Weeks 14-15: COVID-19 Update

April 4th – 17th, 2021

Over 139.5 million cases confirmed and reported, with **over 2.9 million deaths** reported to date (<u>unofficially</u> over 141 million cases and over 3 million deaths, over 18.3 million active cases estimated and an estimated over 119.9 million recovered). **Brazil, India, US, are reporting the highest daily incidences in death** in the last 24 hours. **India, the US, Brazil, Turkey, France, Iran, Argentina, Germany, Colombia, Italy, Poland, Ukraine, Peru, the Philippines, are reporting the highest daily increases**, all reporting above 10,000 newly confirmed cases in the past 24 hours.¹

For the seventh consecutive week new cases increased globally last week to the highest levels since mid-January. This is the 4th highest weekly total of COVID-19 reported cases since the pandemic began. New deaths increased globally for the fourth week in a row. Global incidence is largely being driven by the MENA and Asia Pacific regions. Notably, India surpassed both the US and Brazil, reporting the highest daily incidence of COVID-19 cases globally, reporting a 70% increase compared to the previous week. At **least 172 countries are reporting the roll-out of vaccination campaigns, 70 of which are also involved in the COVAX facility. Over 87% of vaccines have gone to high income or upper middle-income countries**, while **low-income countries have received just 0.2%.**

Bi-weekly percent change in reported new cases



Share of the population fully vaccinated against COVID-19, Apr 16, 2021 Share of the total population that have received all doses prescribed by the vaccination protocol. This data is only available for countries w



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



Turkey is reporting the highest biweekly change in new cases with a daily incidence up by 78.9% compared to 2 weeks ago.

News / Context

- Countries with highest reported new cases per 1 million daily increases (Apr 17th)²
 Uruguay, Cyprus, Turkey, Seychelles, France.
- Countries with **highest reported new deaths** per 1 million (Apr 17th): Hungary, Bosnia and Herzegovina, Uruguay, Bulgaria, North Macedonia.
- **Case Fatality** is highest in Yemen (19.6%), Mexico (9.2%), Syria (6.8%), Sudan (6.7%), Egypt (5.9%)
- Countries vaccinating at the fastest rate (relative to population size) currently: San Marino, Hungary, Bahrain, Uruguay, United States. Israel continues to have the highest proportion of its citizens fully vaccinated at 57.3% of the population with Seychelles ranking second with 46.7% of the population fully vaccinated.
- WHO and governments call for a '<u>pandemic treaty'</u> to improve information sharing and public health preparedness across borders on March 30th. Discussions ongoing to what this means in comparison with IHR.

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

¹ Official numbers and WHO visualizations available <u>here</u>

² Our World in Data Incidence

³ Information primary used from <u>WHO Situation Reports</u> 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 <u>here</u>.

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 <u>here</u>⁴

(SARS-CoV-2 VUI 202012/01 or "B.1.1.7") first detected in the UK has now been detected in 132 countries.

- Increased transmissibility, a <u>new study</u> has found transmission increased by 40-50%, reproductive number estimated overall to increase 43-93% compared to previous variants circulating. It is now also the most commonly transmitting varriant in the US
- Mixed <u>Evidence</u> for increased severity and mortality (<u>Lancet Infectious Disease</u>)
- Lower risk for re-infection
- No significant implications for vaccines, potential implications for testing

(501Y.V2 or "B.1.351") detected in South Africa has been detected in 82 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
- Potential risk for re-infection
- Reduction of neutralizing antibodies from OxfordZenica. Potential significant implications for Novavax and Janssen. Small reductions in efficacy of Sinovac, mixed results for Pfizer and Moderna vaccines, most showing vaccinations still very effective for preventing severe illness.

B.1.1.28 (P.1) detected in Japan from travellers coming from Brazil has now been **reported 52 countries.**

- Evidence for increased transmissibility
- Limited evidence likely small impact on severeity of disease
- Reinfection has been reported (Decreased neutralization capacity)
- Potentially reduced efficacy for AstraZenica, Moderna, and Pfizer, loss of neutraizign effects potentially from Sinovac.

