

COVID-19 Results Briefing

Indonesia

January 13, 2022

This document contains summary information on the latest projections from the IHME model on COVID-19 in Indonesia. The model was run on January 12, 2022, with data through January 10, 2022.

Current situation

Omicron is likely to have spread to nearly all countries by now. Our analysis suggests the occurrence of unprecedented levels of infection globally, which reached about 132 million infections a day on January 10. We expect 50% of the world will be infected in the next few weeks. The larger fraction asymptomatic means that the massive surge in infections will lead to a smaller but still unprecedented increase in reported cases, reaching about as high as 5.4 million cases per day on January 23. Given much lower infection-fatality rates, despite the massive increase in infections, global deaths should increase slightly to a peak in early February and then decline.

Hospitalizations will increase, and in some this increase will lead to higher levels of hospitalization than in previous surges, including the Delta wave and the Northern Hemisphere winter surge last year. Extremely high rates above 10% PCR-positive of pre-admission screening in hospitals of individuals without COVID-19 symptoms in some areas confirm the intense transmission in the community. But hospitals are likely to be under stress due to health care workers who have tested positive and need to quarantine. In some countries, the reported ICU occupancy and deaths could be still attributed to the end tail of the Delta variant. Moreover, some of the COVID-19 deaths reported, especially among the elderly, would be due to incidental COVID. Although this would have been the case with previous variants, the high rate of infections with Omicron will lead to a higher number of reported COVID deaths these days. Hence, it is possible that the reported infection-hospitalization rate and infection-fatality rate maybe be over-estimated.

Given the massive numbers of infections in the community, testing and quarantining asymptomatic individuals may not be helpful. There appears to be no prospect for controlling transmission and considerable prospect for disruption of schools and essential services due to screening. Countries may need to consider revisions to their testing and quarantine strategies. In previous waves, the control strategy has been to control infection and thus reduce hospitalization and death. Given that there is little prospect of controlling infection once the surge has begun, strategies in those countries need to focus on reducing harm in the vulnerable and minimizing health system, school, and economic disruption.

Looking beyond mid-February, we expect Omicron to continue circulating and potentially to return later in the year as immunity wanes. We expect new variants will emerge in 2022 and that COVID-19 will continue to be a recurring health problem. However, the notion of a pandemic requiring extraordinary intervention and behavioral change is likely over by early March.

If testing capacity is limited, there is a need to prioritize testing of essential workers to ensure no disruption in key operations such as supply chain, food availability, hospitals, and public health operations. For all practical purposes, the Omicron wave should be over in the next 4 weeks.

Our models project that daily estimated infections will rise to 3,182,888 by February 12, 2022, while cases will rise to 30,000 by mid-March. Our model projects 147,000 cumulative reported deaths due to COVID-19 on May 1. This represents 3,000 additional deaths from January 10 to May 1. Daily reported COVID-19 deaths will rise to 62 by March 10, 2022

Strategies to manage COVID-19 as an endemic disease in the future should include active surveillance, scaled up production and access to effective antivirals, and mask use by the vulnerable if and when another wave occurs. For individuals at risk of bad outcomes, particularly the unvaccinated and never infected, the strategies to reduce risk remain: vaccination, including a third dose where appropriate, high-quality mask use, and avoiding crowded indoor settings.

- Daily infections in the last week increased to 165,200 per day on average compared to 64,600 the week before (Figure 1.1). Daily hospital census in the last week (through January 10) increased to 390 per day on average compared to 350 the week before.
- Daily reported cases in the last week increased to 450 per day on average compared to 220 the week before (Figure 2.1).
- Reported deaths due to COVID-19 in the last week decreased to 4 per day on average compared to 5 the week before (Figure 3.1).
- Total deaths due to COVID-19 in the last week decreased to 14 per day on average compared to 18 the week before (Figure 3.1). This makes COVID-19 the number 41 cause of death in Indonesia this week (Table 1). Estimated total daily deaths due to COVID-19 in the past week were 3.3 times larger than the reported number of deaths.
- No locations had daily reported COVID-19 death rates greater than 4 per million (Figure 4.1).
- No locations had daily rates of COVID-19 deaths greater than 4 per million (Figure 4.2).
- We estimate that 51% of people in Indonesia have been infected at least once as of January 10 (Figure 6.1). Effective R, computed using cases, hospitalizations, and deaths, is greater than 1 in eight countries and 30 subnational locations in the region. Effective R in Indonesia was 2.4 on December 30 (Figure 7.1).
- The infection-detection rate in Indonesia was close to 2% on January 10 (Figure 8.1).
- Based on the GISAID and various national databases, combined with our variant spread model, we estimate the current prevalence of variants of concern (Figure 9.1-Figure 9.5). We estimate that the Alpha variant is circulating in 0 countries, that the Beta variant is circulating in 0 countries, that the Delta variant is circulating in 9 countries, that the Gamma variant is circulating in one country, and that the Omicron variant is circulating in 10 countries.

Trends in drivers of transmission

- Mobility last week was 3% lower than the pre-COVID-19 baseline (Figure 11.1). Mobility was lower than 30% of baseline in no locations.
- As of January 10, in the COVID-19 Trends and Impact Survey, 69% of people self-report that they always wore a mask when leaving their home compared to 68% last week (Figure 13.1).
- There were 41 diagnostic tests per 100,000 people on January 10 (Figure 15.1).
- As of January 10, four countries and no subnational locations have reached 70% or more of the population who have received at least one vaccine dose, and two countries and no subnational locations have reached 70% or more of the population who are fully vaccinated (Figure 17.1). 63% of people in Indonesia have received at least one vaccine dose and 47% are fully vaccinated.
- In Indonesia, 89% of the population that is 12 years and older say they would accept or would probably accept a vaccine for COVID-19. Note that vaccine acceptance is calculated using survey data from the 18+ population. This is up by 0.1 percentage points from last week. The proportion of the population who are open to receiving a COVID-19 vaccine ranges from 69% in Timor-Leste to 100% in Bhutan (Figure 19.1).
- In our current reference scenario, we expect that 181.2 million people will be vaccinated with at least one dose by May 1 (Figure 20.1). We expect that 63% of the population will be fully vaccinated by May 1.

Projections

Infections

- Daily estimated infections in the **reference scenario**, which represents what we think is most likely to happen, will rise to 3,182,890 by February 12, 2022 (Figure 21.1).
- Daily estimated infections in the **80% mask coverage scenario** will rise to 2,620,740 by February 14, 2022 (Figure 21.1).
- Daily estimated infections in the **third dose scenario** will rise to 3,005,550 by February 12, 2022 (Figure 21.1).
- Daily estimated infections in the **reduced vaccine hesitancy scenario** will rise to 3,021,140 by February 12, 2022 (Figure 21.1).

Cases

- Daily cases in the **reference scenario** will rise to 30,220 by February 24, 2022 (Figure 21.2).
- Daily cases in the **80% mask coverage scenario** will rise to 24,700 by February 26, 2022 (Figure 21.2).

- Daily cases in the **third dose scenario** will rise to 28,480 by February 25, 2022 (Figure 21.2).
- Daily cases in the **reduced vaccine hesitancy scenario** will rise to 28,630 by February 25, 2022 (Figure 21.2).

Hospitalizations

- Daily hospital census in the **reference scenario** will rise to 36,830 by March 4, 2022 (Figure 21.3).
- Daily hospital census in the **80% mask coverage scenario** will rise to 30,530 by March 7, 2022 (Figure 21.3).
- Daily hospital census in the **third dose scenario** will rise to 33,040 by March 4, 2022 (Figure 21.3).
- Daily hospital census in the **reduced vaccine hesitancy scenario** will rise to 33,200 by March 4, 2022 (Figure 21.3).

Deaths

- In our **reference scenario**, our model projects 147,000 cumulative reported deaths due to COVID-19 on May 1. This represents 3,000 additional deaths from January 10 to May 1. Daily reported COVID-19 deaths in the **reference scenario** will rise to 60 by March 10, 2022 (Figure 21.4).
- Under our **reference scenario**, our model projects 490,000 cumulative total deaths due to COVID-19 on May 1. This represents 9,000 additional deaths from January 10 to May 1 (Figure 24.2).
- In our **80% mask coverage scenario**, our model projects 147,000 cumulative reported deaths due to COVID-19 on May 1. This represents 3,000 additional deaths from January 10 to May 1. Daily reported COVID-19 deaths in the **80% mask coverage scenario** will rise to 50 by March 12, 2022 (Figure 21.4).
- In our **third dose scenario**, our model projects 147,000 cumulative reported deaths due to COVID-19 on May 1. This represents 2,000 additional deaths from January 10 to May 1. Daily reported COVID-19 deaths in the **third dose scenario** will rise to 50 by March 10, 2022 (Figure 21.4).
- In our **reduced vaccine hesitancy scenario**, our model projects 147,000 cumulative reported deaths due to COVID-19 on May 1. This represents 2,000 additional deaths from January 10 to May 1. Daily reported COVID-19 deaths in the **reduced vaccine hesitancy scenario** will rise to 50 by March 10, 2022 (Figure 21.4).
- Figure 22.1 compares our reference scenario forecasts to other publicly archived models. Forecasts are widely divergent.
- At some point from January through May 1, eight countries will have high or extreme stress on hospital beds (Figure 23.1). At some point from January through May 1, nine countries will have high or extreme stress on intensive care unit (ICU) capacity (Figure 24.1).

