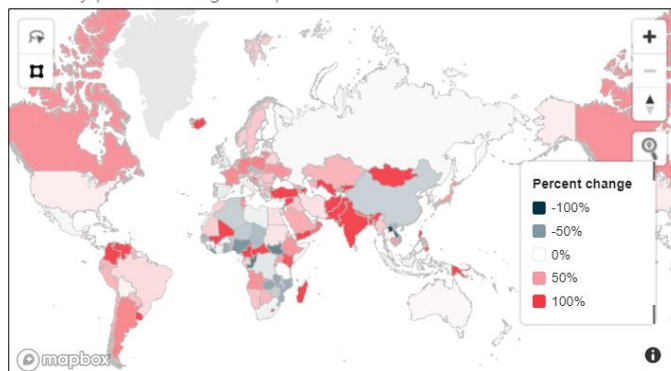


Weeks 12-13: COVID-19 Update

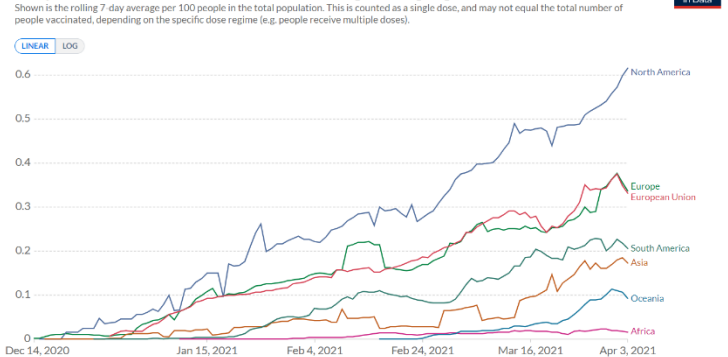
March 21st – April 3rd, 2021

Over 130.2 million cases confirmed and reported, with over 2.8 million deaths reported to date ([unofficially](#) over 135.5 million cases and over 2.8 million deaths, over 22.7 million active cases (large increase from previous weeks) and an estimated over 105.9 million recovered). **Brazil, The US, Poland, are reporting the highest daily incidences in death** in the last 24 hours. **India, Brazil, The US, France, Turkey, Poland, Italy, Ukraine, Germany, Philippines, Iran, Colombia, are reporting the highest daily increases, all reporting above 10,000 newly confirmed cases in the past 24 hours.**¹ For the fifth consecutive week in a row, new cases increased globally, while new deaths increased globally for the second week in a row. The Americas and Europe continue to account for 80% of new cases and deaths globally, with all regions seeing an increase in reported cases and all seeing an increase – except Africa – in reported deaths. Notably, India's surge in cases is driving global trends, seeing a 146% increase in daily incidence of reported cases over the past 2 weeks. **At least 177 countries are reporting the roll-out of vaccination campaigns, with COVAX facility delivering to 61 countries.**

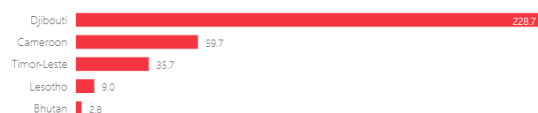
Bi-weekly percent change in reported new cases



Daily COVID-19 vaccine doses administered per 100 people



Top 5 countries with biggest bi-weekly percent increase
Daily new cases per 100k people



News / Context

- Countries with **highest reported new cases per 1 million** daily increases (Apr 4th)² Hungary, Uruguay, Poland, San Marino, and Serbia.
- Countries with **highest reported new deaths** per 1 million (Apr 4th): Hungary, Bosnia and Herzegovina, North Macedonia, Bulgaria, Czechia.
- **Case Fatality** is highest in Yemen (19.8%), Mexico (9%), Syria (6.7%), Sudan (6.5%), Egypt (5.9%)
- **Over 1.6 million cases have been reported among healthcare workers, including 25,000 deaths** reported globally.
- **WHO report on the origins of SARS-CoV-2** released on March 30th with indications that coronavirus **molecular biology closest to SARS-CoV-2 is found in bats and pangolins**, however a direct link was not identified. Additionally, susceptibility of cats and minks to COVID-19 suggest there may be additional reservoirs. Results thus far of the study suggest an original infection sometime between September and December (**most likely Mid-November- early December**). However, ongoing research will continue to look at all possible scenarios. At the moment the report examined four possible scenarios and ranked them (most likely to least likely):
 - Introduction through an intermediate host - *likely to very likely pathway*;
 - Direct zoonotic spillover - *possible-to-likely pathway*;
 - Introduction through cold/ food chain products - *possible pathway*
 - Introduction through a laboratory incident - *extremely unlikely pathway*.

