

COVID-19 Results Briefing

Qatar

January 14, 2021

This document contains summary information on the latest projections from the IHME model on COVID-19 in Qatar. The model was run on January 13, 2021 with data through January 11, 2021.

Current situation

- Daily reported cases in the last week were 200 per day on average (Figure 1).
- Effective R, computed using cases, hospitalizations, and deaths on December 31 was 0.91 (Figure 3).
- We estimated that 7% of people in Qatar have been infected as of January 11 (Figure 4).
- The daily death rate is less than 1 per million (Figure 6).

Trends in drivers of transmission

- In the last week, no new mandates have been imposed. No mandates have been lifted this week (Table 2).
- Mobility last week was 1% lower than the pre-COVID-19 baseline (Figure 8).
- As of January 11 we estimated that 72% of people always wore a mask when leaving their home (Figure 9).
- There were 154 diagnostic tests per 100,000 people on January 11 (Figure 10).
- In Qatar 58% of people say they would accept a vaccine for COVID-19 and 23% say they are unsure if they would accept one (Figure 12).
- We expect that about 313,900 will be vaccinated by May 1 (Figure 13).

Projections

- In our **reference scenario**, which represents what we think is most likely to happen, our model projects about 250 cumulative deaths on May 1, 2021.
- We estimate that 87% of people will still be susceptible on May 1, 2021 (Figure 17).
- Figure 21 compares our reference scenario forecasts to other publicly archived models. Forecasts are widely divergent.
- We do not forecast that Qatar will have stress on its hospital bed and ICU capacity (Figure 22 and 23).

Model updates

Methods have not been changed in this week's update. Reported data on vaccination scale-up for select countries has led us to revise the expected rates of vaccination. For some countries, the revision has reduced the expected vaccination rates, and for others – such as Israel – the revision has increased expected vaccination rates.

Current situation

Figure 1. Reported daily COVID-19 cases

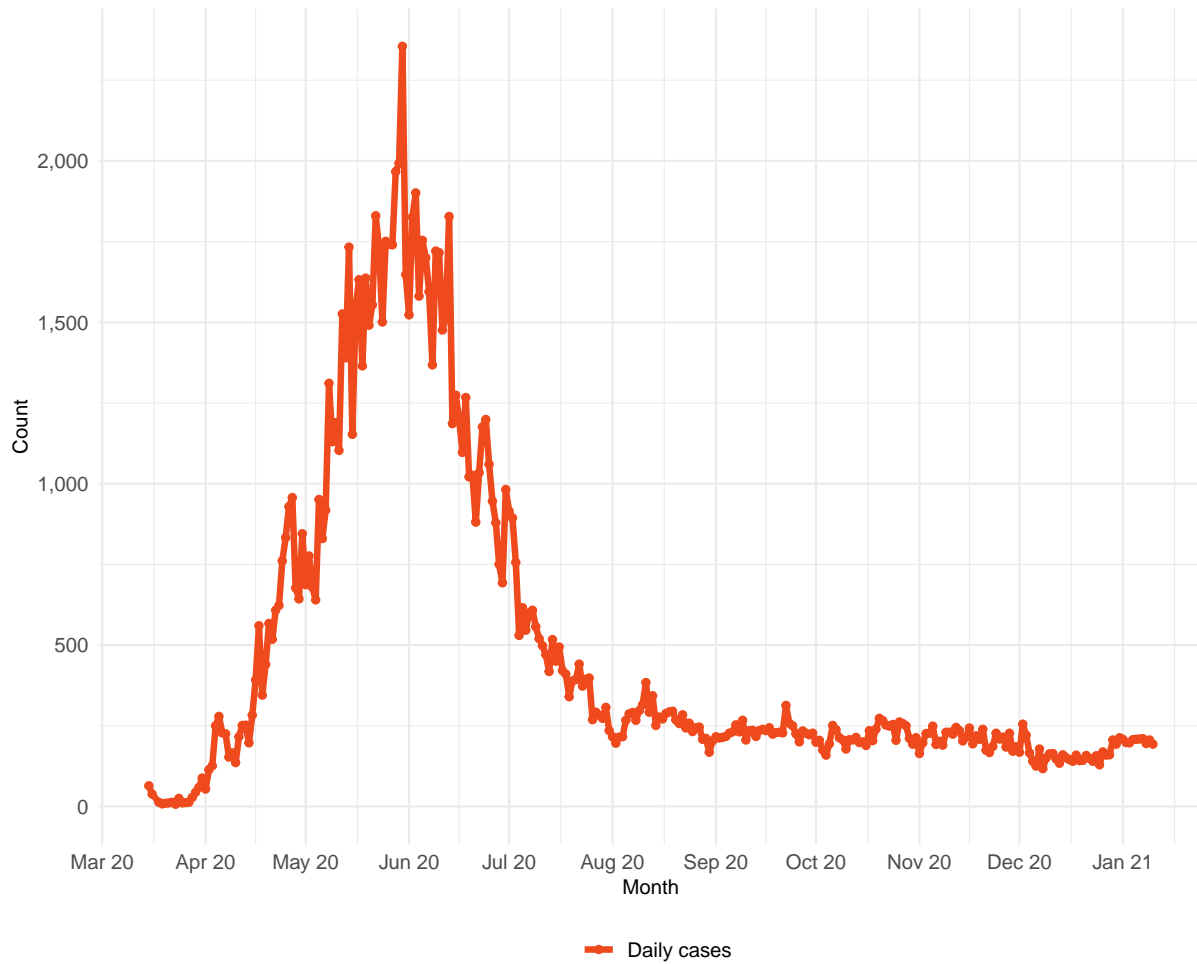


Table 1. Ranking of COVID-19 among the leading causes of mortality this week, assuming uniform deaths of non-COVID causes throughout the year

Cause name	Weekly deaths	Ranking
Ischemic heart disease	16	1
Road injuries	14	2
Diabetes mellitus	7	3
Stroke	3	4
Cirrhosis and other chronic liver diseases	3	5
Chronic kidney disease	3	6
Self-harm	3	7
Tracheal, bronchus, and lung cancer	2	8
Falls	2	9
Congenital birth defects	2	10
COVID-19	1	31