Model updates

In this week's update, we have modified the model to allow the incubation time to vary by variant. For Omicron, we assume it is distributed between 1 and 4 days, skewed toward 1 day. For all other variants, we assume it is 3 to 5 days, skewed toward 3 days.

Figure 1.1. Daily COVID-19 hospital census and estimated infections

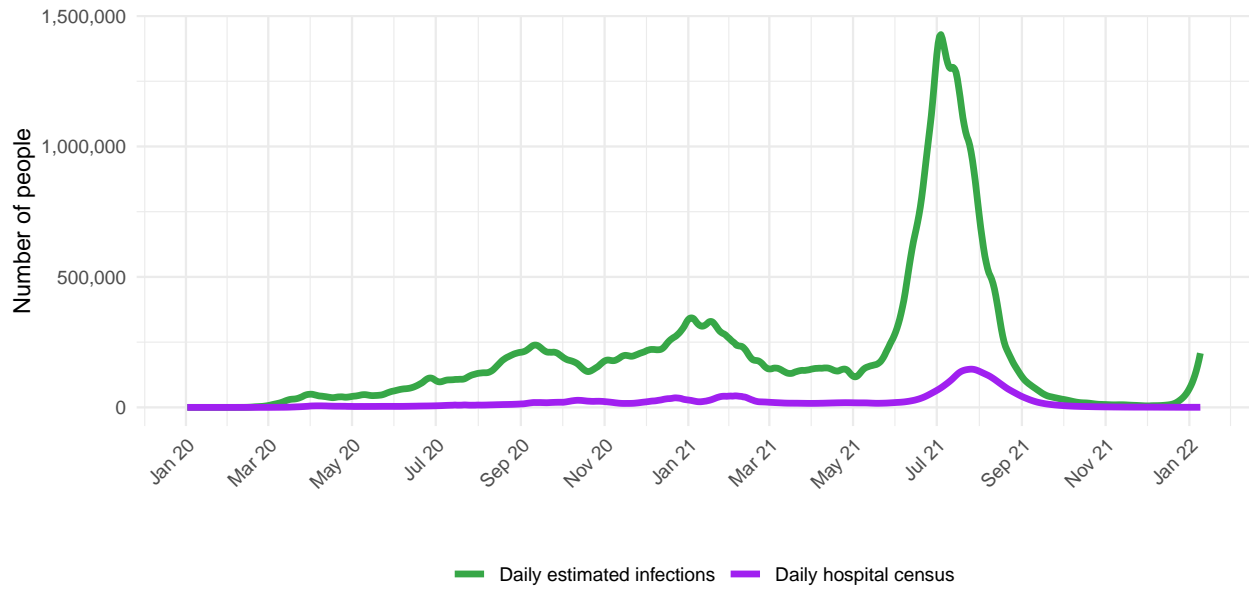


Figure 2.1. Reported daily COVID-19 cases, moving average

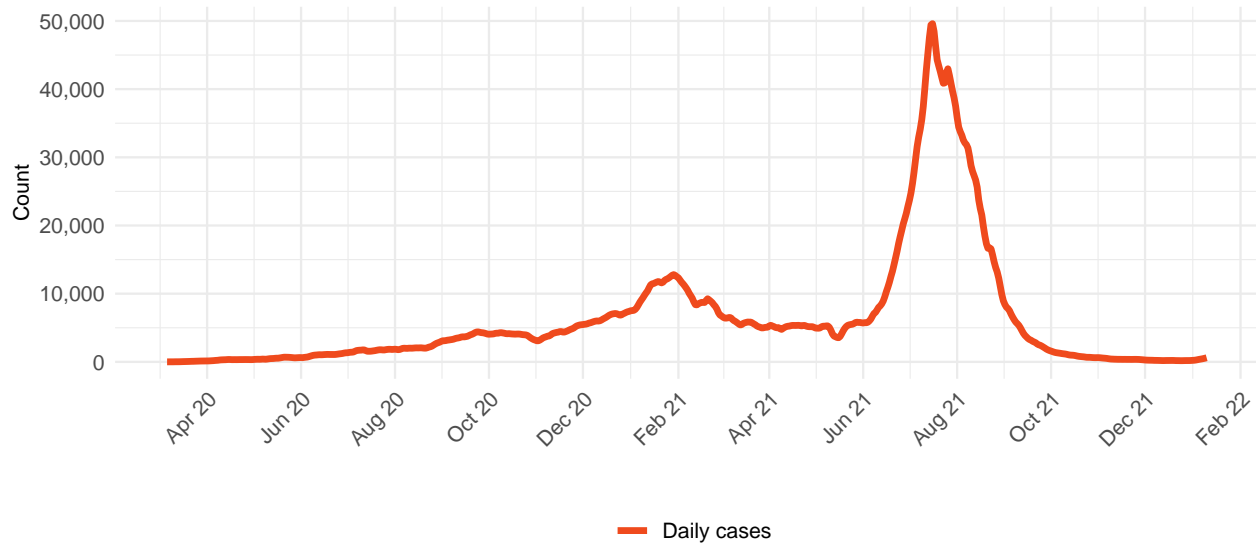
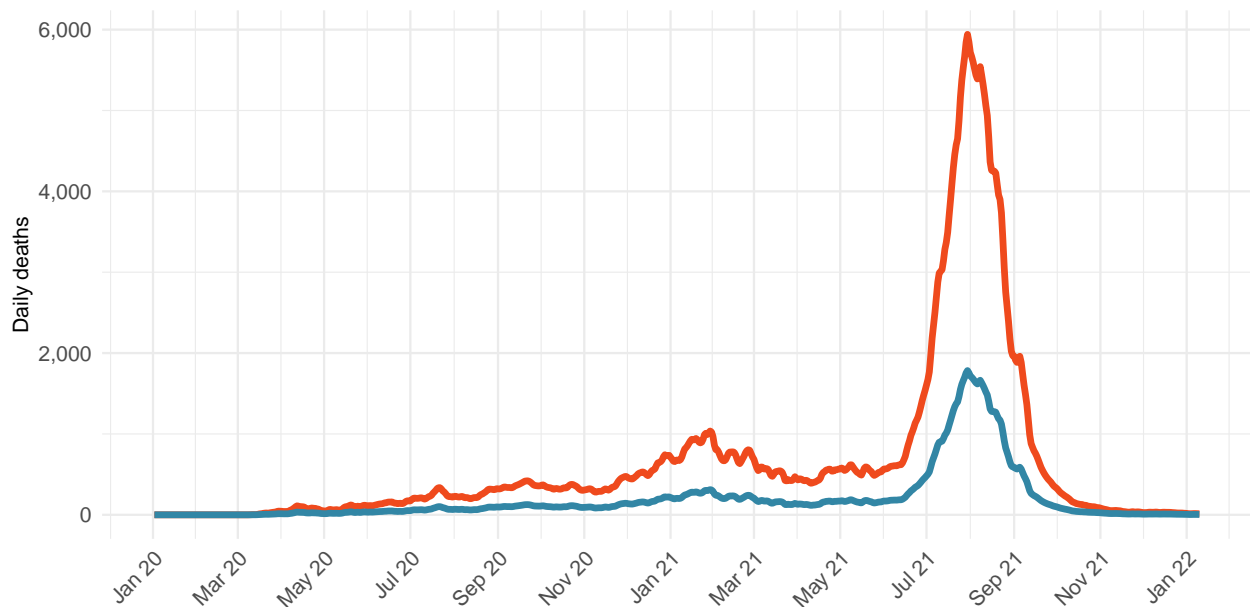


Table 1. Ranking of total deaths due to COVID-19 among the leading causes of mortality this week, assuming uniform deaths of non-COVID causes throughout the year

Cause name	Weekly deaths	Ranking
Stroke	6,372	1
Ischemic heart disease	4,718	2
Diabetes mellitus	2,045	3
Cirrhosis and other chronic liver diseases	1,705	4
Tuberculosis	1,472	5
Chronic obstructive pulmonary disease	1,379	6
Diarrheal diseases	1,146	7
Hypertensive heart disease	973	8
Tracheal, bronchus, and lung cancer	951	9
Lower respiratory infections	852	10
COVID-19	98	41

Figure 3.1. Smoothed trend estimate of reported daily COVID-19 deaths (blue) and total daily deaths due to COVID-19 (orange)



