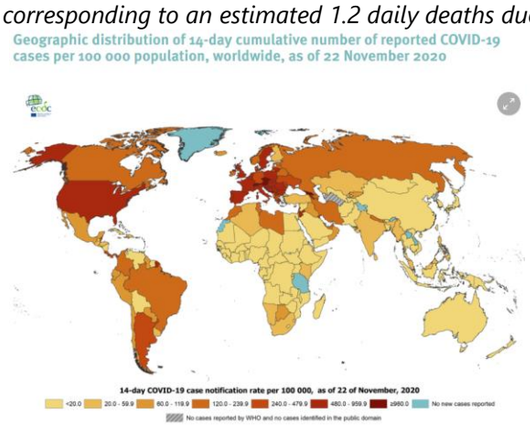
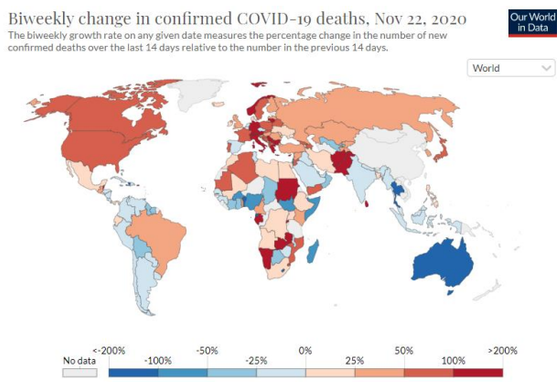
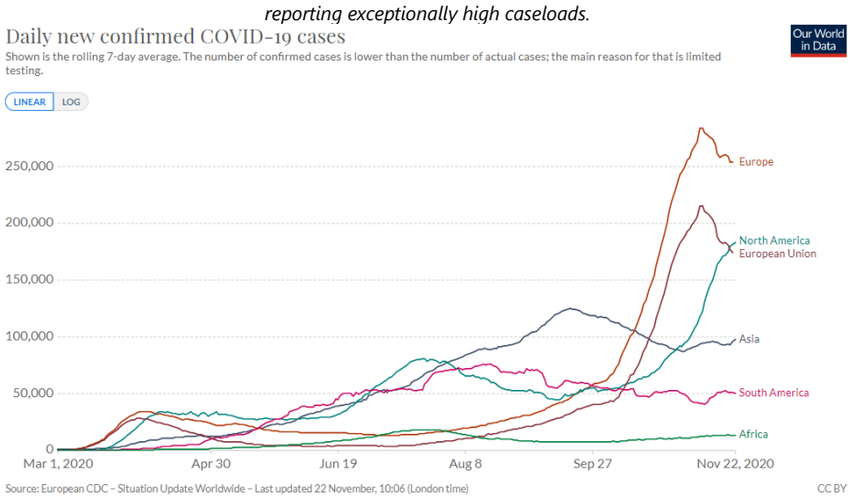
COVID-19 update Week 16-22 November 2020

Over 57.6 million cases confirmed and reported, with **over 1.3 million deaths** reported to date (unofficially over 58.6 million cases and over 1.3 million deaths, over 16.6 million active cases and over 40.5 million recovered). **The US, France, Mexico and Italy, are reporting the highest daily incidences in death** in the last 24 hours. **The United States, India, Brazil, Italy, Russia, Germany, France, Poland, the UK, Spain, Ukraine, Iran, reporting the highest daily increases**, all reporting above 10,000 newly confirmed cases in the past 24 hours.[1] *Dailyglobal mortality has increased by 80% since October 16th, corresponding to an estimated 1.2 daily deaths due to COVID-19 per 1 million people.*





Note: Upper left (ECDC) map changed scale for shading compared to the previous week to give more definition to the many countries reporting exceptionally high caseloads.



News / Political Context

- Countries with **highest reported new cases per 1 million daily increases** (Nov 22nd)[2]:
  1. Georgia: 1,015
  2. Montenegro: 914
  3. Croatia: 870
  4. Serbia: 849
  5. Andorra: 841
- Countries with **highest reported new deaths per 1 million** (Nov 22nd)
  1. Poland: 50.2
  2. Belgium: 13.3
  3. Belize: 12.6
  4. Georgia: 12.3
  5. Bosnia and Herzegovina: 12.2
- Testpositivity is highest in Mexico (76%), Poland (45%), Oman (39%), Bulgaria (39%) and Macedonia (36%). Mexico only reporting 17.5 tests per 1,000 people (others except Oman- not reporting – are reporting between 120 and 150 tests per 1,000 people).
- **Daily confirmed deaths doubling most rapidly** in **Lichtenstein**, **Sri Lanka, Georgia**, **Greece**, **Slovakia.**[3]
- Cases doubling rapidly in **Lithuania**, **Serbia**, **Georgia**.[4]
- Reports now of several '**black market COVID-19 test forgers'** to allow people to travel with falsified "proof" of a negative SARS-CoV-2 test. Reports from France, the UK and Brazil have been shared following arrests.