Figure 2a. Reported daily COVID-19 deaths

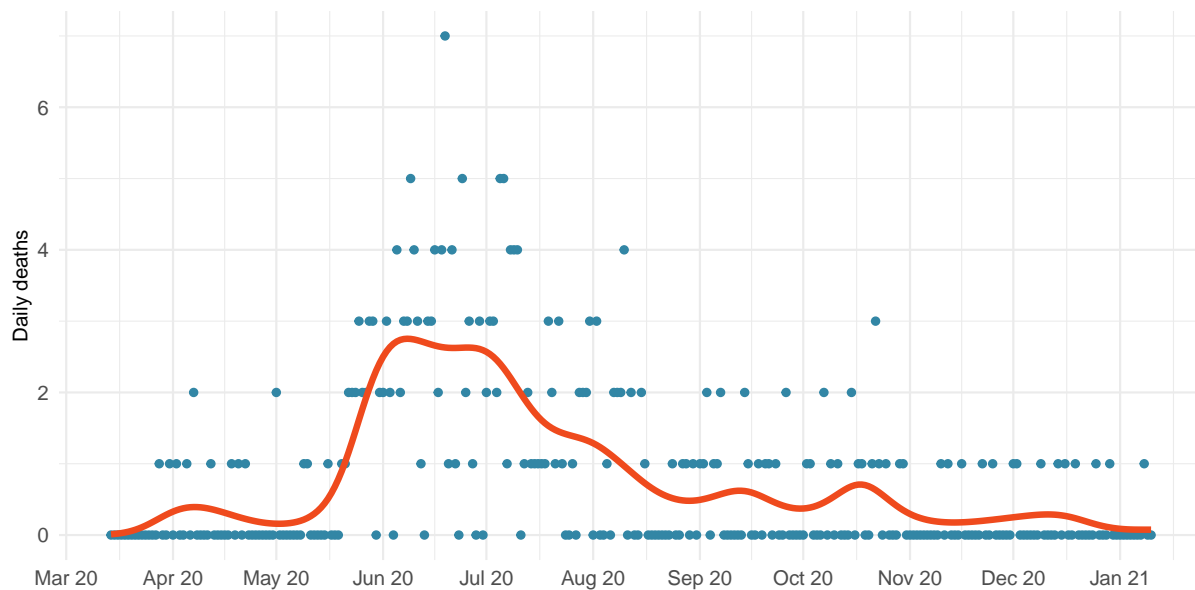


Figure 2b. Estimated cumulative deaths by age group

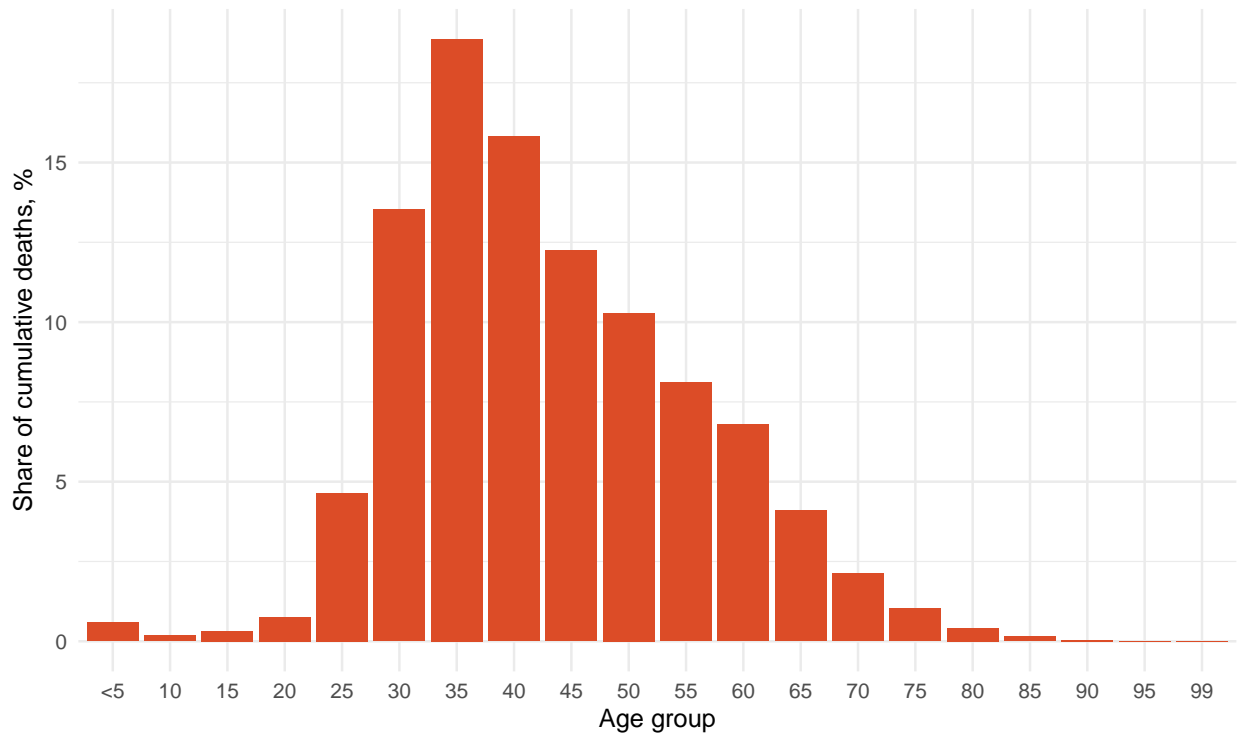


Figure 3. Mean effective R on December 31, 2020. The estimate of effective R is based on the combined analysis of deaths, case reporting, and hospitalizations where available. Current reported cases reflect infections 11-13 days prior, so estimates of effective R can only be made for the recent past. Effective R less than 1 means that transmission should decline, all other things being held the same.

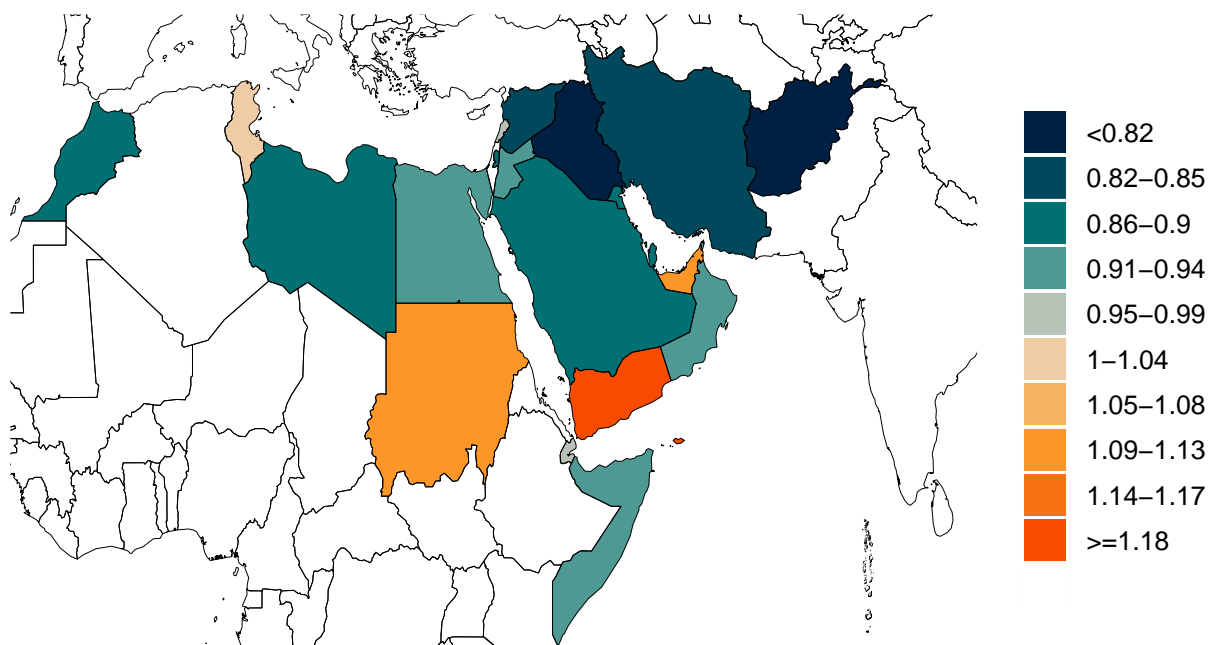


Figure 4. Estimated percent of the population infected with COVID-19 on January 11, 2021

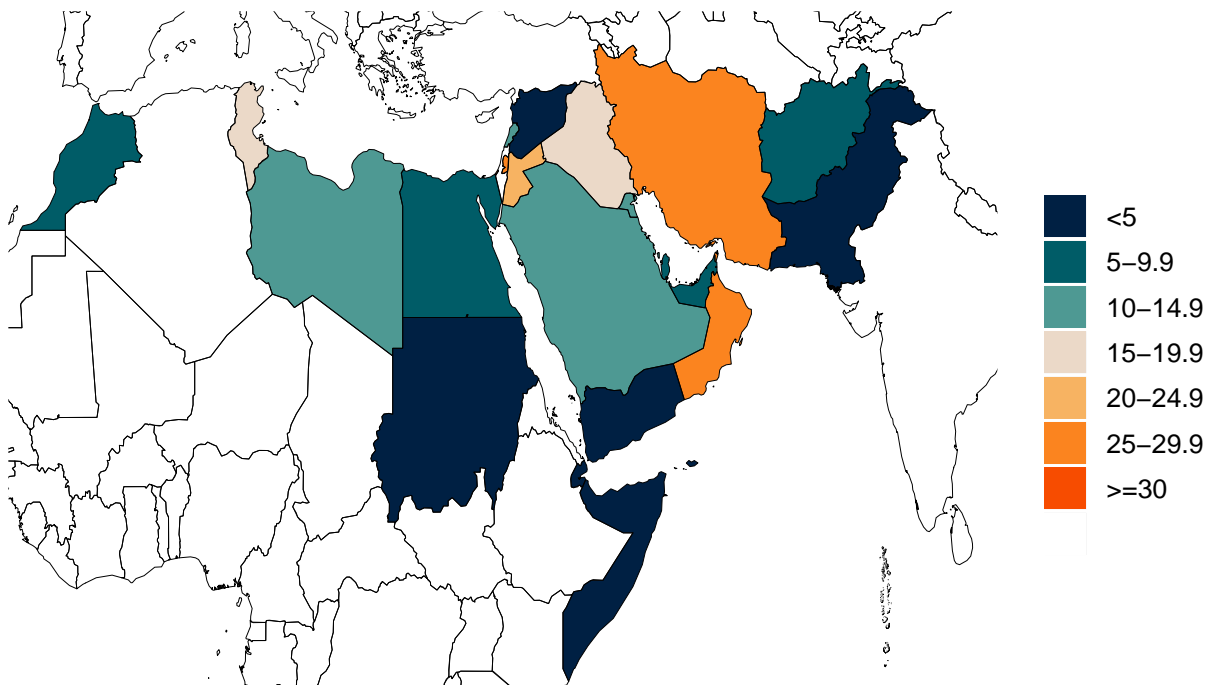


Figure 5. Percent of COVID-19 infections detected. This is estimated as the ratio of reported daily COVID-19 cases to estimated daily COVID-19 infections based on the SEIR disease transmission model.