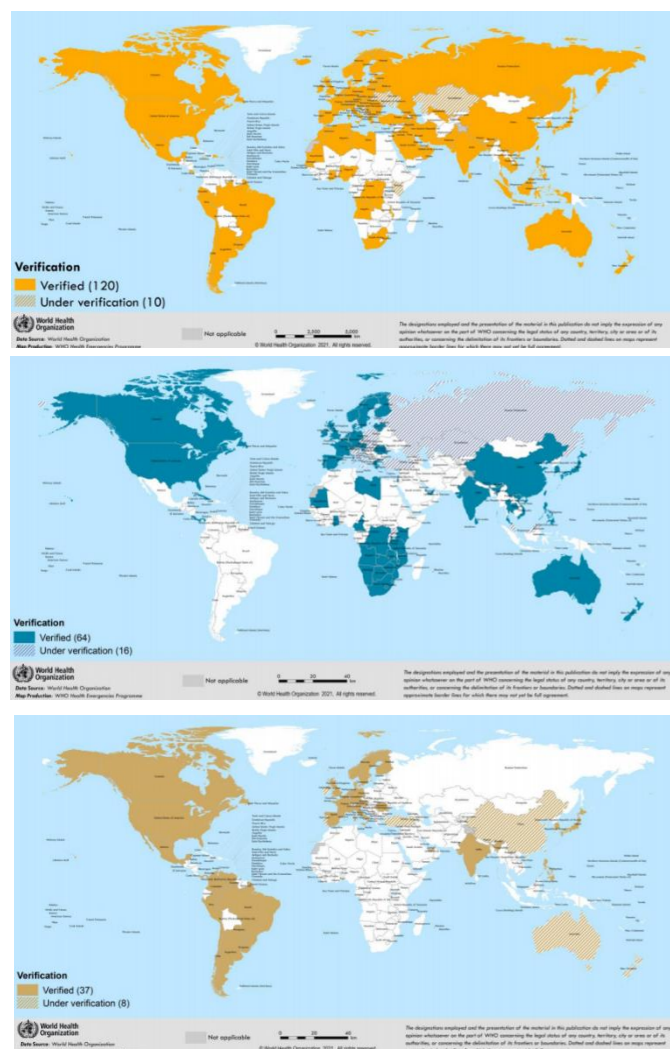
¹ Official numbers and WHO visualizations available [here](#)

² Our World in Data [Incidence](#)

New variants of SARS-CoV-2³

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. Specific resources on variants of interest of concern are available in footnotes, and definitions of VOI per WHO are available [here](#)⁴

- **(SARS-CoV-2 VUI 202012/01 or “B.1.1.7”)** first detected in the UK has now been detected in **130 countries**.
 - Increased transmissibility
 - [Evidence](#) for increased severity and mortality
 - No significant implications for vaccines, potential implications for testing
- **(501Y.V2 or “B.1.351”)** detected in **South Africa** has been **detected in 80 countries**. With increasing prevalence in many Southern African countries.
 - Increased transmissibility
 - Some evidence for increased risk of mortality among hospitalized patients
 - Some evidence potential risk for reinfection is higher
 - Reduction of neutralizing antibodies from several vaccines (moderate infection) – however vaccines still show effectiveness against severe disease
- **B.1.1.28 (P.1) detected in Japan from travellers coming from Brazil** has now been **reported 45 countries**.
 - Evidence for increased transmissibility
 - Decreased neutralization capacity - reinfection has been reported
- [Research continues](#) into the P.3 variant in Philippines (estimated third generation of the P.1 variant in Brazil).
- **Additional variants of interest (VOI)** still under investigation include B.1.524 detected in the UK and Nigeria, 20C/S:452R in the US, 20B (or “P2”) in Brazil, “P3” detected in the Philippines and Japan, and 20C or “B.2” detected in France.



³ Information primary used from [WHO Situation Reports](#) and updates on New Variants unless otherwise stated. Additional resources listed at the end of the update each week. Definitions of VOC and VOI can be found [here](#).