Additional summary of emerging Variants of Interest (WHO):

• <u>Research continues</u> into the P.3 variant in Philippines (estimated third generation of the P.1 variant in Brazil).





Additional VOI

Nextstrain clade	PANGO lineage	GISAID clade	Alternate names	First detected by	Earliest samples	Key spike mutations
20C	B.1.525	G/484K.V3	-	United Kingdom and Nigeria	Dec 2020	H69-V70 deletion; Y144 deletion; Q52R; E484K; Q677H; D614G; and F888L
20C/S.452R	B.1.427/B.1.429	GH/452R.V1	CAL.20C/L452R	United States of America	Jun 2020	L452R; W152C; S13I; and D614G
20B/S.484K	B.1.1.28.2, alias P.2	GR	-	Brazil	Apr 2020	L18F; T20N; P26S; F157L; E484K; D614G; S929I; and V1176F
Not yet assigned	B.1.1.28.3, alias P.3	Not yet assigned	PHL-B.1.1.28	Philippines and Japan	Feb 2021	141-143 deletion E484K; N501Y; and P681H
20C	B.1.526 with E484K or S477N	GH	-	United States of America	Nov 2020	L5F; T95I; D253G; D614G; A701V; and E484K or S477N
20C	B.1.616	GH	-	France	Jan 2021	G142 deletion; D66H; Y144V; D215G; V483A; D614G; H655Y; G669S; Q949R; and N1187D

- 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.
 - B.1.526 with two key mutations has been detected now in five cases in California, US
 - B.1.427 and B.1.426 have been associated with increased prevalence among samples in the Western US



⁴ Additional useful sources: <u>US CDC</u>, <u>WHO</u>, <u>ECDC Risk Assessment related to SARS-CoV-2 VOC in the EU/EEA</u>, <u>Public Health England investigation of novel SARS-CoV-2 variant. Additional resources shared on the last page in</u> <u>the resource section, GISAID variants tracking</u>.

Regional Trends

- Africa Region
 - The region continues to see fluctuating trends in both cases and deaths, with a recent decrease in both reported new cases (by 14%) and deaths (by 5%)
 - Countries reporting the highest new cases include: Ethiopia, Kenya, and South Africa (all decreasing), with the same countries reporting the highest number of deaths.

Americas Region

- The region has experienced a gradual **increasing trend** in new cases (for the past 7 weeks) and small deaths. The highest number of new cases were reported from the US, Brazil and Argentina (all reporting decreasing trends except for Argentina), with the highest number of new deaths reported in Brazil, the US and Mexico (Mexico showing increasing trends).
- Brazil currently accounts for almost one third of global COVID-19 deaths, while representing less than 3% of the global population (<u>BMJ opinion</u>) The country registered it's highest 24 hour death-toll with 3,117 deaths registered in one day on April 1st.
 - Half of Brazil's hospitalized COVID-19 patients are under the age of 40 This is likely a combination of vaccinations among older adults as well as age structures. However,
- 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 (<u>MMWR</u>).

MENA Region

- The region continues to experience an increasing trend in new reported cases (increasing by 22% compared to the previous week), increasing for the 9th week in a row). New deaths also increasing by 19% compared to the previous week (for the 7th week in a row).
- The Islamic Republic of **Iran** (increase), **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:

- While new reported deaths continued to rise for the fifth week, new cases decreased by 4% compared to the previous week
- The highest number of cases were reported in **Turkey** (increasing), **France** (increasing), **and Poland** (decreasing), with the highest number of deaths reported by Poland, Italy and Ukraine.
- **Turkey's current COVID-19 surge is twice as large as it's previous peak** in December 2020
- Mortality rate for EU/EEA & the UK was estimated at 75.4 per 1 million people across 30 countries (remaining relatively stable). ICU new admissions (from 13 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 <u>available here</u>) has a 7-day incidence of 302.8 new cases per 100,000 population (increasing), occupancy rate for ICU for COVID-19

estimated at 23.9% (total ICU occupancy at 70.3%). Positive test rates reported at 7.1% (PCR) and 4.9% (Antigen). Reproductive number has been increasing for the past few weeks and currently estimated at 1.08 (Geneva 1.01).