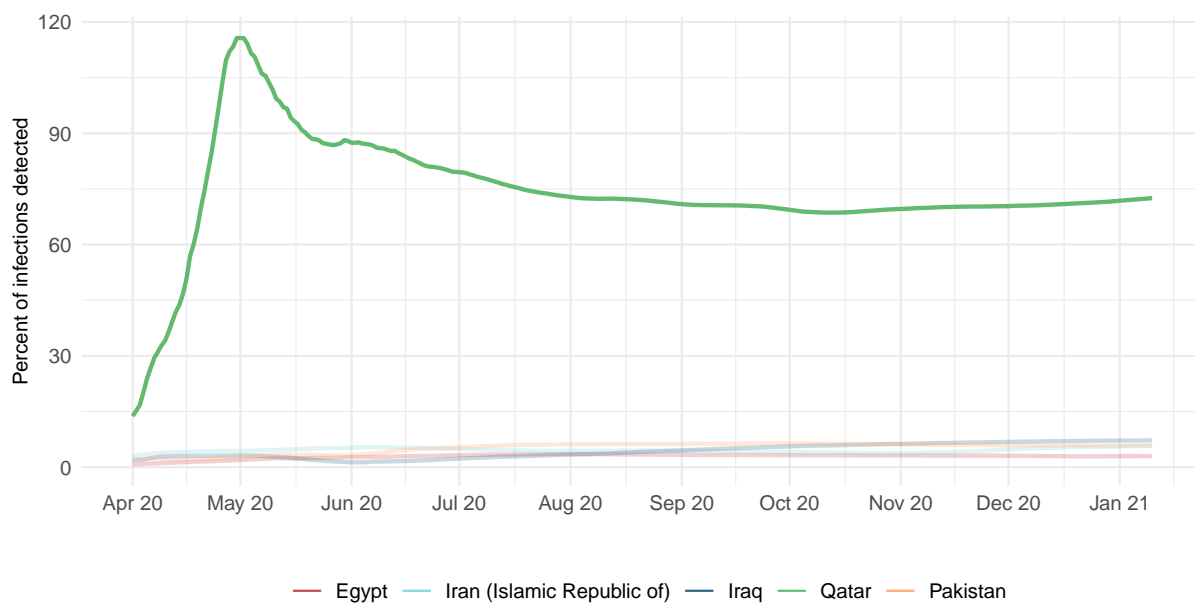
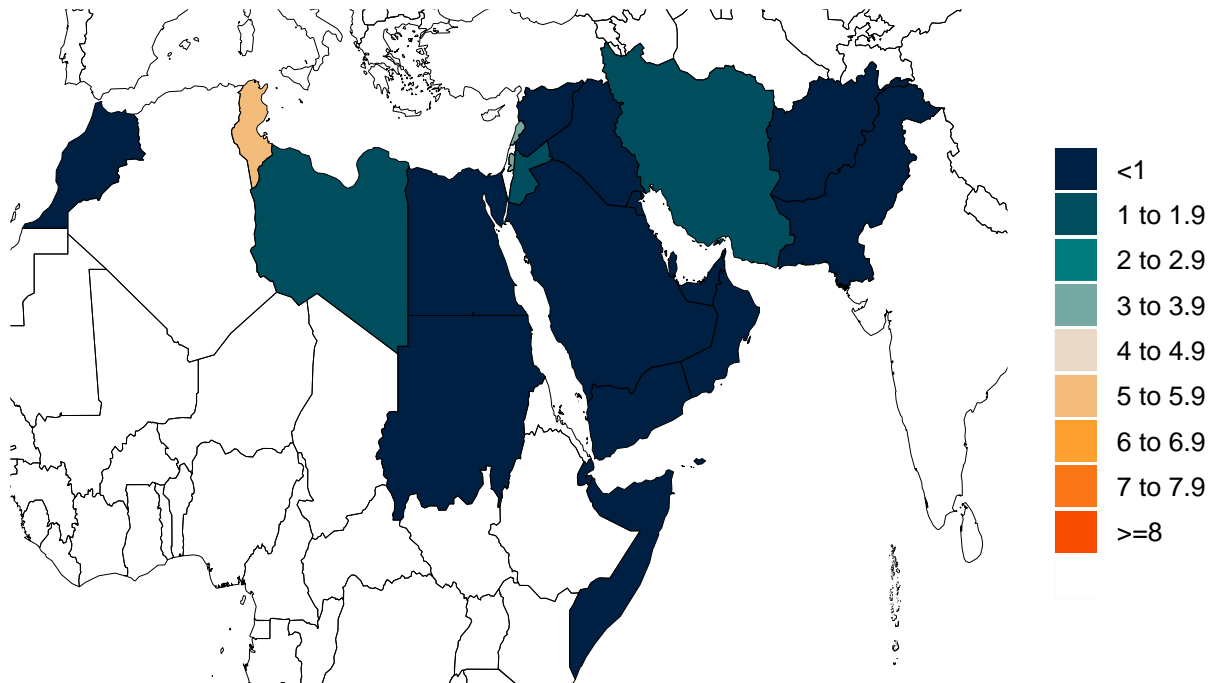


Figure 6. Daily COVID-19 death rate per 1 million on January 11, 2021



Critical drivers

Table 2. Current mandate implementation



Figure 7. Total number of social distancing mandates (including mask use)

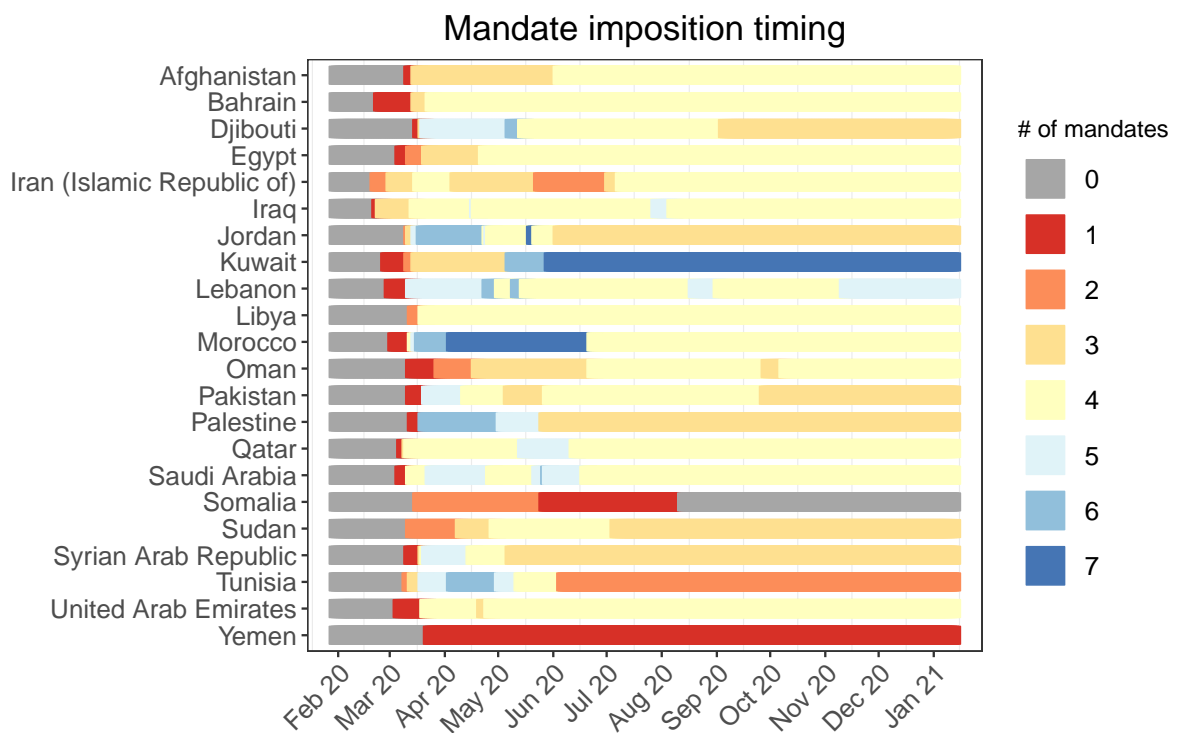


Figure 8a. Trend in mobility as measured through smartphone app use compared to January 2020 baseline

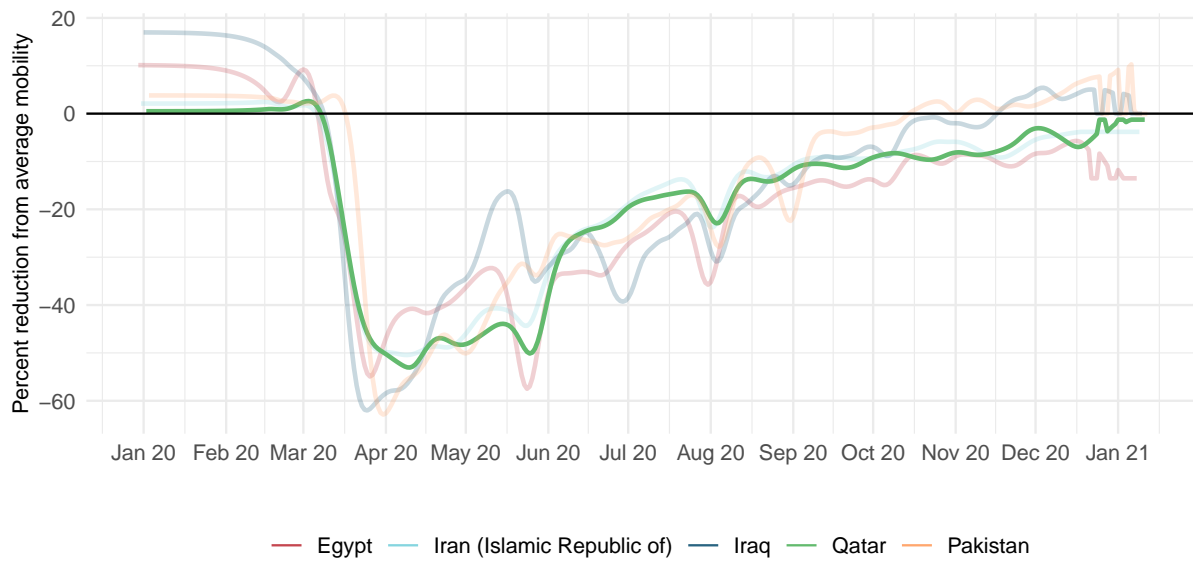


Figure 8b. Mobility level as measured through smartphone app use compared to January 2020 baseline (percent) on January 11, 2021