⁴ Additional useful sources: [US CDC](#), [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](#), [GISAID variants tracking](#).

Regional Trends

- **Africa Region**
 - For the first time in two weeks, the region reported an increased incidence in new cases by 22% compared to the previous week, while deaths were reported to decrease again (following one week of reported increases).
 - Countries reporting the highest new cases include: **Ethiopia** (increasing), and **Kenya** (increasing), with South Africa and Ethiopia reporting the highest number of deaths in the region.
- **Americas Region**
 - The region has experienced an **increasing trend** in new cases (for the past 5 weeks) and deaths (for the past two weeks). The highest number of new cases were reported from Brazil, the US and Peru – all of which reporting increasing trends, with the highest number of new deaths reported in Brazil, the US and Mexico (Brazil and Mexico reporting increasing trends again). **The US and Brazil alone accounting for 76% of new cases reported in the region.**
 - **Brazil currently accounts for more than one quarter of global COVID-19 deaths.** Reports have suggested that the healthcare system in the country is on the verge of collapse ([Prevent Epidemics](#)). The country registered it's highest 24 hour death-toll with over 4,000 deaths registered in one day.
 - **The US** saw an increase in the age-adjusted mortality rate by 15.9% in 2020 compared to previous years, with COVID-19 reported as the 3rd leading cause of death. The greatest impacts were reported among Black persons and American Indian or Alaskan Native populations ([MMWR](#)).
- **MENA Region**
 - The region continues to experience an increasing trend in both new reported cases and deaths, with new cases increasing by 3% compared to the previous week (increasing for the 7th week in a row), and deaths increasing by 5% compared to the previous week (for the 5th week in a row).
 - The Islamic Republic of **Iran** (decrease), **Iraq** (increase), and **Jordan** (decrease) reported the highest number of cases over the past week, with Iran and Jordan reporting the highest number of deaths.
- **European Region:**
 - New cases in the region have continued to increase in the past five weeks, while deaths also increased for the past three weeks now.
 - The highest number of cases were reported in **France, Poland** and **Turkey** (all reporting increasing trends in the past week), with the highest number of deaths reported by **Russia** (decreasing trend), Poland and Italy (both increasing).
 - Mortality rate for EU/EEA & the UK was estimated at 78.2 per 1 million people across 30 countries (remaining relatively stable). ICU new admissions (from 12 countries) were 4 per 100,000 (slight increase compared to previous week). An estimated 11.6 patients per 100,000 are in the hospital across 20 countries due to COVID-19.
 - **Switzerland** (14-day incidence [available here](#)) has a 7-day incidence of 279.6 new cases per 100,000 population (increasing), occupancy rate for ICU for COVID-19 estimated at 17.3% (total ICU occupancy at 67.9%). Positive test rates reported at 5.6% (PCR) and 4.7% (Antigen). Reproductive number has been increasing for the past few weeks and currently estimated at 1.12 (Geneva 1.09).

- **Asia Pacific Region:**
 - The WHO South East Asia region experienced an increase in both new cases (by 46%) for the third consecutive week, as well as an increase in new deaths (by 21%) compared to the previous week.
 - Countries with the highest number of new cases in the South East Asia region include **India** (increase – reporting 85% of new cases in the region), **Indonesia** (decreasing trend) and **Bangladesh** (increasing). The same countries reported the highest number of new deaths (with Bangladesh and India reporting an increase in new deaths of over 40% compared to previous weeks).
 - For the past three weeks, the WHO Western Pacific region has reported a large increase in new reported cases (increasing by 32% compared to the previous week). The region also reported an increase in new deaths. **Japan, the Philippines** (both increasing) and Malaysia continue to report the highest number of new cases in the region. The highest number of new deaths in the region were reported from the Philippines (increasing trend), Japan and the Republic of Korea (both reporting decreasing trends).
 - **Pakistan** has also continued to see a rise in new reported COVID-19 cases over the past three weeks.