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[1] *Official numbers and WHO visualizations available here*

[2] Our World in Data Incidence

[3] https://ourworldindata.org/coronavirus

[4] Reference to ECDC data using https://ourworldindata.org/coronavirus

- **Testing reluctance** has been reported with increasing frequency with many citing conflicting interests (i.e. not wanting to have to isolate, not wanting to add to incidence of a specific area forcing businesses to shut down etc.). Summary available in medical perspectives in JAMA.
- Donor contributions to the ACT Accelarator have reached 1.1 billion USD.
- **Africa Region**
    - Africa region continued to see a gradual increase as in the past few weeks – with a 22% increase compared to the previous week. **South Africa, Kenya, Algeria** and **Ethiopia** reported the largest number of new weekly cases in the region.
    - While incidence continues to decline (32% decrease) in **Angola**, Luanda is still considered a hotspot representing 78% of cumulative cases and 84% of cumulative deaths in the country. While urbanization and may account for this, it is also important to consider whether surveillance systems from other areas of the country are reporting with the same frequency as hospitals in Luanda.
- **Americas Region**
    - Cases continue to rise in the Americas with a 40% increase and 10% increase in incidence in deaths in the past week.
    - The **US** represents the highest number of new cases in the region, reporting 3,036 cases per 1 million population. COVID-19 is also now the 3rd leading cause of death in the US.
        - Strain on **healthcare workers** has become particularly hard in the rural Midwest US, making risk of **burnout** emmense – in some locations due to lack of HCWs, doctors are asked to continue working to treat patients even when they are COVID-19 positive. In the US, the epidemic situation was never brought under control, so in reality care providers have seen a continuing escalating first wave.[5]
    - **Canada** is also seeing an increased incidence in new cases – in particular among vulnerable populations such as long-term living facilities, indigenous communities, industrial work settings and gatherings.
    - **Mexico** is also seeing a substantial increase in new cases (by 16%), and deaths (9%), with increased hospitalization rates reported in the northern states.
- **MENA Region**
    - While incidence of death remained relatively stable in the region, the region continued to see an 11% increase incidence in reported cases compared to the previous week. Countries which reported the greatest number of new cases included **Iran, Jordan and Morocco**.
    - **Algeria** has seen a sharp rise in cases reporting 131% increase compared to the previous week as well as reports of hospitals becoming overwhelmed
- **European Region:**
    - The region represents 46% of all cases and 49% of new deaths globally, however, for the first time in a month the region noted a decline by 10% in the number of new cases reported compared to the previous week. Deaths continued to rise by 18% compared to the previous week. This shows that while we are still seeing a high incidence of COVID-19, the region's protection measures are starting to have an effect.
    - Hospitalizations: Pooled data from 19 countries reporting to ECDC show that 1.8 patients per100,000 in ICU are COVID-19
    - Czechia and & Belgium's cases peaked slightly before other countries in the region, and we are seeing that they may heve just peaked with corresponding deaths (which are typically delayed 2-3 weeks). France & Spain showing signs they are now reaching their peak
    - **Austria** reported the sharpest increase, with new cases this week 30% higher compared to the previous week.
    - **France's** incidence fell 50% compared to the previous week
    - **Russia Federation** saw it's highest reported cases and death counts the previous week and took new public health measures to try to contain the surge.
    - **Lithuania** also reporting its highest number of cases and deaths, and is adhjusting hospital capacities to meet demand
    - **Switzerland** has a 14-day incidence of 1036.13 new cases per 100,000 population, with 1083 hospitalizations and 441 deaths in the past week. Current test positivity rate (the proportion of tests that are positive) is **25.5% test positivity for the last 14-days** (test positivity above 5 is considered high).

