[Health Map](#)

[Imperial College of London](#)

[ISARIC COVID-19 resources](#)

[Johns Hopkins Center for Health Security and CSSE](#)

[Humanitarian platform for COVID-19](#)

[The Lancet](#)

[LSHTM COVID-19 mapping tool](#)

[New England Journal of Medicine](#)

[Next Strain \(Phylogeny of SARS-CoV-2\)](#)

[Our world in Data](#)

[PLOS COVID-19](#)

[ProMed](#)

[Switzerland Specific data and charts](#)

[Transdisciplinary Insights e-journal: Living Paper: COVID-19](#)

[WHO](#)

[WHO Technical Guidance for COVID-19](#)

[MobLabs](#)

[MobLabs Domestic and international risk of importing a case](#)

[UNICEF COVID-19 vaccine dashboard](#)

[World Meters](#)