Recent Research/ Evidence

- In a cohort study published in [Nature Medicine](#), researchers found that **antibody responses to one dose of the Pfizer-BioTech vaccine among those with a prior SARS-CoV-2 infection was similar** to what was observed in others after receiving their second dose with no prior infection.
- Article in the [Lancet](#), highlights linkages with **reduction in public health measures and increased incidence of COVID-19 in several countries in Africa** during Africa's second wave of the virus (which was more severe than it's first).
- In an [observational population-based study](#) in Denmark, researchers found **natural protection developed from previous infection was 80%**, with that number dropping among **populations 65 and older to 47%**. No difference was found between Male and Female sexes or to suggest waning protection in 3 months. The researchers suggest vulnerable older age groups should be prioritized with vaccination campaigns because natural immunity does not appear as high at the population level, and that countries should include those who have already had COVID-19 in their vaccination plans as natural immunity is not guaranteed.
- A review on the **effects of COVID-19 on Health Care Workers** (HCW) found:
 - HCWs were at increased risk of stigma and bullying
 - 84 states have reported strikes in the year 2020, with 38% percent were reportedly due to poor working conditions and 29% were due to lack of PPE.
 - 24% of respondents to the survey stated that they had to return to work despite still having COVID-19 symptoms
- A modeling study ([Lancet Infectious Disease](#)) of testing **strategies impact on COVID-19 transmission among travelers** found that:
 - PCR testing prior to air travel can potentially reduce associated infectious days by 36% and up to 70% when also paired with post-travel quarantine (using a 5-day quarantine model).

- Day-of travel rapid antigen test can reduce infectious days by 36%, or up to 63% with post travel quarantine and PCR.
- Post-travel PCR along reduces infectious days by 42%
- Recent study examining the impact of **manual vs. digital contact tracing** has found that overall, **manual contact tracing was more efficient in limiting the height of epidemic peaks** and limiting the number of people who need to self-isolate. The study also found that where both protocols were simultaneously in place, digital contact tracing was beneficial when adopted by a large proportion of the population ([Nature](#)).
- A cross-sectional study found that seroprevalence response to SARS-CoV-2 found that **patients ages 19–30 years showed lower antibody responses to SARS-CoV-2 than children and older adults**. This has implications that the clinical manifestation and immune response to SARS-CoV-2 likely varies by age suggesting more research is needed on the topic ([JAMA](#)).

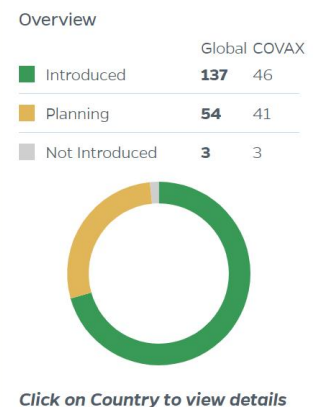
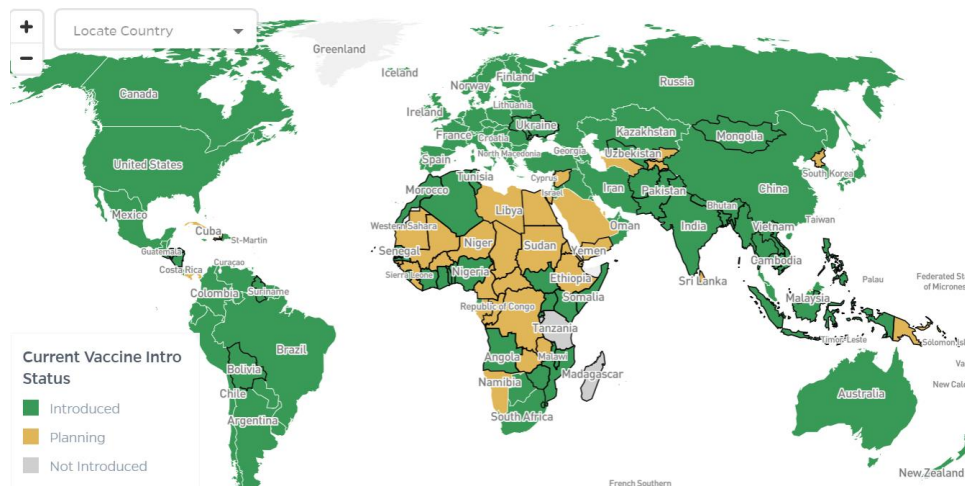
Vaccination Updates

New additions and recent updates

- April 2 France's **OSE Immunotherapeutics** enters Phase 1.
- March 31 The **Pfizer-BioNTech** vaccine is highly effective in adolescents.
- March 31 Some **Johnson & Johnson** doses are delayed by a U.S. factory mix-up.
- March 30 China's **Jiangsu Rec-Biotechnology** enters Phase 1.
- March 27 Turkey's **Middle East Technical** and **Bilkent University** begin Phase 1.
- March 25 A vaccine from China's **Zhongyianke Biotech** enters Phase 2.
- March 23 U.S. officials question the completeness of **AstraZeneca's** trial results.
- March 23 **Daiichi Sankyo** and the **University of Tokyo** enter Phase 1/2.
- March 22 **AstraZeneca's** vaccine is found to be 79% effective in a large U.S. trial.