[5] The Atlantic

- **Asia Pacific Region:**
    - Countries with highest number of weekly new cases per million population in South-East Asia region in the past week included **Nepal, Maldives and India**
    - Cases continue to rise (2 consecutive weeks) in the WHO Western Pacific region, with The **Philippines, Japan, Malaysia and French Polynesia** reporting the highest number of cases in the region.
    - **India** continues to report stable numbers (decrease by 5% and 12% of reported cases and deaths respectively). However, the Diwali holiday on November 14th means it is important to watch and see whether these trends continue in the coming weeks following festivities.
    - **Indonesia** has begun registering an increase in cases and deaths again with the provinces reporting the highest number of cases in Jakarta and Jawa Tengah.
    - **Pakistan** has seen a dramatic increase in cases (45% increase compared to the previous week) and deaths (21% increase compared to the previous week). The country has continued to put in place more strict measures to combat the virus.
    - **Afghanistan** is also seeing a surge in cases with a 65% increase incidence in cases compared to the previous week. Additionally, Afghanistan reported test positivity rates of 33% - emphasizing the challenges facing testing capacity. Stigma has been reported with getting tested, with men being significantly over-represented in testing (69% total confirmed cases).
    - First confirmed case reported in Vanuatu from a passenger returning from the US. The passenger was asymptomatic and found through routine testing.

Recent Research/ Evidence

- Several commentaries and preliminary studies in The Lancet Global Health have shown an increase in still births – specifically in low resource settings, likely related to decreased quality of care during the pandemic.6
- Pre-print study by La Jolla Institute for Immunology found **promising lasting immunity** in 185 sampled individuals with antibodies to the spike protein in SARS-CoV-2 remaining relatively stable and memory in B cells abundant after 6 months leading to some optimism that many may have lasting immunity to COVID-19 potentially for years after infection.
    - While above is promising for many, there is still the potential risk of re-infection of SARS-CoV-2 for some, with early reports of this in April and **confirmed re-infection reports** (where genetic sequencing was done) emerging in August. Given the challenges in providing genetic sequencing for both instances of infection, it may be under-reported, currently with Netherlands alone has 50 such cases, Brazil 95, Sweden 150, Mexico 285, and Qatar at least 243.7
- Lancet review of viral shedding of coronaviruses found that the overall duration of **viral shedding** increased with age (no difference in sex). Upper respiratory viral shedding was most significant early in infection around time of symptom onset and lower respiratory tract later on – around week two. Viral shedding in stool samples varied and did not follow the same patterns. The research further confirms that patients are likely to be most infectious within their first week of illness, and since no studies were able to effectively isolate viral shedding on day 9, that patients can likely be released from isolation on day 10 after symptom onset in non-severe cases. This also supports the need for early isolation to prevent the spread of COVID-19.
- Impact of non-pharmaceutical interventions in 79 territories on the effective reproductive number of COVID-19 found that the right **combination of less intrusive measures can be just as effective as more intrusive measures** (such as lock downs). The analysis shows that it is not a one size fits all, but a stable combination of measures is needed to keep.8
    - Measures were also identified as being ineffective, including: environmental measures to disinfect and clean surfices and public spaces

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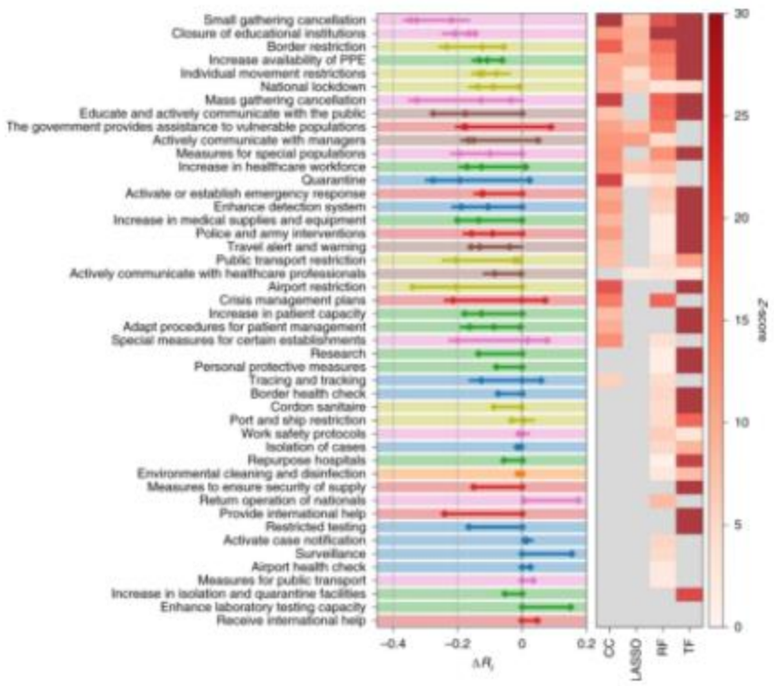
6 The Lancet 20 Nov 2020

7 Science 18 Nov 2020

8 Nature 16 Nov 2020

Fig. 1: Change in R_t (ΔR_t) for 46 NPIs at L2, as quantified by CC analysis, LASSO and TF regression.