Daily COVID-19 death rate per 1 million on January 10, 2022

Figure 4.1 Daily reported COVID-19 death rate per 1 million



Figure 4.2 Daily total COVID-19 death rate per 1 million



Cumulative COVID-19 deaths per 100,000 on January 10, 2022

Figure 5.1 Reported cumulative COVID-19 deaths per 100,000



Figure 5.2 Total cumulative COVID-19 deaths per 100,000

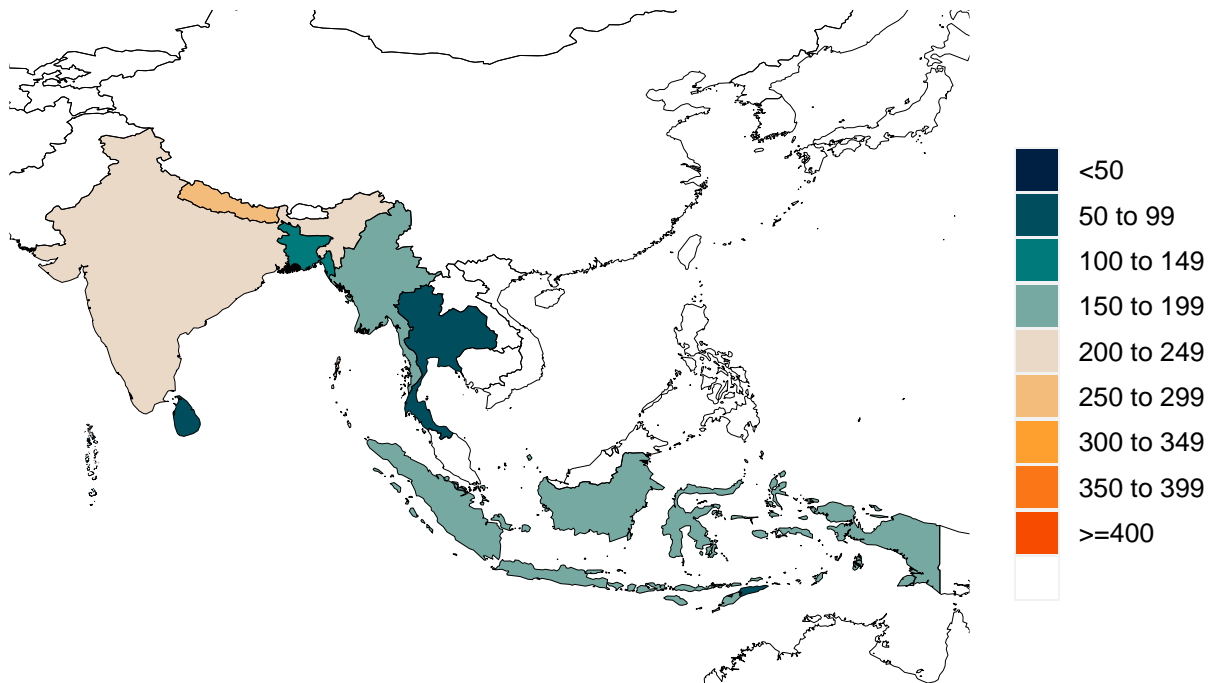


Figure 6.1. Estimated percent of the population infected with COVID-19 on January 10, 2022

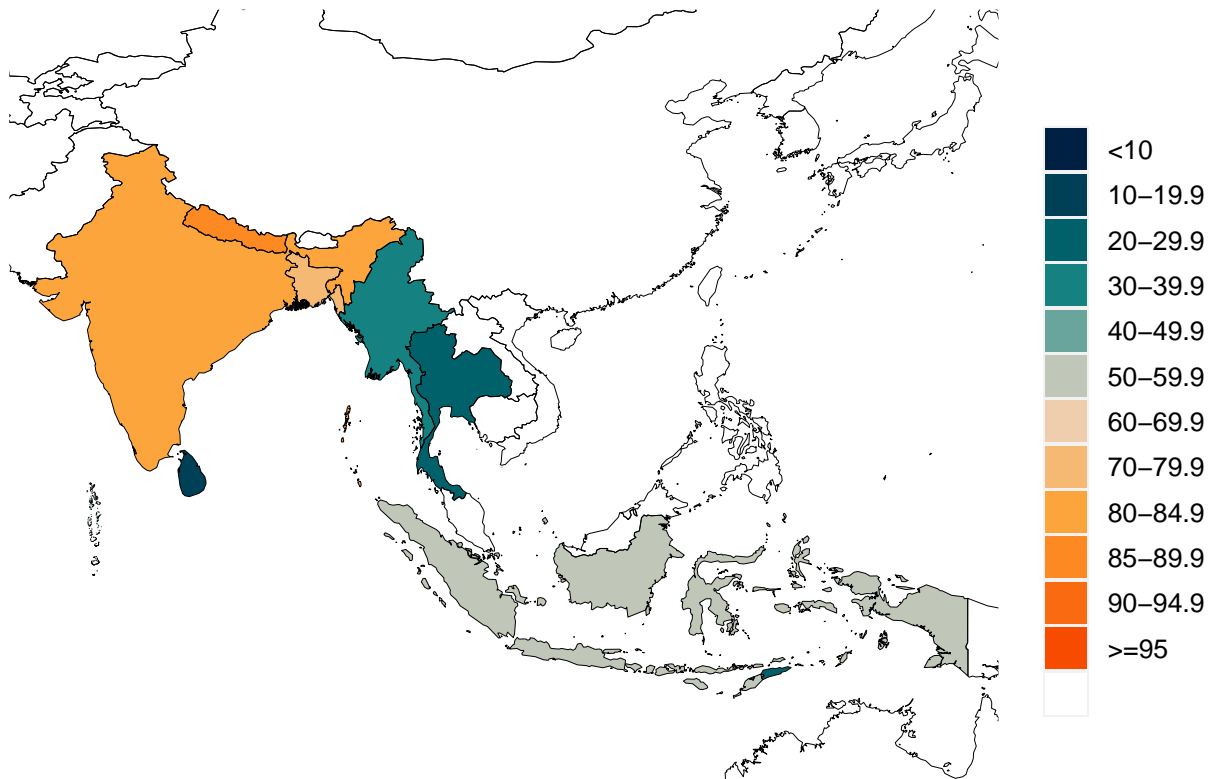


Figure 7.1. Mean effective R on December 30, 2021. Effective R less than 1 means that transmission should decline, all other things being held the same. The estimate of effective R is based on the combined analysis of deaths, case reporting, and hospitalizations where available. Current reported cases reflect infections 11-13 days prior, so estimates of effective R can only be made for the recent past.

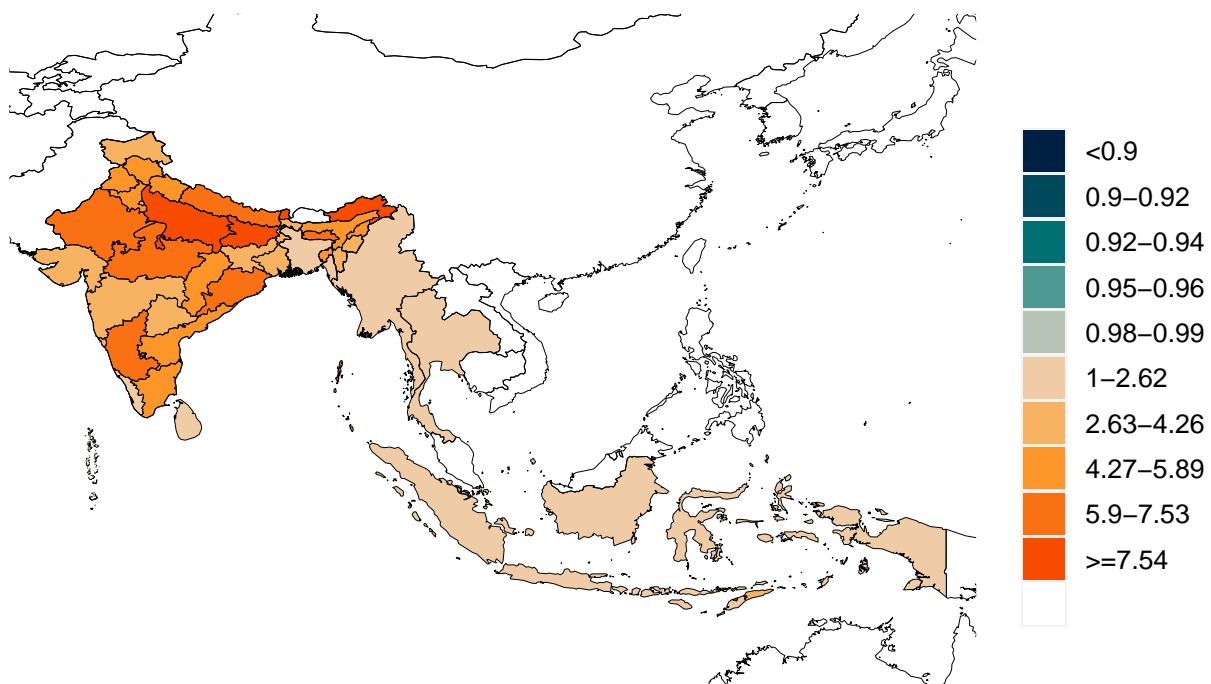
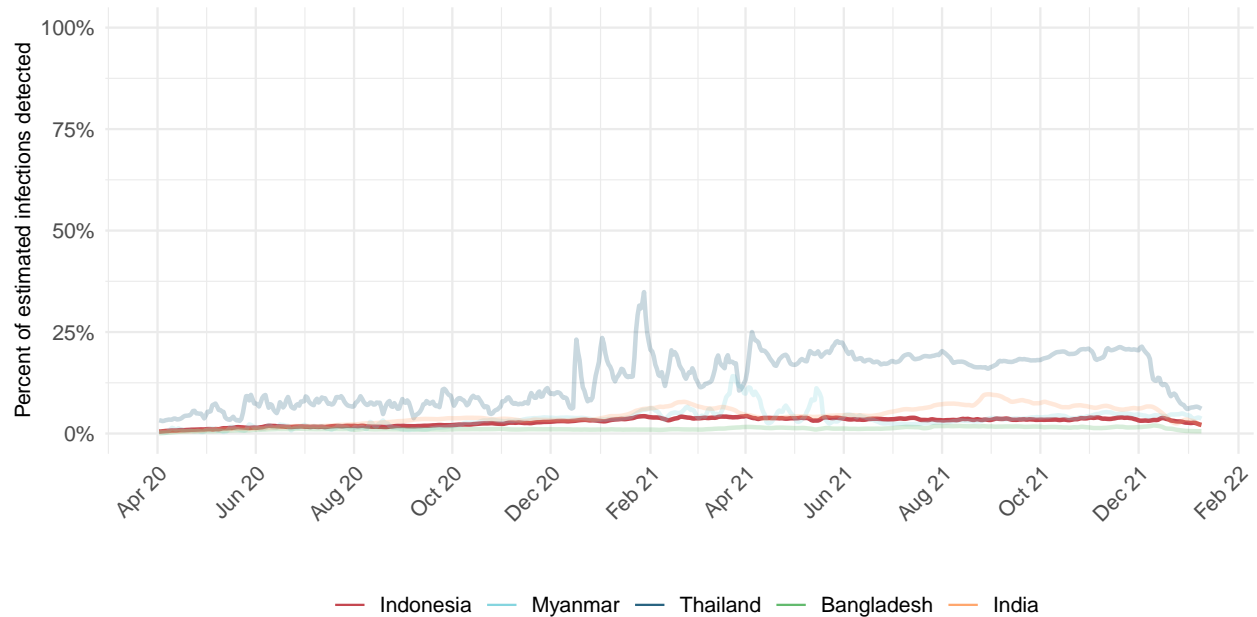