Current Vaccine Intro Status ⓘ



Resources:

[IVAC/ JHU View-Hub](#) (map shown above); [COVAX and other vaccine distribution in humanitarian settings \(HdX\)](#); [Coronavirus Vaccine Tracker](#) (tables above [NYT](#)); [COVID-19 vaccine tracker \(LSHTM\)](#); [COVID-19 vaccine tracker \(RAPs\)](#)

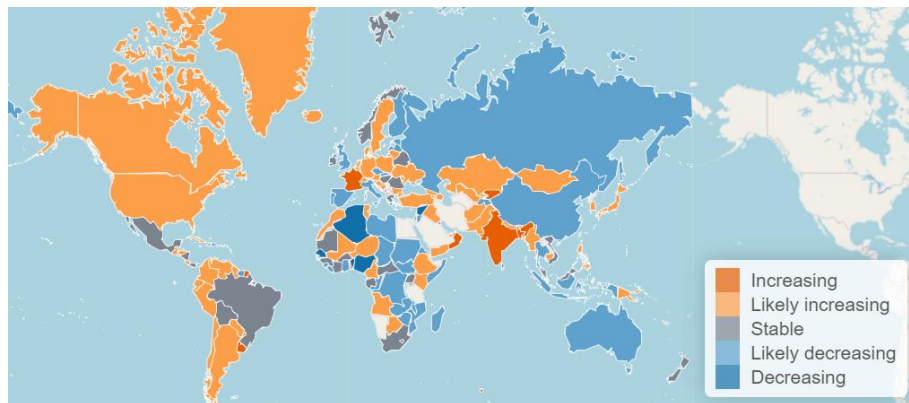
- Four vaccines currently being assessed by WHO for Emergency listing. Results are expected by the end of April.
- Recent study in a **cohort** of 3,750 participants in the US found that **both available mRNA vaccines were 90% effective against SARS-CoV-2 despite symptom status**

after both doses and 80% effective after partial doses. This study emphasizes the effectiveness of these vaccines within a real-world scenario ([CDC MMWR](#)).

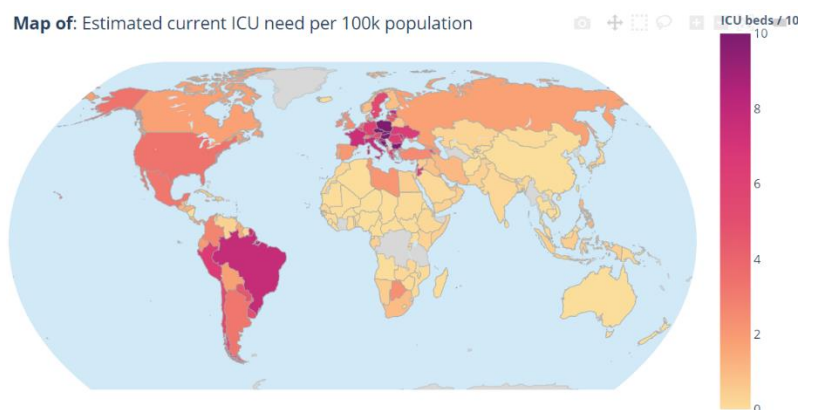
- Real-world scenario at UCLA (US) found that positive test rates were higher than in clinical trials, however, this may have been due to a number of reasons including a recent local surge in cases and wide-spread testing of non-symptomatic individuals on the campus. Overall, it was still rare to test positive for COVID-19 after 14 days following the second dose – an encouraging real-world scenario for vaccine efficacy ([NEJM](#)).
- Additional studies looking at onward transmission have found **reductions in transmission patterns following vaccination of healthcare workers** ([pre-print](#))
- **BioTech and Pfizer** trials of **teenagers** (12 to 15 years) in the US have shown the **vaccine to be safe and effective**. No cases were observed among those vaccinated, while 18 were observed in those who received the placebo. The company is now seeing emergency use approval.
- Russia **vaccine for COVID-19 for animals** has undergone clinical trials and in process of being approved for development and distribution for animals.