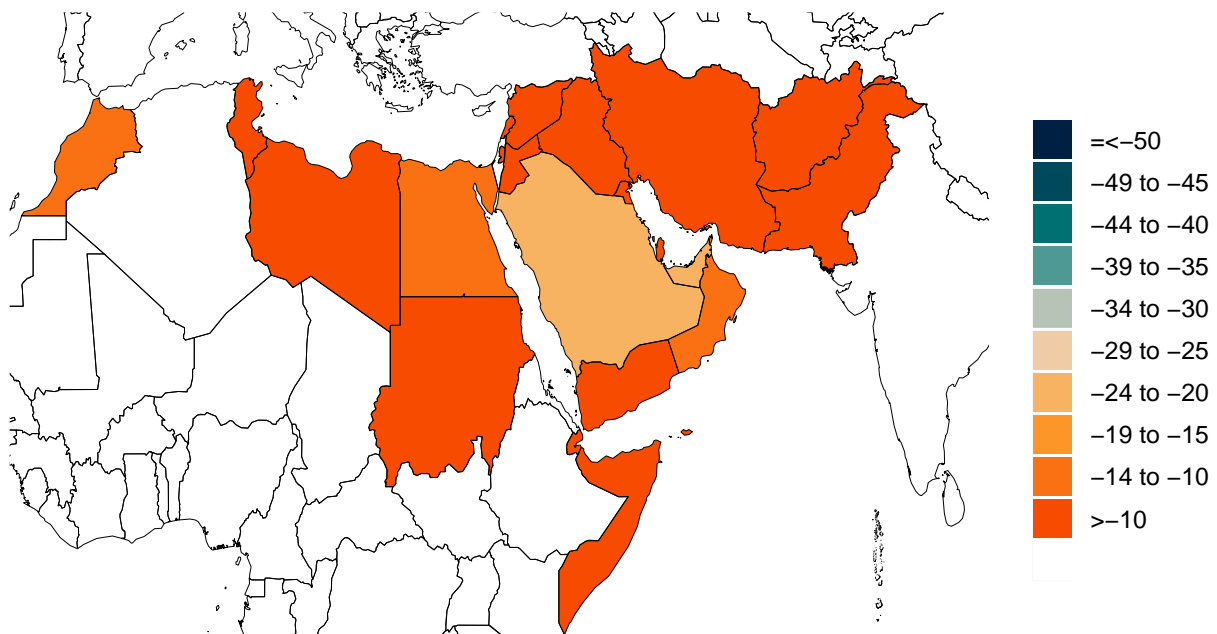


Figure 9a. Trend in the proportion of the population reporting always wearing a mask when leaving home

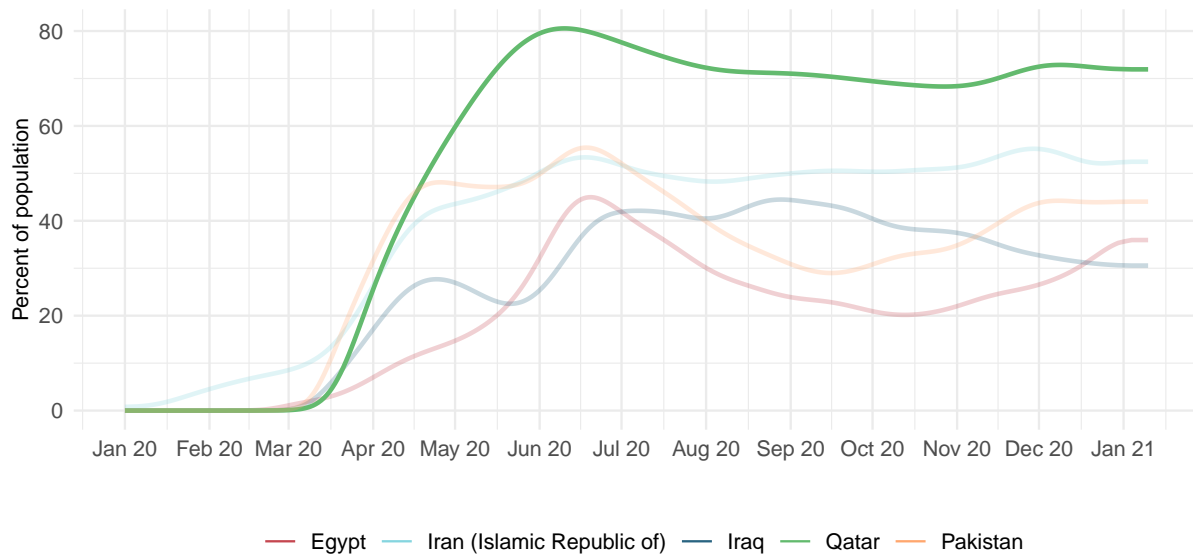


Figure 9b. Proportion of the population reporting always wearing a mask when leaving home on January 11, 2021