Figure 8.1. Percent of estimated COVID-19 infections detected. This is estimated as the ratio of reported daily COVID-19 cases to estimated daily COVID-19 infections based on the SEIR disease transmission model. Due to measurement errors in cases and testing rates, the infection-detection rate can exceed 100% at particular points in time.



Estimated percent of circulating SARS-CoV-2 for primary variant families on January 10, 2022

Figure 9.1 Estimated percent of new infections that are Alpha variant



Figure 9.2 Estimated percent of new infections that are Beta variant



Figure 9.3 Estimated percent of new infections that are Delta variant



Figure 9.4 Estimated percent of new infections that are Gamma variant



Figure 9.5 Estimated percent of new infections that are Omicron variant

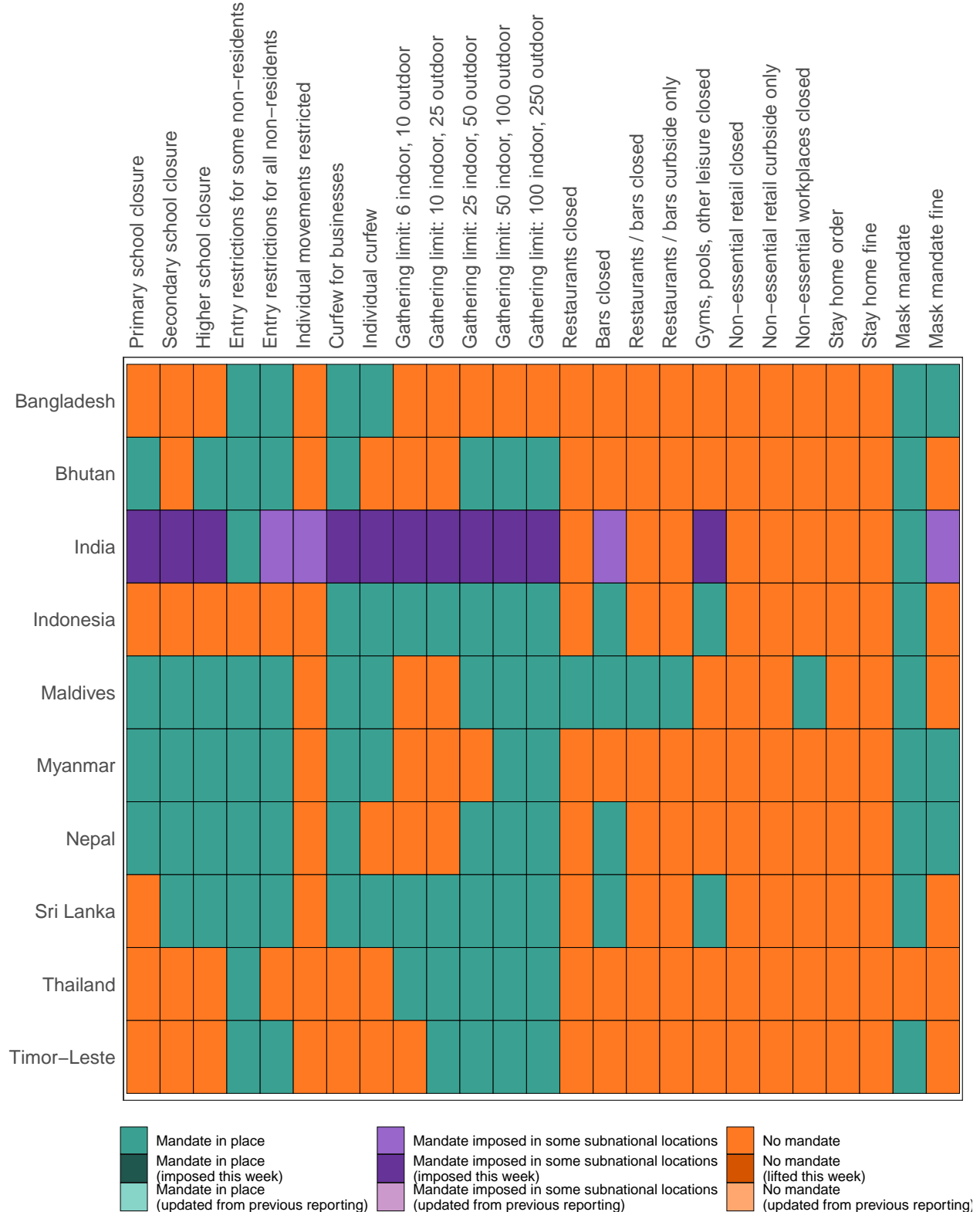


Figure 10.1. Infection-fatality rate on January 10, 2022. This is estimated as the ratio of COVID-19 deaths to estimated daily COVID-19 infections.



Critical drivers

Table 2. Current mandate implementation



*Not all locations are measured at the subnational level.

Figure 11.1. Trend in mobility as measured through smartphone app use, compared to January 2020 baseline

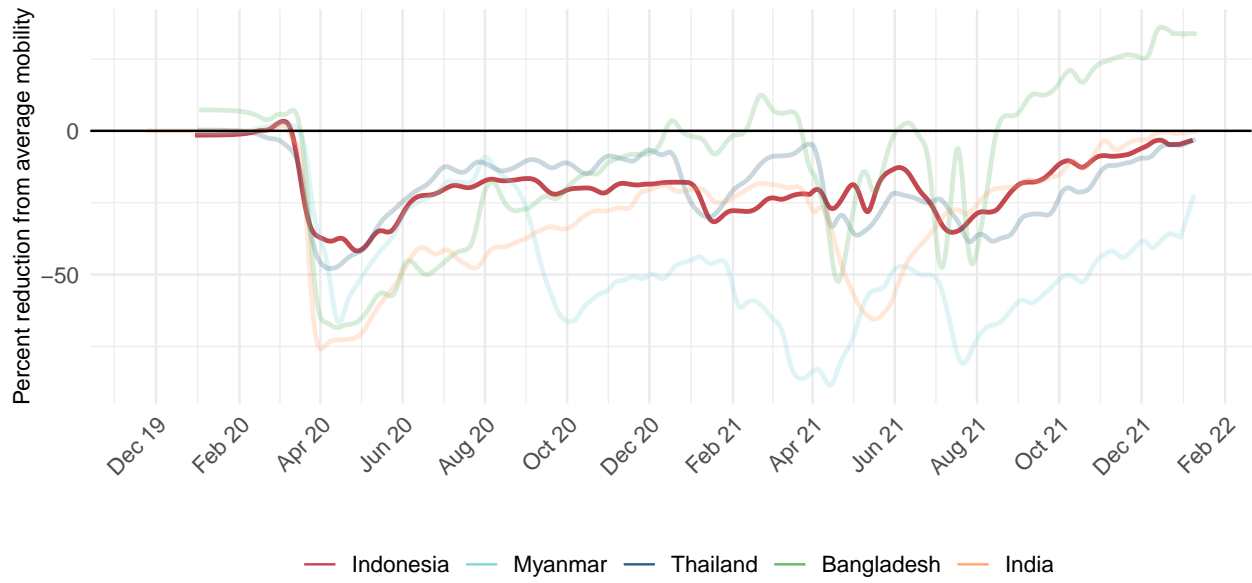


Figure 12.1. Mobility level as measured through smartphone app use, compared to January 2020 baseline (percent) on January 10, 2022