From: Ranking the effectiveness of worldwide COVID-19 government interventions



- **Rapid response in Qingdao, China** following the identification of 3 SARS-CoV-2 positive individuals (including rapid contact tracing and testing of millions) facilitated 9 additional COVID-19 positive individuals to be identified and isolated (though contact tracing) and with mask requirements throughout the city was able to **contain the spread of COVID-19 without any major shut-downs within the municipality**. Other requirements for the population included the need for negative test results prior to using public transportation.9
- Description of how a small wedding of 55 can lead to a **super-spreading** event in multiple locations including one long-term care facility and correctional facility leading to 177 cases and 7 deaths.10

Clinical Trails

- Following US FDA Emergency Use Authorization of **bamlanivimab, a monoclonal antibody** produced by Eli Lilly for the treatment of mild or moderate COVID-19 cases who are at risk for severe response or hospitalization, the US NIH released guidance stating that:

  *"There are **insufficient data** to recommend either for or against the use of bamlanivimab" as a treatment for non-hospitalized COVID-19 patients. The panel also explicitly recommend that "bamlanivimab **should not be considered** the standard of care for the treatment of [COVID-19] patients"* recommending that additional research is needed given the current small sample size of existing research.
- **AstraZeneca/Jenner Institute (Oxford University**) published results of the phase 2 of the 2/3 trials that build on previously reported results showing similar results across all age groups who received 2 doses, with 99% of patients exhibiting neutralizing antibody immune response (with immune responses peaking after day 14 of the 1st out of 2 doses). Only minor adverse events noted among younger participants, with no serious adverse events reported.11
- **Moderna** has released data from it's Phase 3 trial which included 30,000 individuals showing efficacy close to 94.5%. It also reports greater stability with a shelf life at 2-8 degrees for 30 days and -20 degrees up to 6 months
- First **at home COVID-19 test kit** received US FDA approval (Lucira All-In-One Test Kit). The test kit is expected to cost less than $50 each and takes less 30 mins or less for results with a 'light-up' display
- **Sinovac's CoronaVav** (one of three experimental vaccines in China) has been found to trigger a quick immune response within 4 weeks of immunization (2 doses) but lower level of antibodies

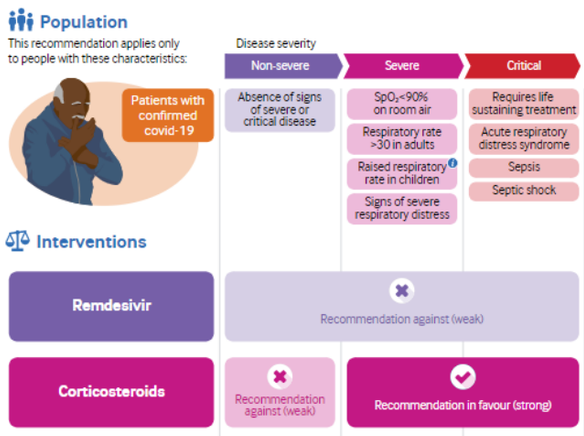
9 NEJM 18 Nov 2020

10 MMWR 13 Nov 2020

11 The Lancet 19 Nov 2020

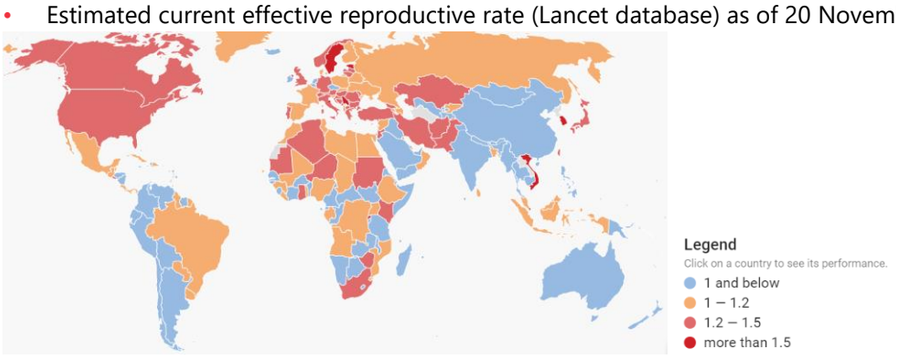
produced in patients who have previously recovered from COVID-19 have a decreasd response. The results need to be watched through phase 3 trials.12