• Asia Pacific Region:

- The WHO South East Asia region experienced an increase in both new cases (by 63%) for the fifth consecutive week, as well as an increase in new deaths (by 47%) compared to the previous week. This is the highest incidence in cases in the region since the beginning of the pandemic.
- Countries with the highest number of new cases in the South East Asia region include India (increase reporting 70% 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 70% compared to previous weeks).
- For the past five weeks, the WHO Western Pacific region has reported a large increase in new reported cases. The region also reported an increase in new deaths (by 189% compared to the previous week). Japan, the Philippines and Malaysia continue to report the highest number of new cases in the region. The highest number of new deaths in the region were in the same countries.
- India passed 150,000 new cases in one day on April 13th and the incidence of COVID-19 continues to accelerate there.
- o **Over 50% of daily vaccines** are administered in the Asia region

Recent Research/ Evidence

- A comparative effectiveness study of public health and case-based interventions for COVID-19 in Taiwan has found that neither case-based solutions or public health solutions alone were sufficient to reduce COVID-19 incidence to below effective reproductive rate of 1, but the two interventions needed to be implemented together (JAMA).
- In an interim analysis (pre-print), a common asthma medication (inhaled budesonide) reduced time to recovery by a median of 3 days in people with COVID-19 with risk factors for adverse outcomes.
- Recent <u>pre-print study</u> in the US found that strategies that **prioritize high-risk** geographic areas for vaccination at all ages better target mortality risk than agebased strategies alone. This was specifically important when considering risk factors of BIPOC where populations many were in high-risk categories, but at a younger age structure existed, prioritizing white communities instead.
 - Two early release articles published in <u>CDC MMWR</u> strengthen this argument showing significantly <u>higher hospitalization</u> rates among Hispanic and Latino patients with COVID-19, and more ER visits by Hispanic, American Indian and Alaskan natives.
- Recent study has found that one third of all COVID-19 patients have experienced some neurological symptoms within 6 months of infection. The increase was significant compared to patients who were treated for other illnesses including influenza, with 33.6% patients diagnosed with a neurological or psychiatric condition following infection – for 12.8% of patients this was the first time they received such a diagnosis. Increased disease severity appears to be related to increased likelihood in symptoms.

However, this emphasizes the importance to track the long-term effects of COVID-19 on patients (Lancet Psychiatry).

- Recent study found low-cost air cleaners in patient rooms and nurses' stations may be a useful and cost-effective method in clinical spaces to reduce the risk of healthcare-acquired respiratory viruses that are transmitted via aerosols (pre-print).
- Genetic analysis of SARS-CoV-2 has revealed close similarities with SARS-CoV and most likely linked to BAT-CoV (sharing 88% genetic make-up), indicating the most likely source of SARS-CoV-2 with or without an intermediary host (a different animal) in between (Medical Virology).
- New data in the US has examined **disease severity in children** hospitalized with COVID-19, finding risks of disease severity increases with co-morbidities, and is **highest in the** 2-5 year age group and 5-11 year age group compared to the 12-18 year old age group (JAMA).
- Recent study in PLOS ONE have found a strong correlation with increased COVID-19 cases in locations without mask mandate policies and low adherence to mask use, suggesting the importance for mask use for reduced COVID-19 incidence.

Vaccination Updates

New additions and recent updates

- April 15 Denmark permanently stops use of the AstraZeneca vaccine. April 14 The European Commission may not renew its vaccine contracts with AstraZeneca and Johnson & Johnson. April 13 U.S. health agencies call for a pause in Johnson & Johnson vaccinations. Cuba's Soberana Plus begins Phase 2. April 12
- Massachusetts-based Akston Biosciences enters Phase 1/2. April 12
- April 9 Turkey's Kocak Farma begins Phase 1.
- The Walter Reed Army Institute of Research enters Phase 1. April 5
- Japan's KM Biologics begins Phase 1/2. April 5
- April 2 France's OSE Immunotherapeutics enters Phase 1.