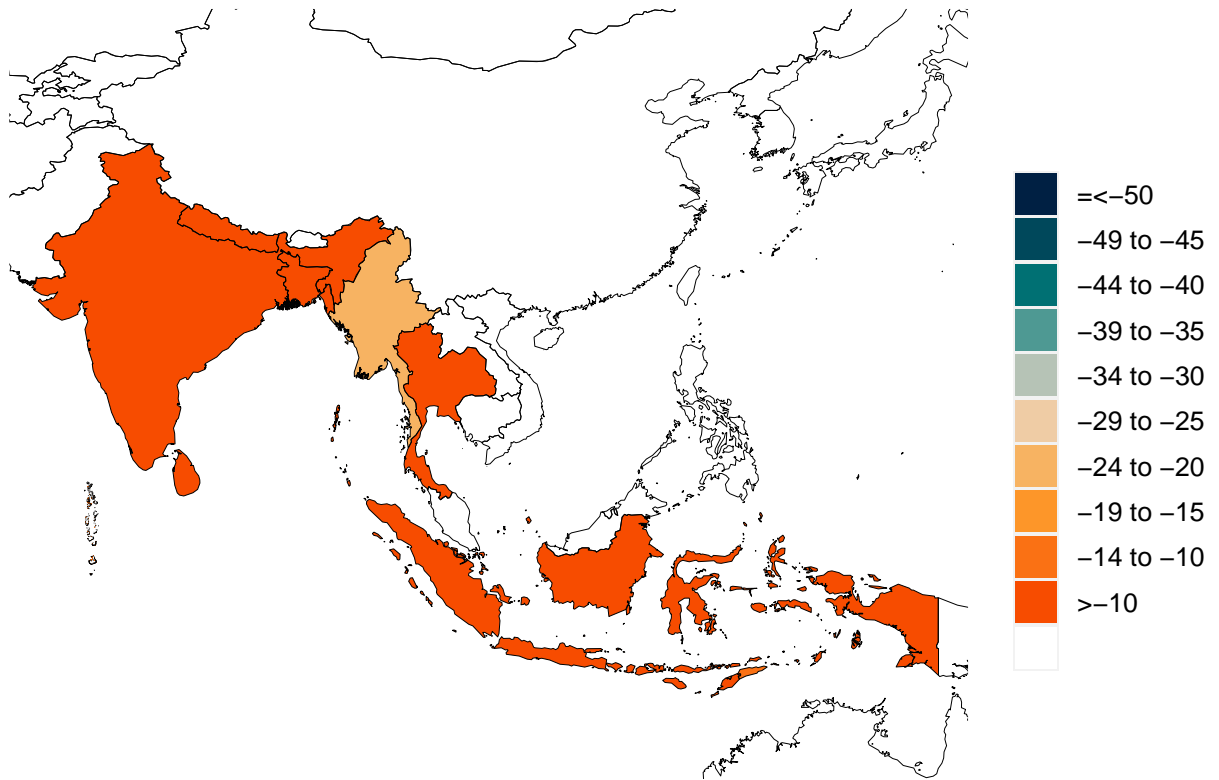


Figure 13.1. Trend in the proportion of the population reporting always wearing a mask when leaving home

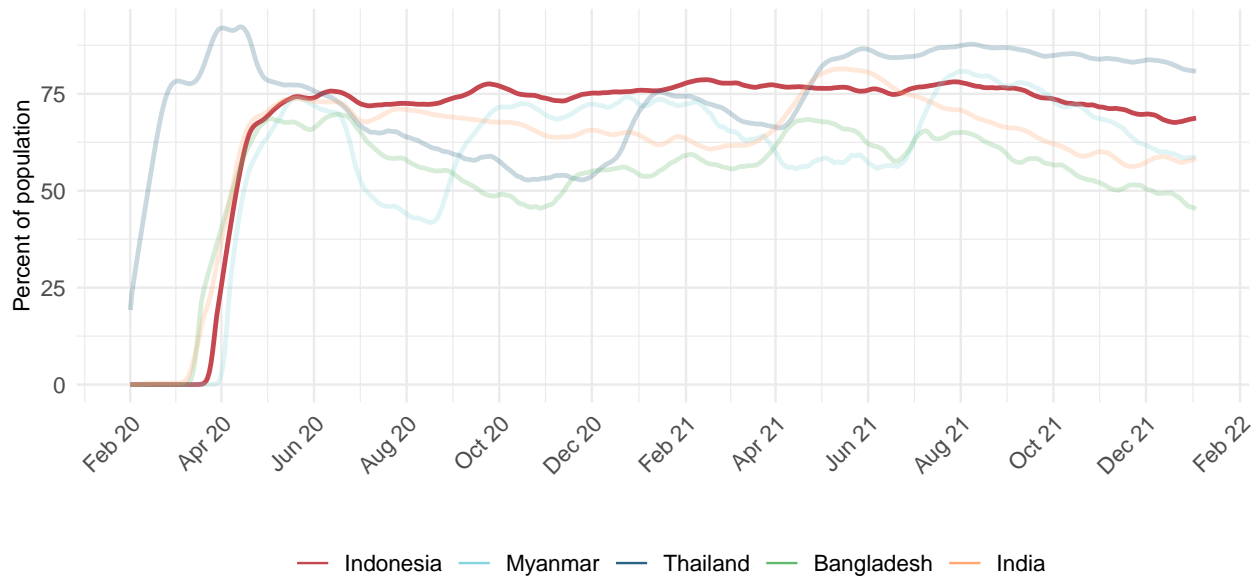


Figure 14.1. Proportion of the population reporting always wearing a mask when leaving home on January 10, 2022

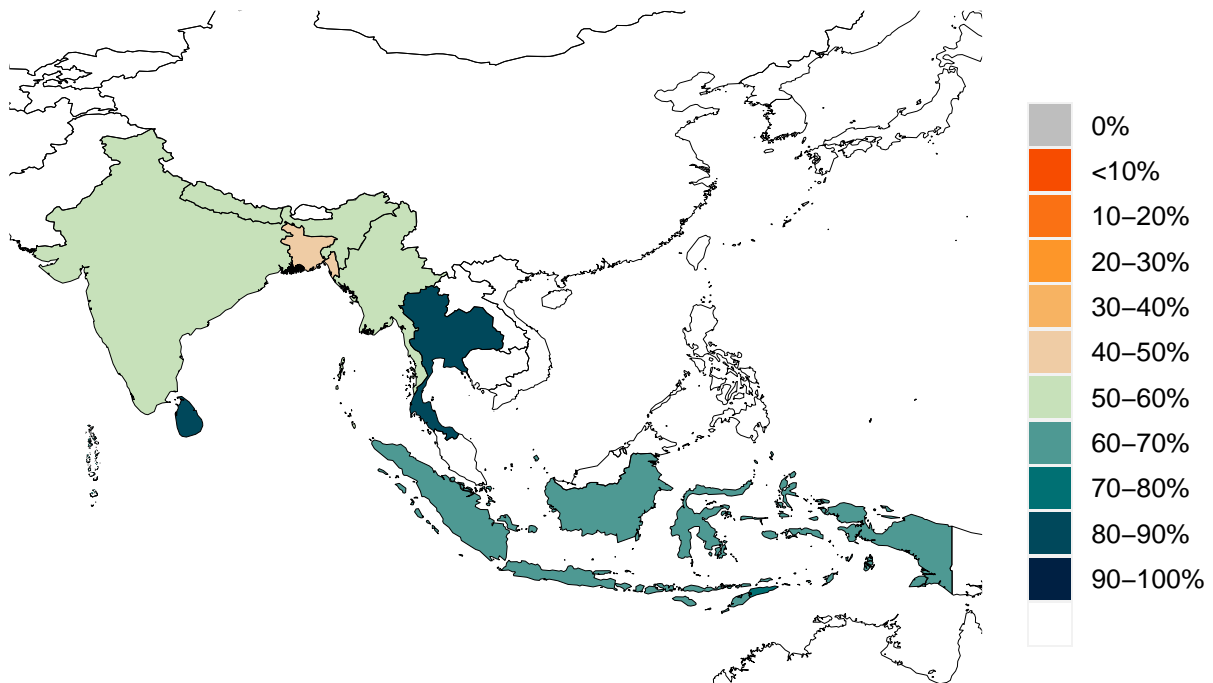


Figure 15.1. Trend in COVID-19 diagnostic tests per 100,000 people

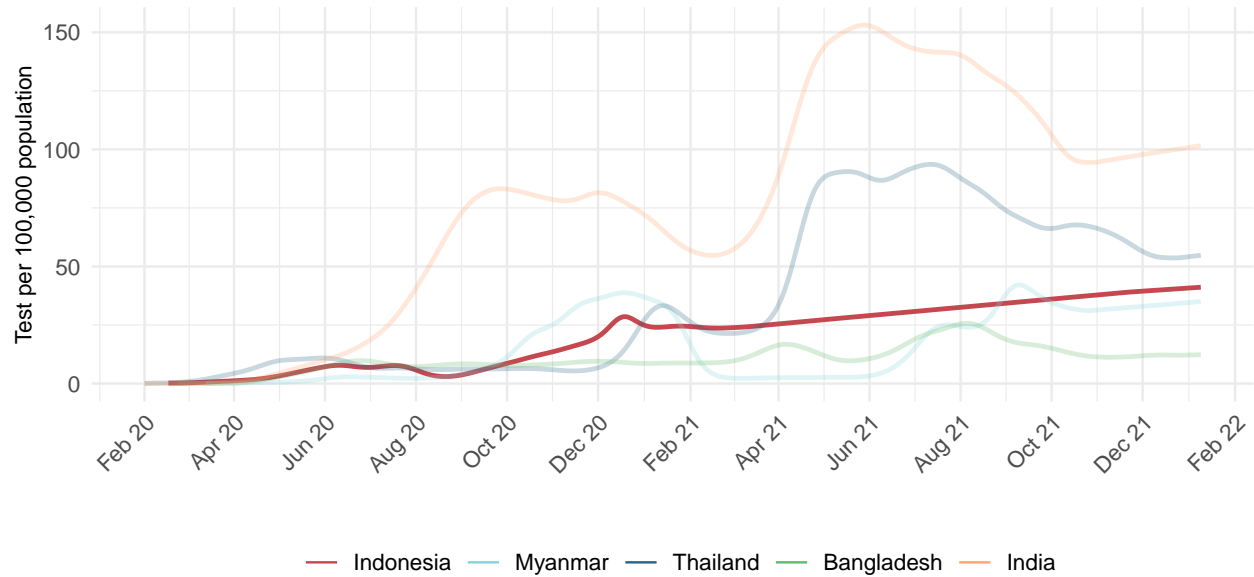


Figure 16.1. COVID-19 diagnostic tests per 100,000 people on January 10, 2022



Table 3. Estimates of vaccine effectiveness for specific vaccines used in the model at preventing severe disease and infection. We use data from clinical trials directly, where available, and make estimates otherwise. More information can be found on our [website](#).