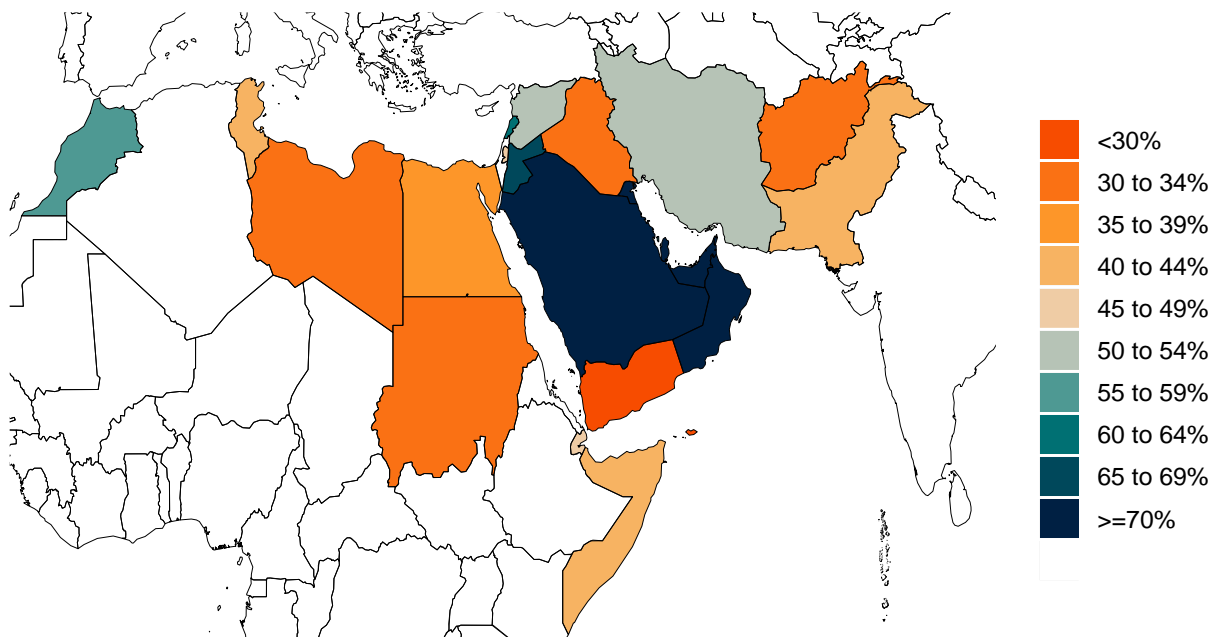


Figure 10a. Trend in COVID-19 diagnostic tests per 100,000 people

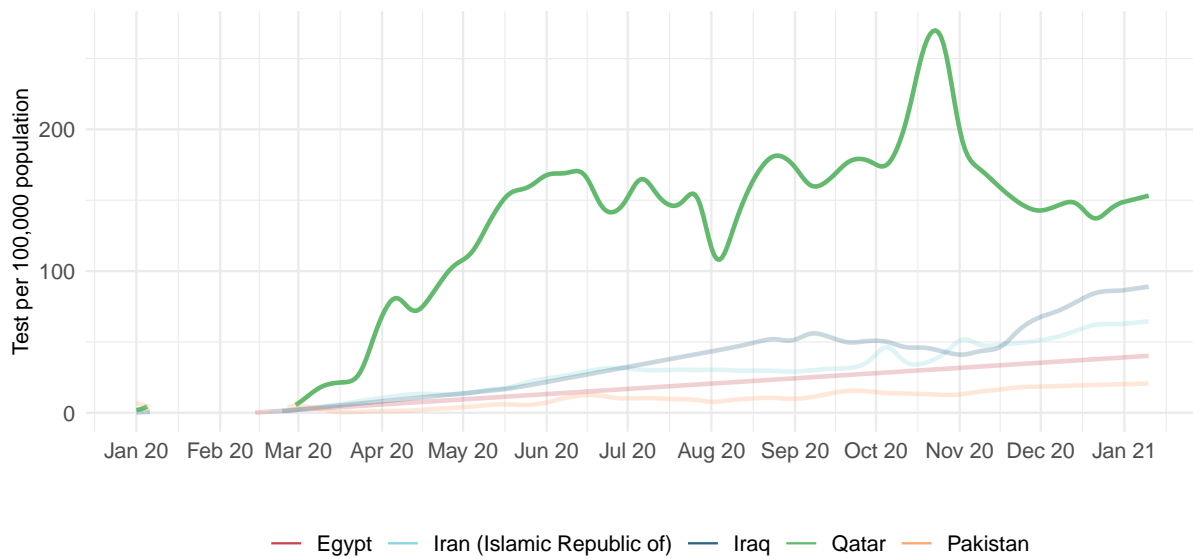


Figure 10b. COVID-19 diagnostic tests per 100,000 people on December 31, 2020

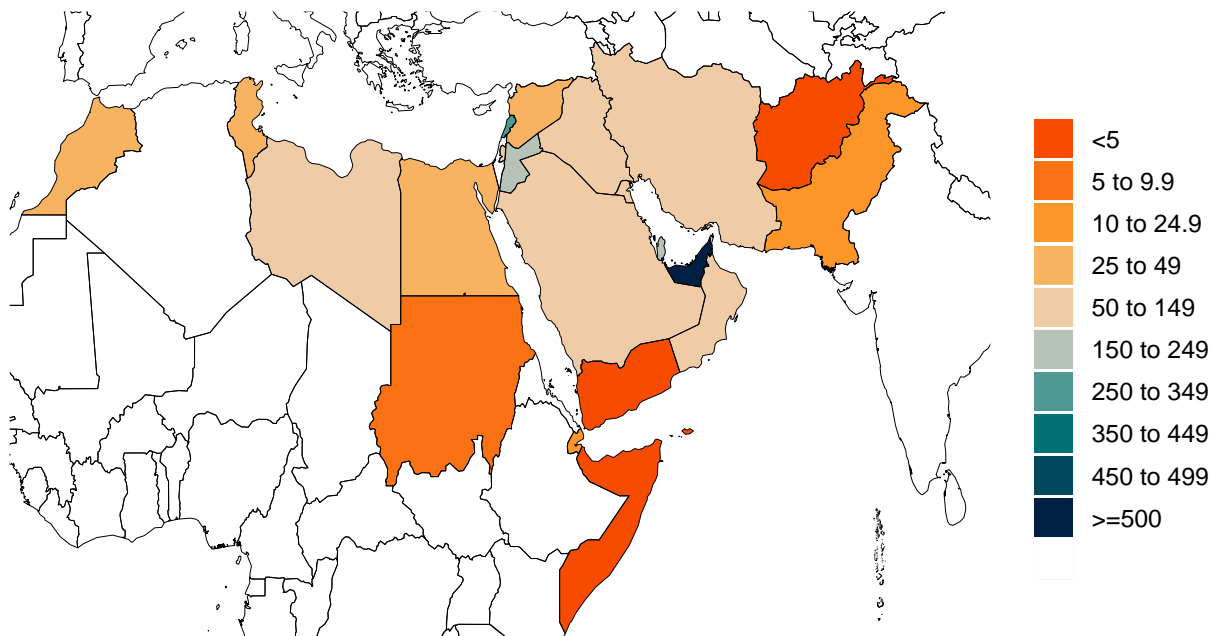


Figure 11. Increase in the risk of death due to pneumonia on February 1 2020 compared to August 1 2020

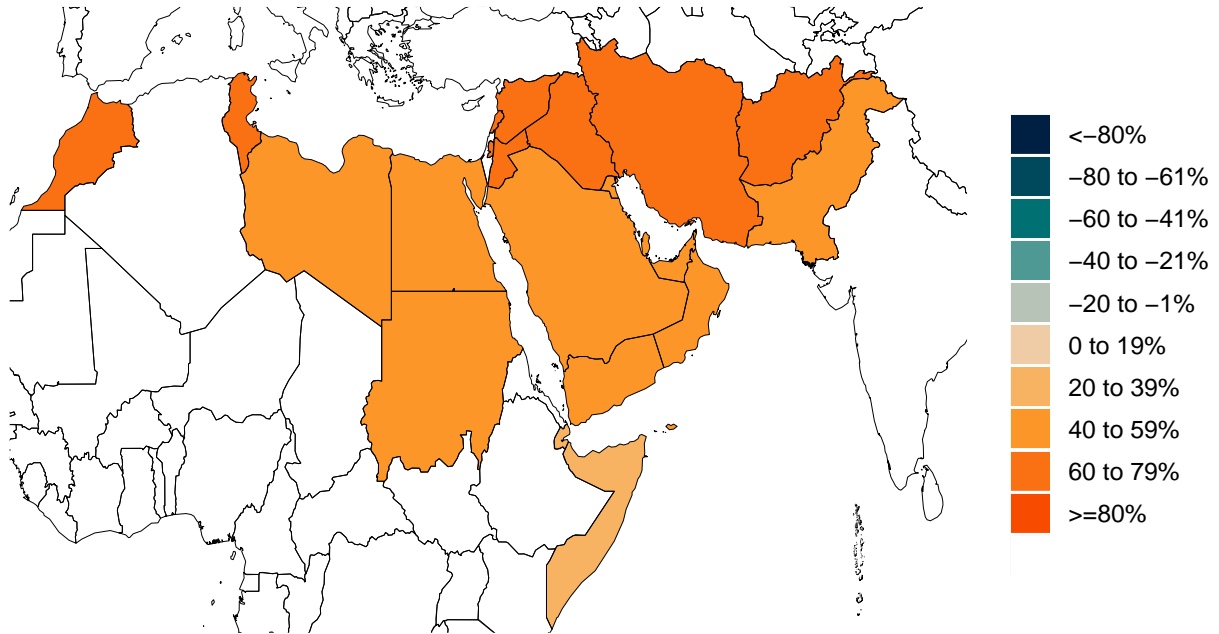


Figure 12. This figure shows the estimated proportion of the adult (18+) population that is open to receiving a COVID-19 vaccine based on Facebook survey responses (yes and unsure).

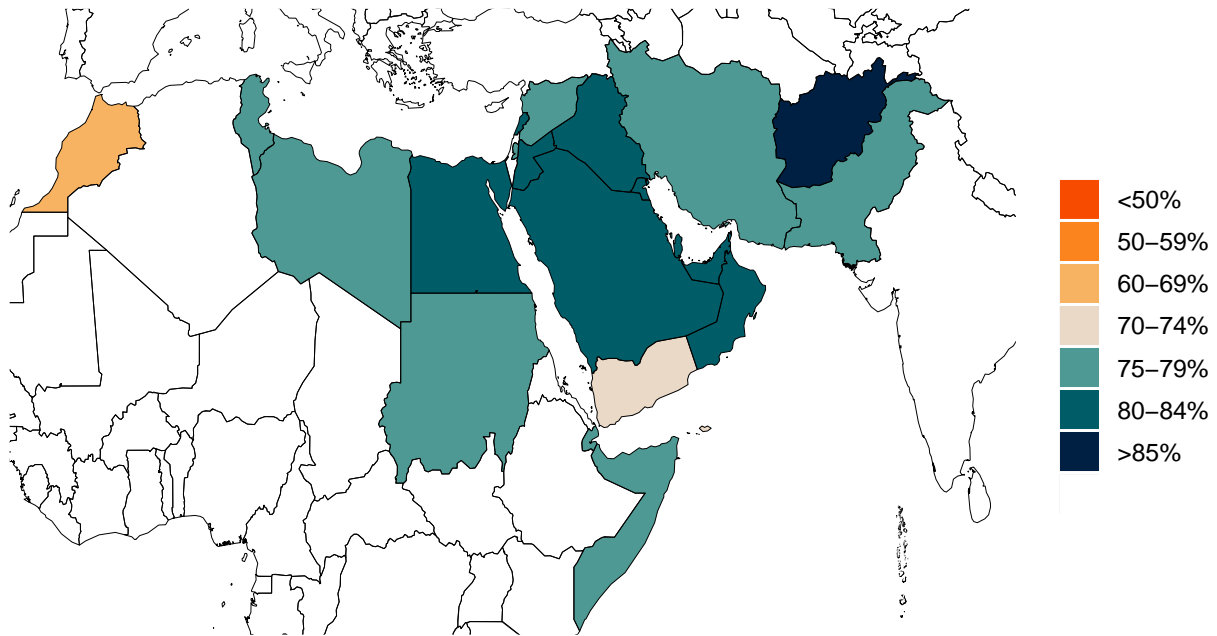
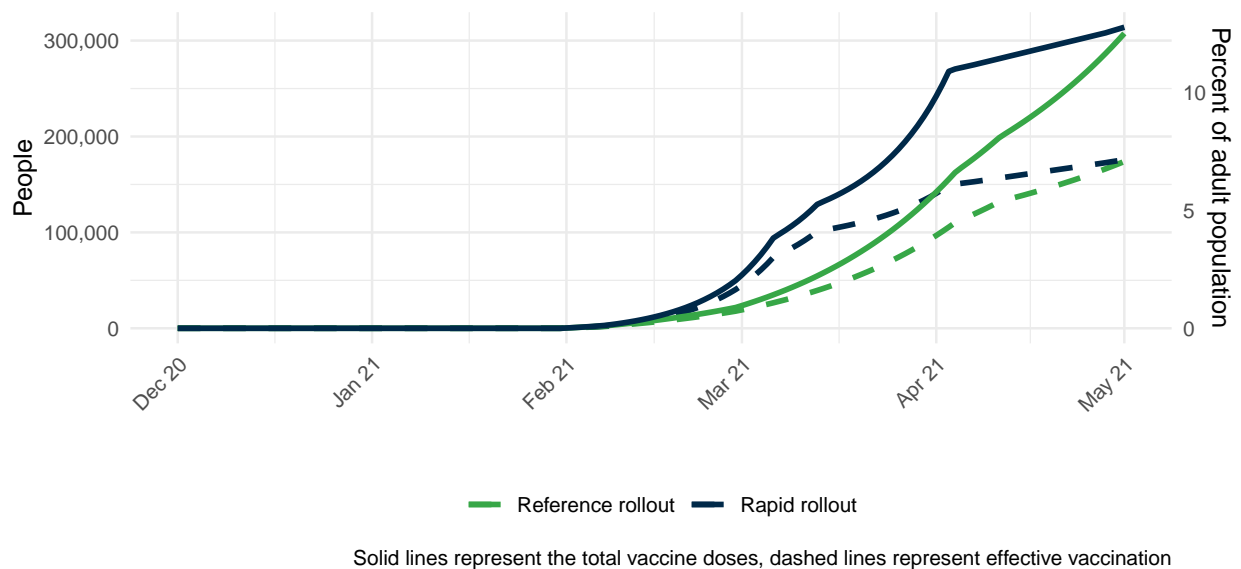