Modeling & Forecasting

- Reproductive number estimates from the [LSHTM Mathematical modeling department](#) (showing trends of increasing, no change or decreasing):



- Imperial College of London mathematical modeling of [estimated ICU needs](#) per 100k population:



	Estimated current ICU need per 100k population	Estimated daily transmission rate	Projected ICU need per 100k In 14 days	Projected ICU need per 100k In 30 days	Pre-COVID ICU capacity per 100k
HU Hungary	29.39	6.3% ± 1.9%	26.0 ± 4.3	21.3 ± 6.7	13.8
BG Bulgaria	20.77	6.1% ± 2.6%	19.1 ± 5.0	noisy data	-
BA Bosnia	18.25	8.0% ± 1.9%	19.1 ± 3.3	18.9 ± 6.7	-
PL Poland	15.68	6.5% ± 1.7%	15.6 ± 2.8	14.8 ± 5.4	6.9
MK North Macedonia	12.09	8.5% ± 3.8%	12.1 ± 3.6	noisy data	-
ME Montenegro	9.61	6.1% ± 0.4%	8.3 ± 0.3	6.7 ± 0.5	-
HR Croatia	8.19	7.3% ± 3.5%	9.4 ± 3.8	noisy data	-
MD Moldova	7.82	5.8% ± 2.0%	6.8 ± 1.3	5.6 ± 2.2	-
BR Brazil	7.70	9.9% ± 3.3%	7.5 ± 1.7	6.9 ± 2.9	-
LB Lebanon	7.54	6.0% ± 1.5%	6.7 ± 1.0	5.7 ± 1.7	-
FR France	7.47	6.0% ± 2.7%	7.2 ± 2.1	noisy data	11.6
JO Jordan	6.63	9.4% ± 1.8%	6.1 ± 0.7	5.1 ± 1.0	-

Mathematical modeling for countries experiencing an increase in cases (growing by at least 5%)

Humanitarian Impacts

- In [a study](#) using satellite imagery in **Yemen** there were an estimated 1,500 excess burials July- September 2020 (a 230% increase from what would be expected). Both satellite and civil registry data show there was a peak of COVID-19 that had decreased by September in the country.
- Review published in the [Lancet](#) highlights the importance of addressing non-communicable diseases and other non-acute health needs of refugee populations to reduce the impact of COVID-19 and other emerging burdens. This should especially be done through engaging communities to improve the quality of healthcare provision. The research was done in Jordan but has implications for other contexts.
- In **India, migrant workers** faced considerable hardships during the government mandated lock-down without much consideration in the approach or strategy of the COVID-19 for this group as a potential vulnerable group. Interviews revealed the importance of NGO groups providing assistance and aid during this time ([Indian Journal for Human Development](#)).
- [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 \(last updated March 23rd & 28th\)](#)

- WHO: [Origins of the SARS-CoV-2 Virus report](#) (30 Mar 2021)
- US CDC [Interim Public Health Recommendations for Fully Vaccinated People](#)
- [COVAX First Round of allocations](#)
- WHO: [Background document on the AZD1222 vaccine against COVID-19 developed by Oxford University and AstraZeneca](#)
- WHO [COVID-19 vaccine checklist](#)
- WHO: [Health worker communication for COVID-19 vaccination flow diagram](#)
- [WHO](#) adds Jensen vaccine to approved list

- Collective Service: [10 steps to community readiness: What countries should do to prepare communities for a COVID-19 vaccine, treatment or new test](#)
- WHO: [Evaluation of COVID-19 vaccine effectiveness](#)
- [Joint Statement on prioritization of COVID-19 vaccination for seafarers and aircrew](#)
- Updated IFRC Guidance available on the [Health Help Desk](#)

Useful Sources

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](#)

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

[OCHA HdX](#)

[Our world in Data](#)

[PLOS COVID-19](#)

[ProMed](#)

[Switzerland Specific data and charts](#)

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

[WHO](#)

[WHO Detailed COVID-19 dashboards](#)

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

[MobLabs](#)

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

[UNICEF COVID-19 vaccine dashboard](#)

[World Meters](#)