Vaccine	Effectiveness at preventing											
	Ancestral		Alpha		Beta		Gamma		Delta		Omicron	
	Severe disease	Infection	Severe disease	Infection	Severe disease	Infection	Severe disease	Infection	Severe disease	Infection	Severe disease	Infection
AstraZeneca	94%	63%	94%	63%	94%	69%	94%	69%	94%	69%	71%	36%
CanSino	66%	62%	66%	62%	64%	61%	64%	61%	64%	61%	48%	32%
CoronaVac	50%	47%	50%	47%	49%	46%	49%	46%	49%	46%	37%	24%
Covaxin	78%	73%	78%	73%	76%	72%	76%	72%	76%	72%	57%	38%
Johnson & Johnson	86%	72%	86%	72%	76%	64%	76%	64%	76%	64%	57%	33%
Moderna	97%	92%	97%	92%	97%	91%	97%	91%	97%	91%	73%	48%
Novavax	89%	83%	89%	83%	86%	82%	86%	82%	86%	82%	65%	43%
Pfizer/BioNTech	95%	86%	95%	86%	95%	84%	95%	84%	95%	84%	72%	44%
Sinopharm	73%	68%	73%	68%	71%	67%	71%	67%	71%	67%	53%	35%
Sputnik-V	92%	86%	92%	86%	89%	85%	89%	85%	89%	85%	67%	44%
Other vaccines	75%	70%	75%	70%	73%	69%	73%	69%	73%	69%	55%	36%
Other vaccines (mRNA)	91%	86%	91%	86%	88%	85%	88%	85%	88%	85%	67%	45%

Percent of the population having received at least one dose (17.1) and fully vaccinated against SARS-CoV-2 (17.2) by January 10, 2022

Figure 17.1 Percent of the population having received one dose of a COVID-19 vaccine



Figure 17.2 Percent of the population fully vaccinated against SARS-CoV-2

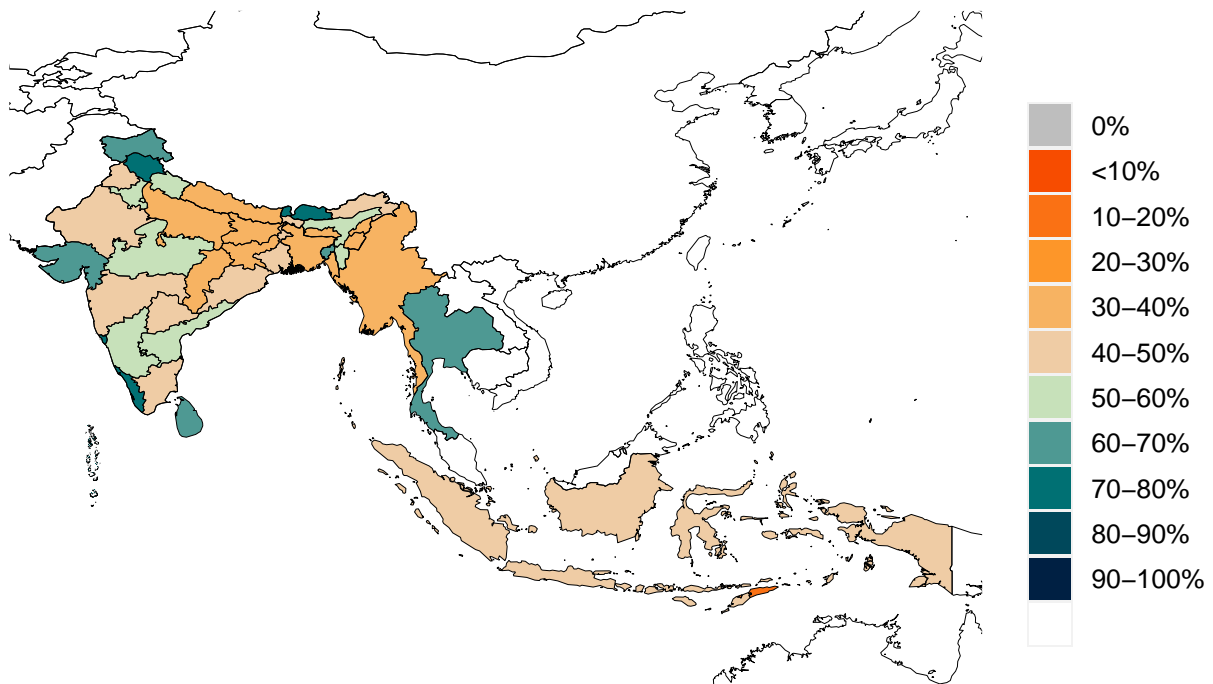


Figure 18.1. Trend in the estimated proportion of the population that is 12 years and older that has been vaccinated or would probably or definitely receive the COVID-19 vaccine if available. Note that vaccine acceptance is calculated using survey data from the 18+ population.

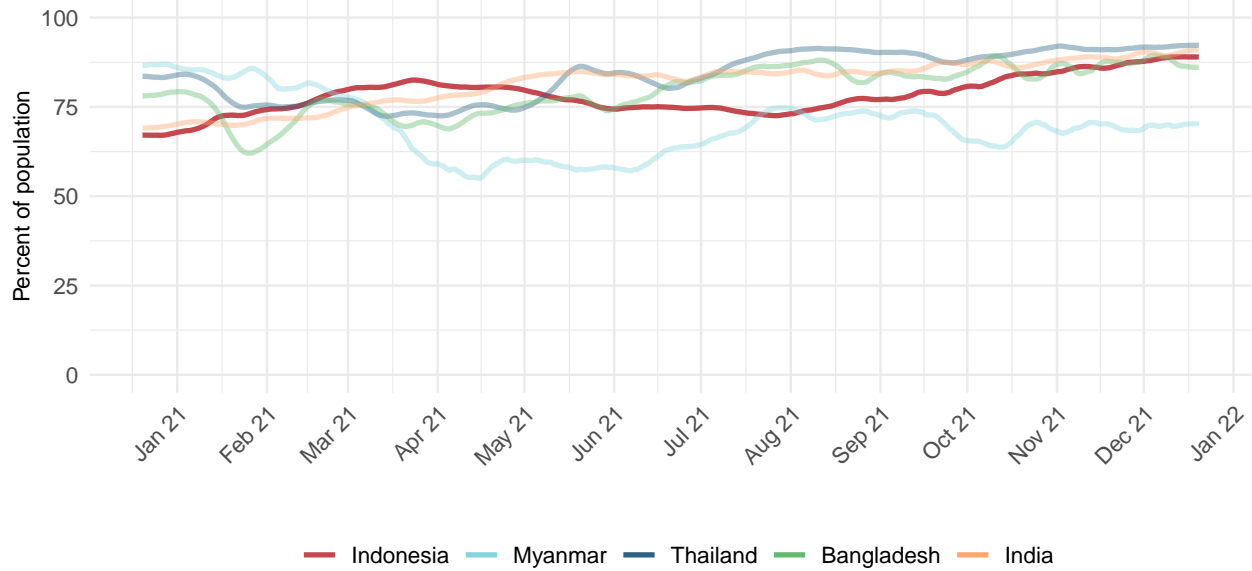


Figure 19.1. Estimated proportion of the population that is 12 years and older that has been vaccinated or would probably or definitely receive the COVID-19 vaccine if available. Note that vaccine acceptance is calculated using survey data from the 18+ population.