- Final press regarding **Pfizer vaccine** estimated it at 95% efficacy and 94% among individuals over the age of 65.13
    - Pfizer and BioNTech have submitted for US FDA Early Use Authorization (EUA), with responses expected in early December.
- WHO released a note recommending **against the use of remdesivir in COVID-19 patients** stating that existing data do not show that remdesivir improves survival or other outcomes, specifically a lack of data supporting that it improves survival or need for mechanical ventelation.
    - The recommendation was also included in the updated WHO living Guidance for clinical care of COVID-19
    - The BMJ also keeps a recommendation of clinical treatments for COVID-19 updated as evidence emerges **here**:

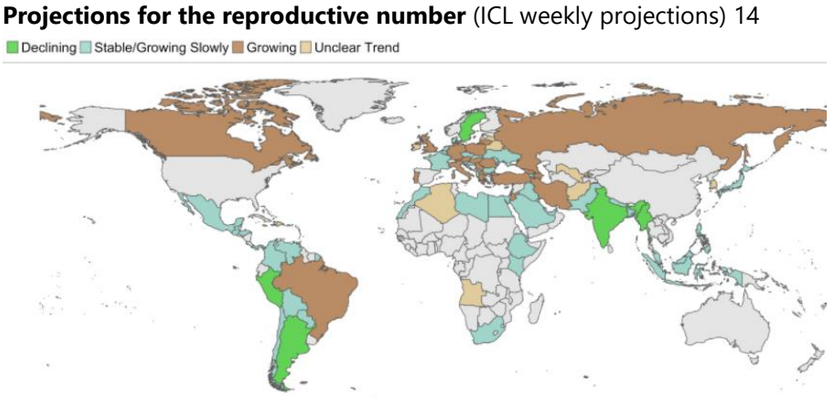


Modeling & Forecasting

- Estimated current effective reproductive rate (Lancet database) as of 20 November 2020



- **Projections for the reproductive number** (ICL weekly projections) 14



As of November 16th estimates for the effective reproductive number:

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12 The Lancet 17 Nov 2020

13 Pfizer 16 Nov 2020

14 **Map**: Estimates of transmissibility in countries with active transmission for the week. A country is defined to be in the declining phase if the 97.5th quantile of the effective reproduction number is below 1. It is defined to be in the growing phase if the 2.5th quantile of the effective reproduction number is above 1 and the width of the 95% CrI is less than 1. If the 2.5th 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

    - **Europe**: Average of about 1, Highest: ***Serbia***: estimated around 1.5-2
    - **Asia**: Average of about 1, Highest: ***Afghanistan*** 1.5
    - **Africa**: Average about 1, Highest: ***Kenya*** 1.5
    - MENA (not included): Highest: ***Algeria*** (1.5)
    - **North & Central America**: Average of about 1, Highest: ***Canada*** 1.5
    - **South America**: Average of about 1, Highest: ***Brazil***: 1-1.5
- **IHME projections** for daily infections using current trends, easing of mandates and increased mask use

Humanitarian Impacts

- **Syria** has struggled to combat COVID-19 due to the targeting of hospital infrastructure and health workers throughout the conflict. During the recent cese fire, health workers have needed to shift from treating trauma patients to COVID-19 patients. Incidence in **Idlib** (one of the last remaining areas held by opposition areas) has seen **dramatic increases** (potentially upwards of 300%). The majority of current cases are being reported from cities, but increasing concern that COVID-19 could spread rapidly within camps among those displaced.
- 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 17 Nov, Operational 15 Nov)*

- WHO: Technical specifications of personal protective equipment for COVID-19
- US NIH Guidance on Emergency Use Authorization of Bamlanivimab for the Treatment of COVID-19
- WHO: **Therapeutics and COVID-19: living guideline**
- WHO: Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme released a report (Nov 4) stating WHO has shown capacity to manage multipe simultaneous epidemics.
- WHO establishes Council on the Economics of Health for All
- WHO: Immunization as an essential health service: guiding principles for immunization activities during the COVID-19 pandemic and other times of severe disruption
- WHO: An update to the guidance on critical preparedness, readiness and response actions
    - including further subclassifications of transmission scenarios within the community transmission category; and updated guidance on contact tracing, laboratory
- WHO: An update to the guidance on considerations for implementing and adjusting public health and social measures (PHSM) in the context of COVID-19.
- WHO: Update to guidance on health facility assessments,
- WHO: Readiness for influenza during the COVID-19 pandemic

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

Center for Humanitarian Health: COVID-19 Maternal and Child Health, Nutrition Literature Reviews

The COVID tracking project (US focus)

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

WHO

WHO Technical Guidance for COVID-19

MobLabs

MobLabs Domestic and international risk of importing a case

World Meters