Resources:

IVAC/ JHU View-Hub (map shown above); COVAX and other vaccine distribution in humanitarian settinas (HdX); Coronavirus Vaccine Tracker (tables above NYT); COVID-19 vaccine tracker (LSHTM); COVID-19 vaccine tracker (RAPS)

- Global cumulative vaccinations continued to increase by 18% compared to the previous week, with over 17 million doses distributed each day
- COVAX reaches over 100 economies, 42 days after first international delivery
- European Medical Association's (EMA) preliminary investigation into 86 reports of **blood** clotting following within 2 weeks or receiving the AstraZenica vaccine have found that blood clots may be a potential rare side-effect of the vaccine (estimated at 1 in 100,000), affecting younger women at higher proportions. The UK joint Commission on Vaccines and Immunization recommended a younger cut-off than EMA and estimated the risk at around 1 in 250,000
 - 0 NEIM article have also demonstrated that vaccination can in rare circumstances lead to thrombotic thrombocytopenia resembling an autoimmune response

- Johnson and Johnson vaccinations in the US have been temporarily suspended as investigations are ongoing on the risk of blot clots in a small number of those who have received the vaccine (CDC update).
 - This comes after Johnson and Johnson announce a <u>purchase agreement</u> with African Vaccine Acquisition trust to provide 400 million doses to the AU 55 member states, with just over half of those doses available for distribution in Q3 of 2021. The arrangement is in addition to the agreement between J&J and COVAX to supply up to 500 million in 2022
- Small studies have shown promise that one dose of the vaccination for those who have had previous infection led to a promising immune response to all variants, emphasizing the importance of vaccination – even among those who have previously been infected to prevent illness from different variants (NEIM)
- Questions have emerged regarding Sinopharm's efficacy following a statement from a Chinese government official. Current efficacy rates after two injections ranges from 50-70%, but reported efficacy after one injection is estimated only around 3%. This comes weeks after reports in Brazil where a third vaccination was needed of Sinopharm to produce the necessary immune response (Reuters & last bi-weekly update).
- CDC studies among fully vaccinated found 5,800 COVID-19 break -through cases have occurred in fully vaccinated individuals (77 million). Additional research is underway including genetic sequencing, but overall promise while no vaccine is 100% effective, the low reporting of cases is a good sign (NPR, The Hill quoting CDC).
- Pfizer has found there is a potential need for a third dose of the vaccine at a later stage, or potential annual vaccinations - more research is ongoing (news statement). (news statement).

Modeling & Forecasting

Reproductive number estimates from the LSHTM Mathematical modeling department (showing trends of increasing, no change or decreasing) below left:



- Imperial College of London mathematical modeling of estimated ICU needs per 100k population (above right)
- IHME estimates show that the under-reported deaths related to COVID-19 are likely significantly higher than those officially reported.

Map of: Estimated current ICU need per 100k population



Reported COVID-19 deaths and total number of deaths due to COVID-19 to-date

Humanitarian Impacts

- Libya, Somalia, Ukraine, Venezuela, and Yemen reported their highest numbers of deaths last month since the start of the pandemic. Several reports have suggested the health systems are on the verge of collapse (<u>Relief Web</u>)
- In Afghanistan the government has a target to vaccinate 20% of it's population by the end of 2021 and 60% by the end of 2022, however aid agencies report that more than a quarter of Afghanistan districts are considered "hard to reach." Concerns of long distances and access to the COVID-19 vaccine remain given that these challenges led to lack access to COVID-19 testing in many villages (<u>New Humanitarian</u>).
- <u>Mapping of COVID in Humanitarian settings available here depicted below showing</u> <u>COVID-19 cases compared to where vaccination campaigns have been postponed</u>
- 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 28th & April 6th)

- WHO: Interim statement of the COVID-19 subcommittee of the WHO Global Advisory Committee on Vaccine Safety on AstraZeneca COVID-19 vaccine
- Safe Ramadan practices in the context of COVID-19
- Upcoming Webinar: Infection prevention and control and public health and social measures in light of the variants of concern, 21 April 2021 (WHO)
- Updated IFRC Guidance available on the <u>Health Help Desk</u>

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 clincal 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

<u>WHO</u>

WHO Detailed COVID-19 dashbaords

WHO Technical Guidance for COVID-19

<u>MobLabs</u>

MobLabs Domestic and international risk of importing a case

UNICEF COVID-19 vaccine dashboard

World Meters