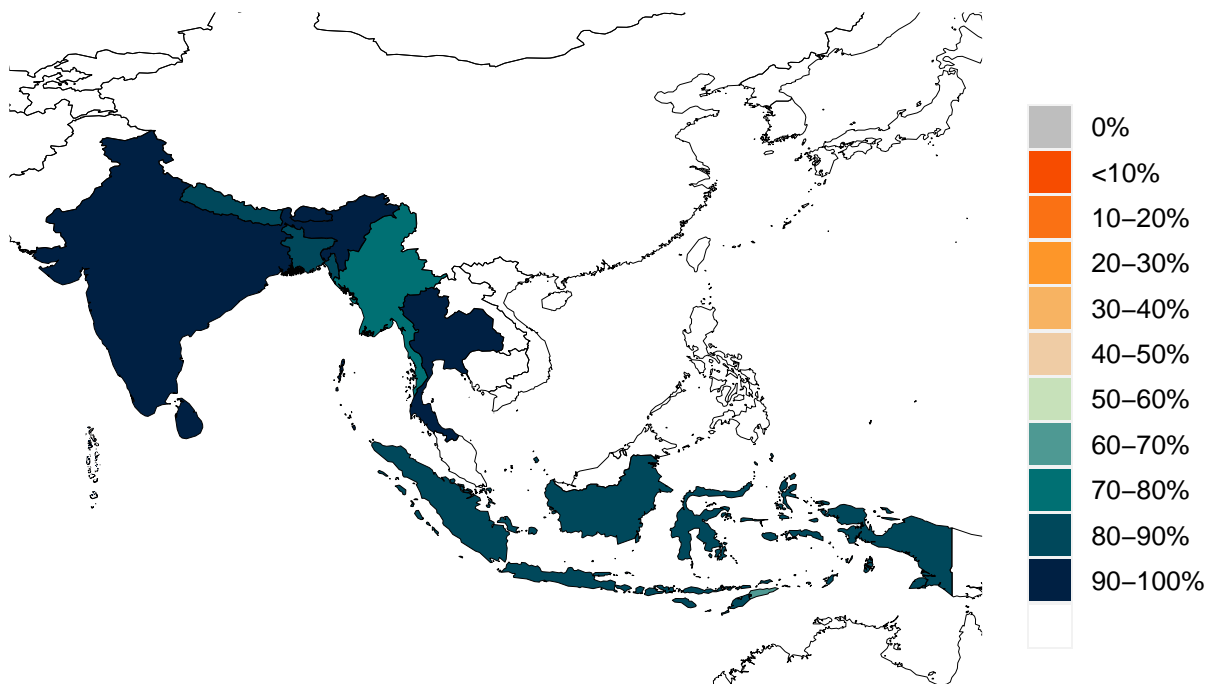
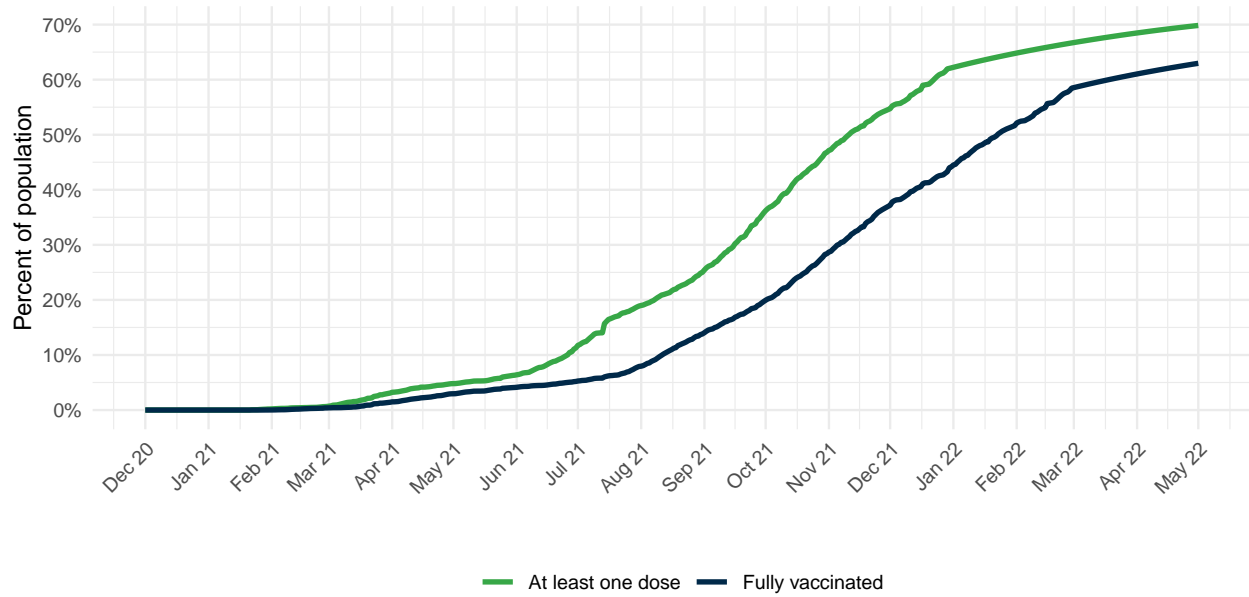


Figure 20.1. Percent of people who receive at least one dose of a COVID-19 vaccine and those who are fully vaccinated



Projections and scenarios

We produce 4 scenarios when projecting COVID-19. The **reference scenario** is our forecast of what we think is most likely to happen:

- Vaccines are distributed at the expected pace. Brand- and variant-specific vaccine efficacy is updated using the latest available information from peer-reviewed publications and other reports.
 - Future mask use is the mean of mask use over the last 7 days.
 - Mobility increases as vaccine coverage increases.
 - Omicron variant spreads according to our flight and local spread model.
-
- 80% of those who have had two doses of vaccine (or one dose for Johnson & Johnson) receive a third dose at 6 months after their second dose.

The **80% mask use scenario** makes all the same assumptions as the reference scenario but assumes all locations reach 80% mask use within 7 days. If a location currently has higher than 80% use, mask use remains at the current level.

The **third dose scenario** is the same as the reference scenario but assumes that 100% of those who have received two doses of vaccine will get a third dose at 6 months.

The **reduced vaccine hesitancy scenario** assumes that those in each location who respond on surveys that they probably will not receive a vaccine are persuaded or mandated to receive a vaccine.

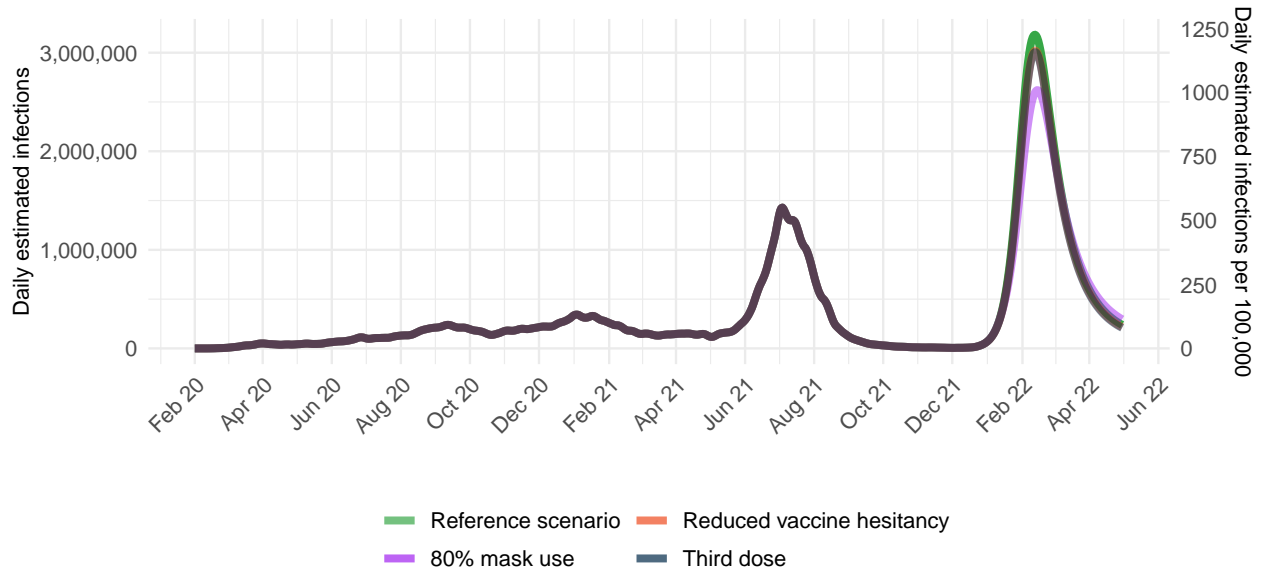
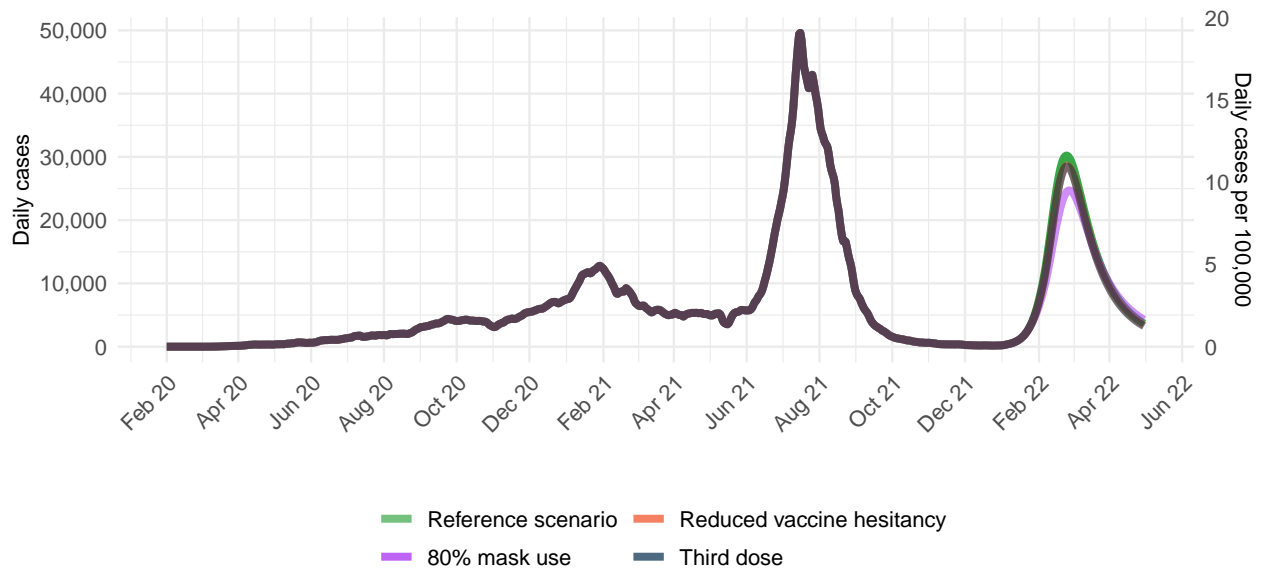
Figure 21.1. Daily COVID-19 infections until May 01, 2022 for 4 scenarios