Figure 13. The number of people who receive any vaccine and those who are immune, accounting for efficacy, loss to follow up for two-dose vaccines, partial immunity after one dose, and immunity after two doses.



Projections and scenarios

We produce six scenarios when projecting COVID-19. The reference scenario is our forecast of what we think is most likely to happen. We assume that if the daily mortality rate from COVID-19 reaches 8 per million, social distancing (SD) mandates will be re-imposed. The mandate easing scenario is what would happen if governments continue to ease social distancing mandates with no re-imposition. The universal mask mandate scenario is what would happen if mask use increased immediately to 95% and social distancing mandates were re-imposed at 8 deaths per million. These three scenarios assume our reference vaccine delivery scale up where vaccine delivery will scale to full capacity over 90 days.

The rapid vaccine rollout scenario assumes that vaccine distribution will scale up to full delivery capacity in half the time as the reference delivery scenario and that the maximum doses that can be delivered per day is twice as much as the reference delivery scenario. The rapid vaccine rollout to high-risk populations scenario is the same but high-risk populations are vaccinated before essential workers or other adults. The no vaccine scenario is the same as our reference scenario but with no vaccine use.

Figure 14. Cumulative COVID-19 deaths until May 01, 2021 for six scenarios

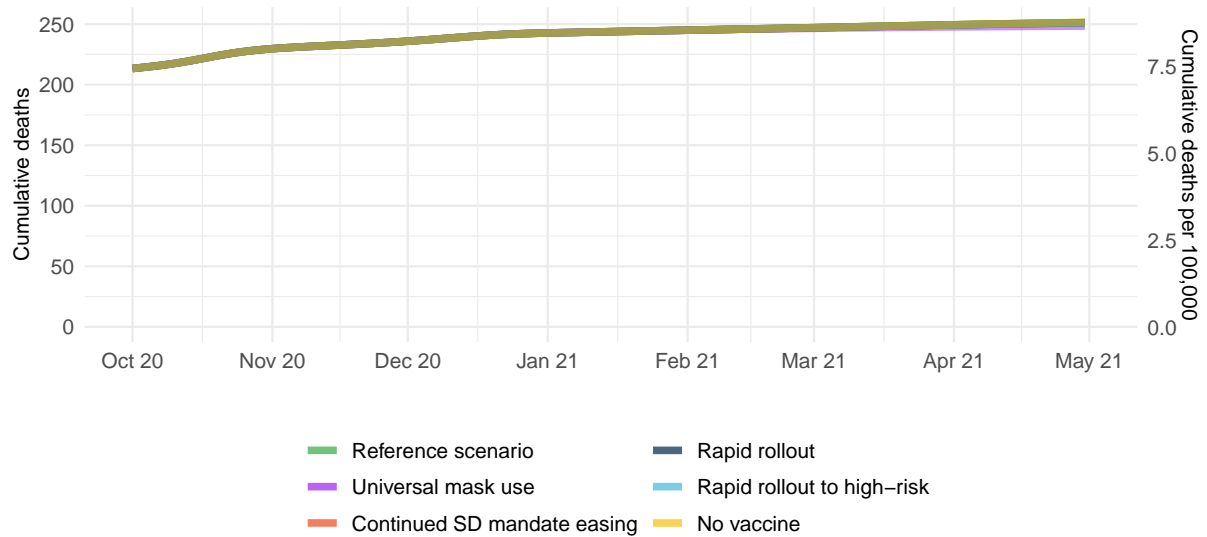


Figure 15. Daily COVID-19 deaths until May 01, 2021 for six scenarios

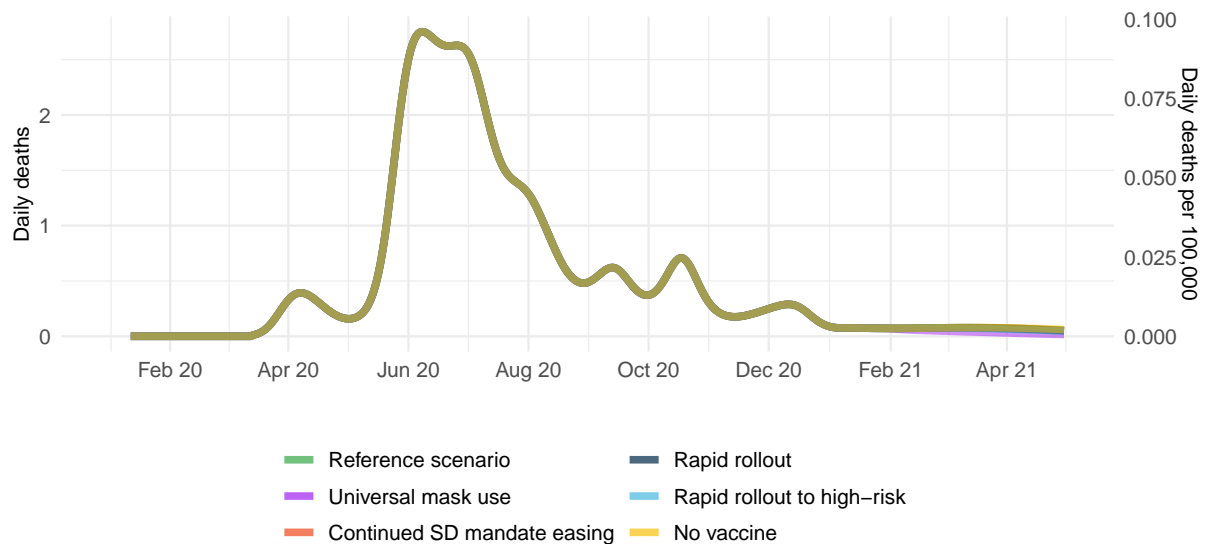


Figure 16. Daily COVID-19 infections until May 01, 2021 for six scenarios

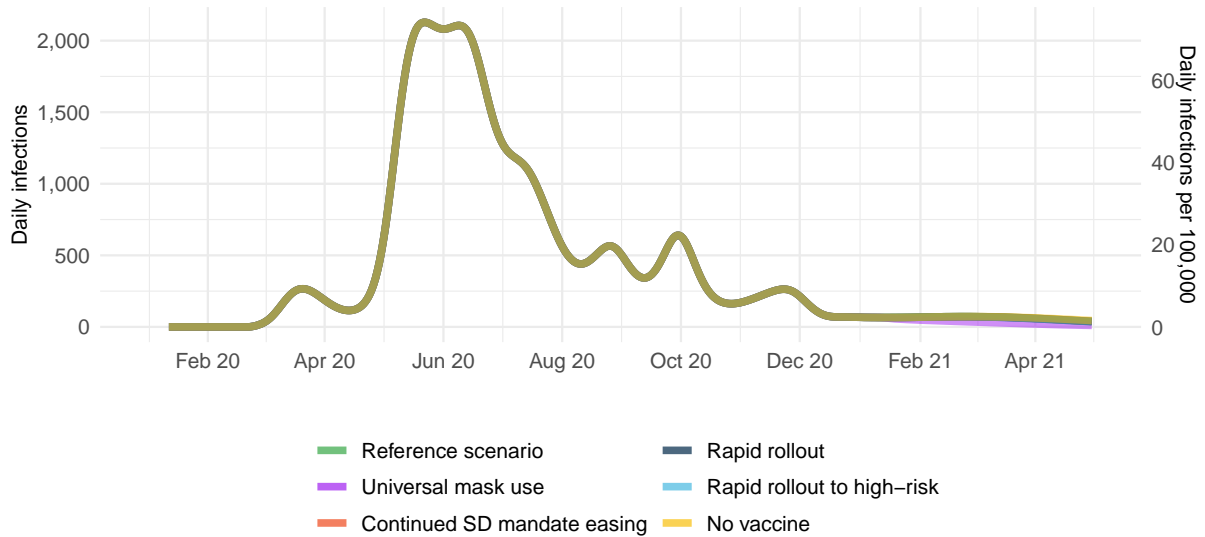


Figure 17. Susceptible population, accounting for infections and people immune through vaccination

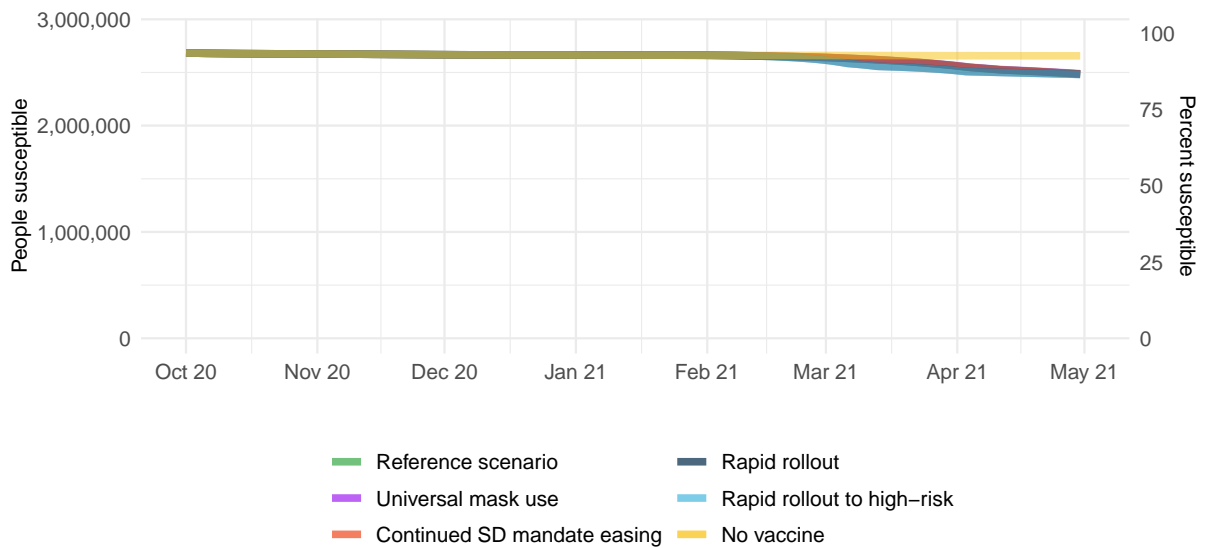


Figure 18. Month of assumed mandate re-implementation. (Month when daily death rate passes 8 per million, when reference scenario model assumes mandates will be re-imposed.)



Figure 19. Forecasted percent infected with COVID-19 on May 01, 2021

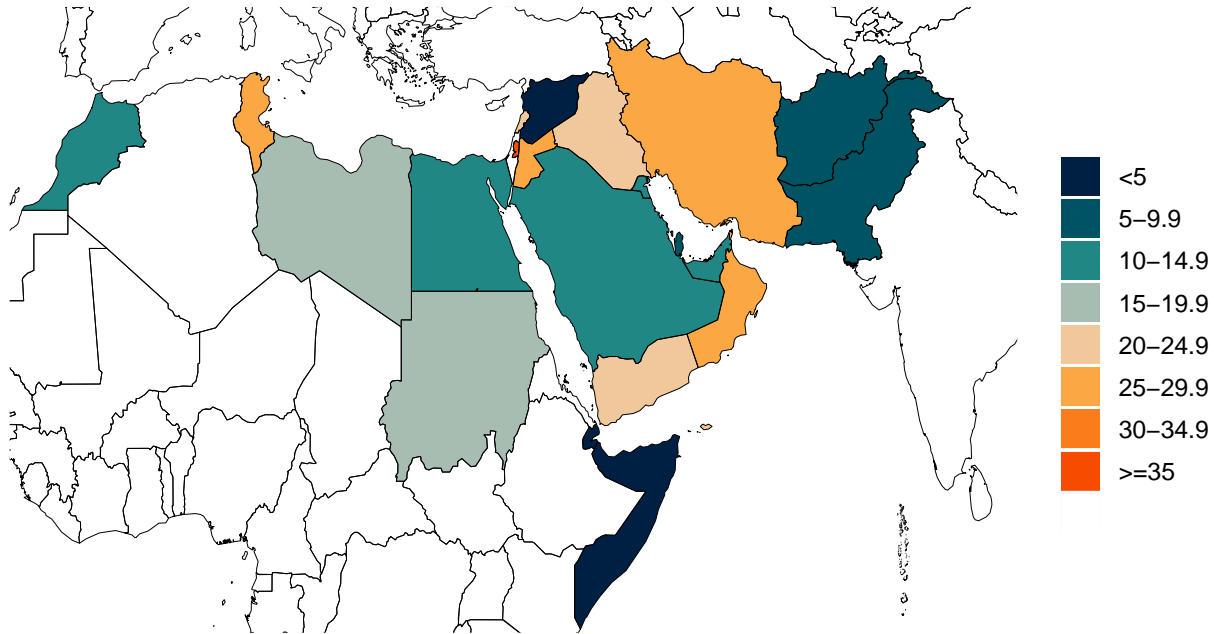


Figure 20. Daily COVID-19 deaths per million forecasted on May 01, 2021 in the reference scenario

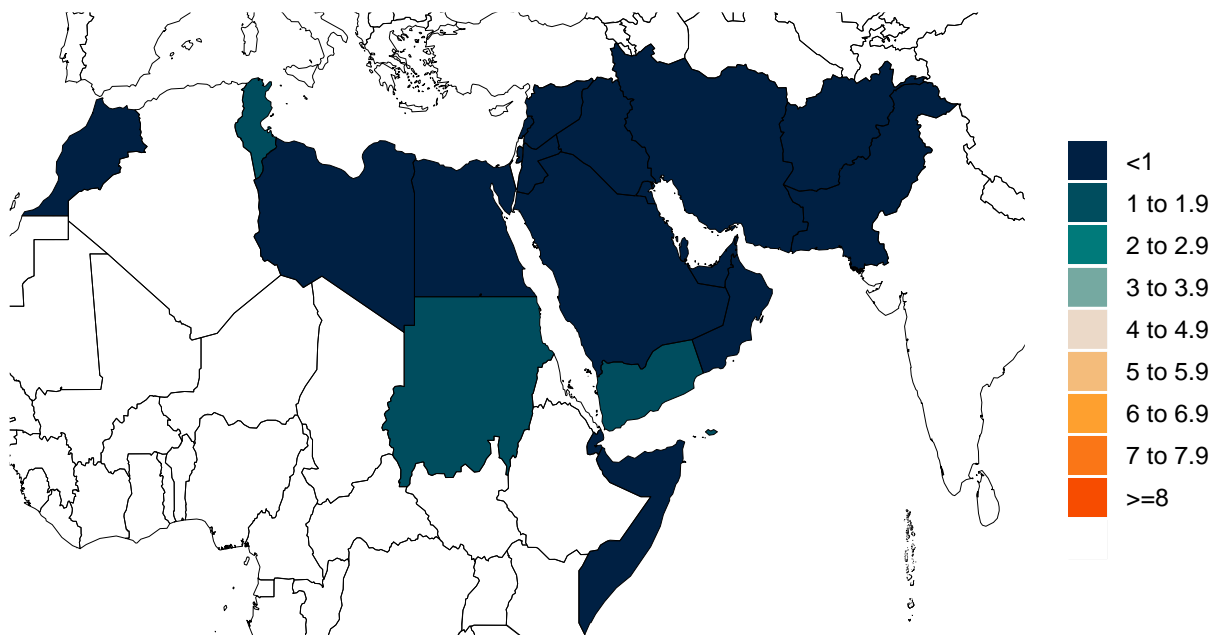


Figure 21. Comparison of reference model projections with other COVID modeling groups. For this comparison, we are including projections of daily COVID-19 deaths from other modeling groups when available: Delphi from the Massachusetts Institute of Technology (Delphi; <https://www.covidanalytics.io/home>), Imperial College London (Imperial; <https://www.covidsim.org>), The Los Alamos National Laboratory (LANL; <https://covid-19.bsvgateway.org/>), and the SI-KJalpha model from the University of Southern California (SIKJalpha; <https://github.com/scc-usc/ReCOVER-COVID-19>). Daily deaths from other modeling groups are smoothed to remove inconsistencies with rounding. Regional values are aggregates from available locations in that region.

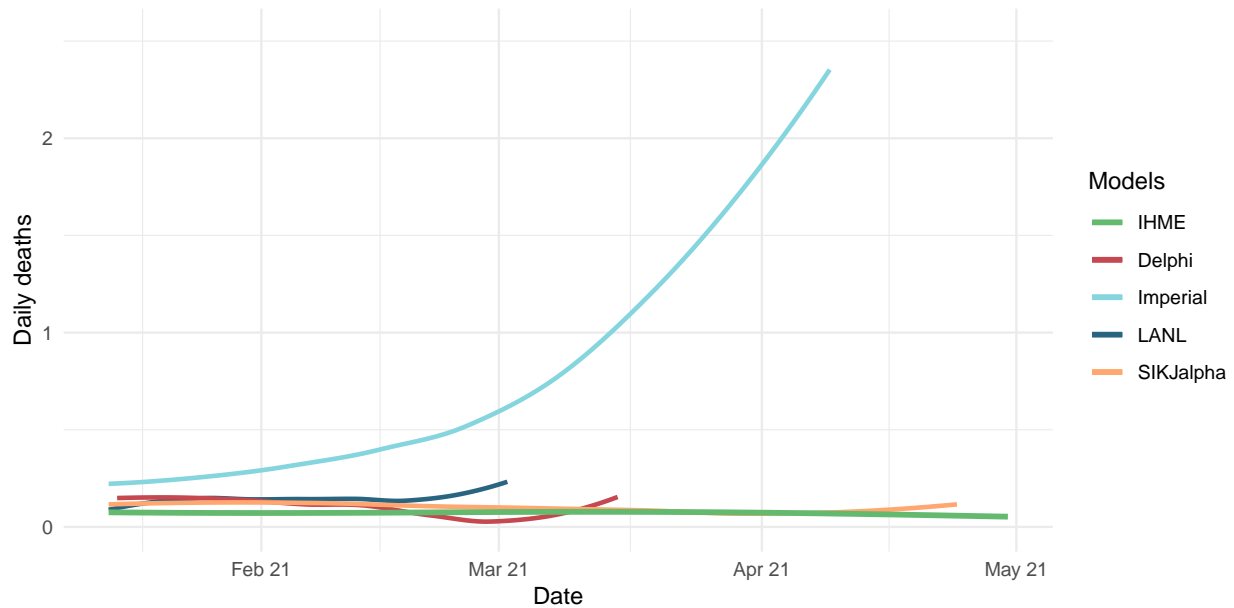


Figure 22. The estimated inpatient hospital usage is shown over time. The percent of hospital beds occupied by COVID-19 patients is color coded based on observed quantiles of the maximum proportion of beds occupied by COVID-19 patients. Less than 5% is considered *low stress*, 5-9% is considered *moderate stress*, 10-19% is considered *high stress*, and greater than 20% is considered *extreme stress*.



Figure 23. The estimated intensive care unit (ICU) usage is shown over time. The percent of ICU beds occupied by COVID-19 patients is color coded based on observed quantiles of the maximum proportion of ICU beds occupied by COVID-19 patients. Less than 10% is considered *low stress*, 10-29% is considered *moderate stress*, 30-59% is considered *high stress*, and greater than 60% is considered *extreme stress*.

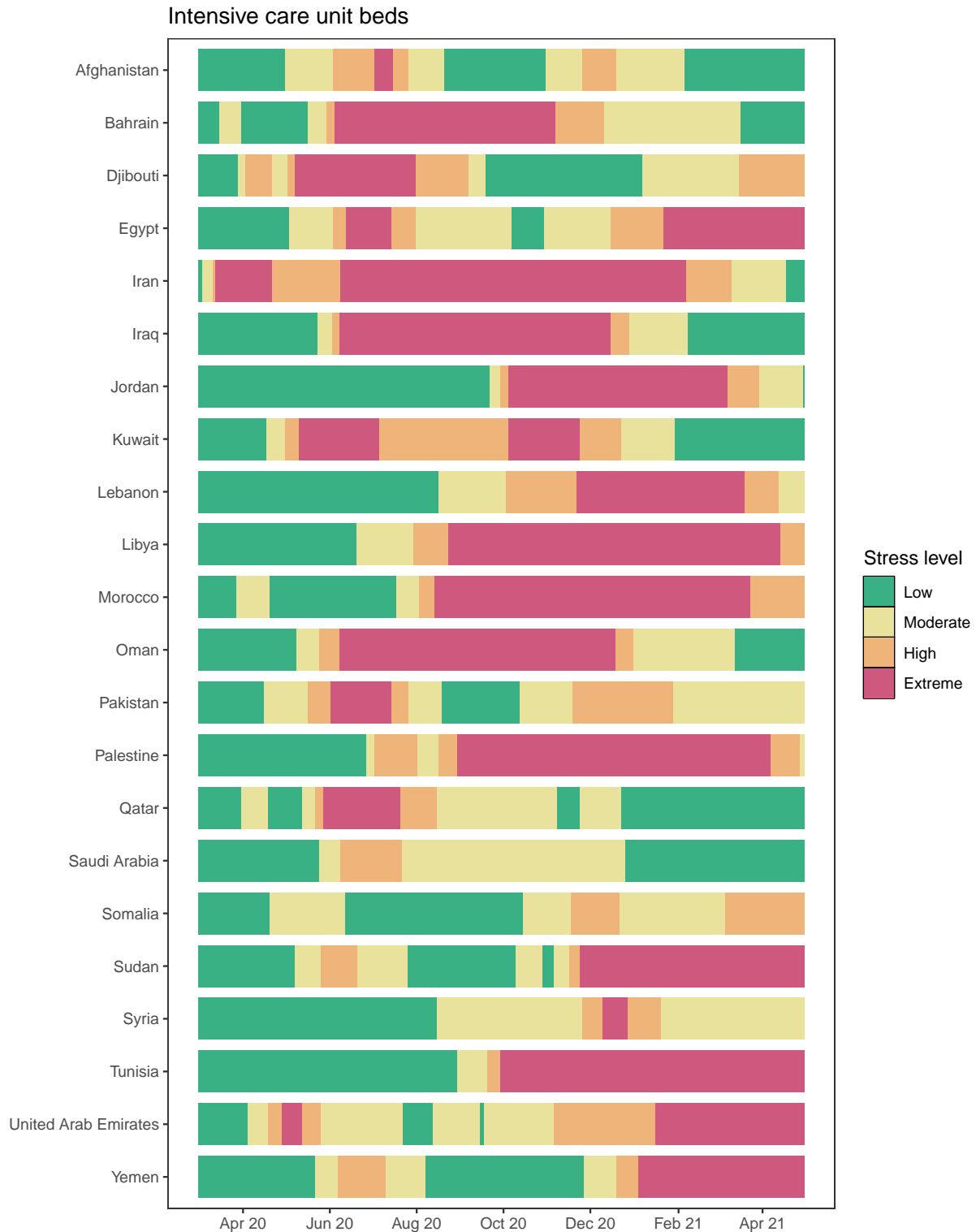


Table 3. Ranking of COVID-19 among the leading causes of mortality in the full year 2020. Deaths from COVID-19 are projections of cumulative deaths on Jan 1, 2021 from the reference scenario. Deaths from other causes are from the Global Burden of Disease study 2019 (rounded to the nearest 100).

Cause name	Annual deaths	Ranking
Ischemic heart disease	800	1
Road injuries	700	2
Diabetes mellitus	300	3
COVID-19	243	4
Stroke	200	5
Cirrhosis and other chronic liver diseases	200	6
Chronic kidney disease	100	7
Self-harm	100	8
Tracheal, bronchus, and lung cancer	100	9
Falls	100	10

More information

Data sources:

Mask use data sources include PREMISE; Facebook Global symptom survey (This research is based on survey results from University of Maryland Social Data Science Center) and the Facebook United States symptom survey (in collaboration with Carnegie Mellon University); Kaiser Family Foundation; YouGov COVID-19 Behaviour Tracker survey.

Vaccine hesitancy data are from the COVID-19 Beliefs, Behaviors, and Norms Study, a survey conducted on Facebook by the Massachusetts Institute of Technology (<https://covidsurvey.mit.edu/>).

Data on vaccine candidates, stages of development, manufacturing capacity, and pre-purchasing agreements are primarily from Linksbridge and supplemented by Duke University.

A note of thanks:

We wish to warmly acknowledge the support of [these](#) and others who have made our covid-19 estimation efforts possible.

More information:

For all COVID-19 resources at IHME, visit <http://www.healthdata.org/covid>.

Questions? Requests? Feedback? Please contact us at <https://www.healthdata.org/covid/contact-us>.