Figure 21.2. Daily COVID-19 reported cases until May 01, 2022 for 4 scenarios


Figure 21.3. Daily COVID-19 hospital census until May 01, 2022 for 4 scenarios

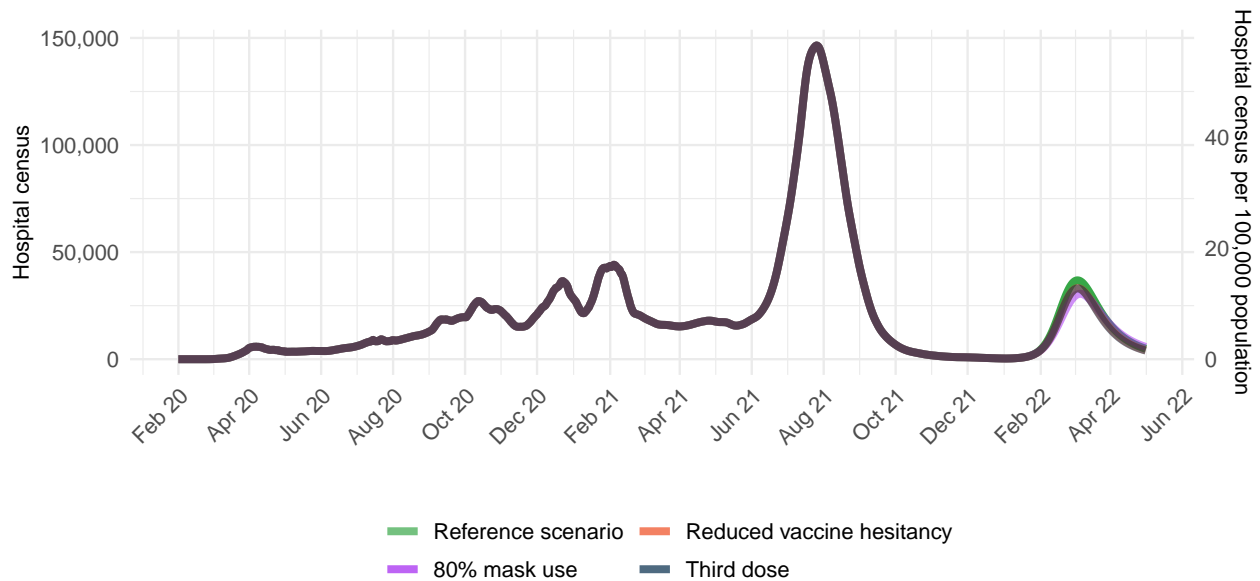


Figure 21.4 Reported daily COVID-19 deaths per 100,000

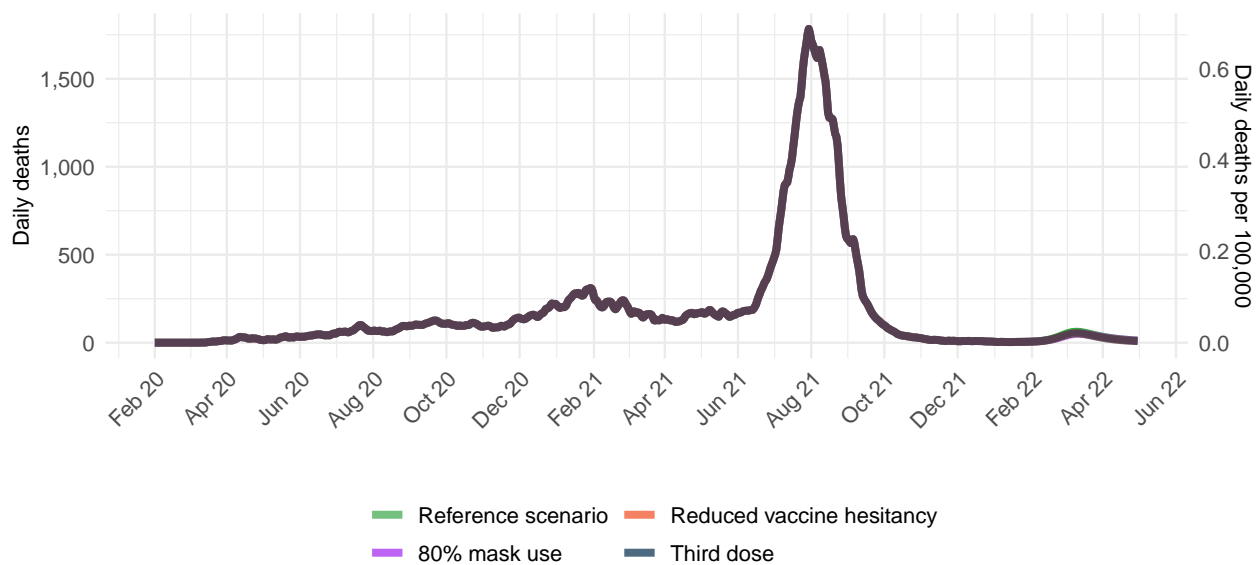


Figure 21.5 Total daily COVID-19 deaths per 100,000

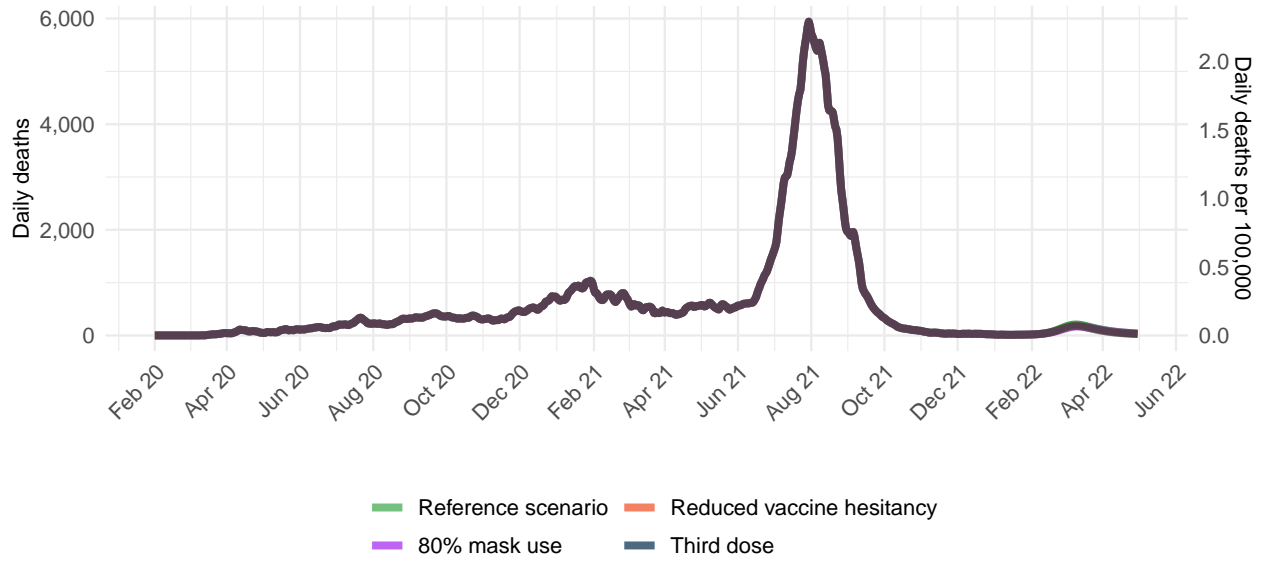


Figure 22.1. Comparison of reference model projections with other COVID modeling groups. For this comparison, we are including projections of daily COVID-19 deaths from other modeling groups when available, last model update in brackets: Delphi from the Massachusetts Institute of Technology ([Delphi](#)) [January 13, 2022], Imperial College London ([Imperial](#)) [December 26, 2021], the SI-KJalpha model from the University of Southern California ([SIKJalpha](#)) [January 13, 2022]. Daily deaths from other modeling groups are smoothed to remove inconsistencies with rounding. Regional values are aggregates from available locations in that region.

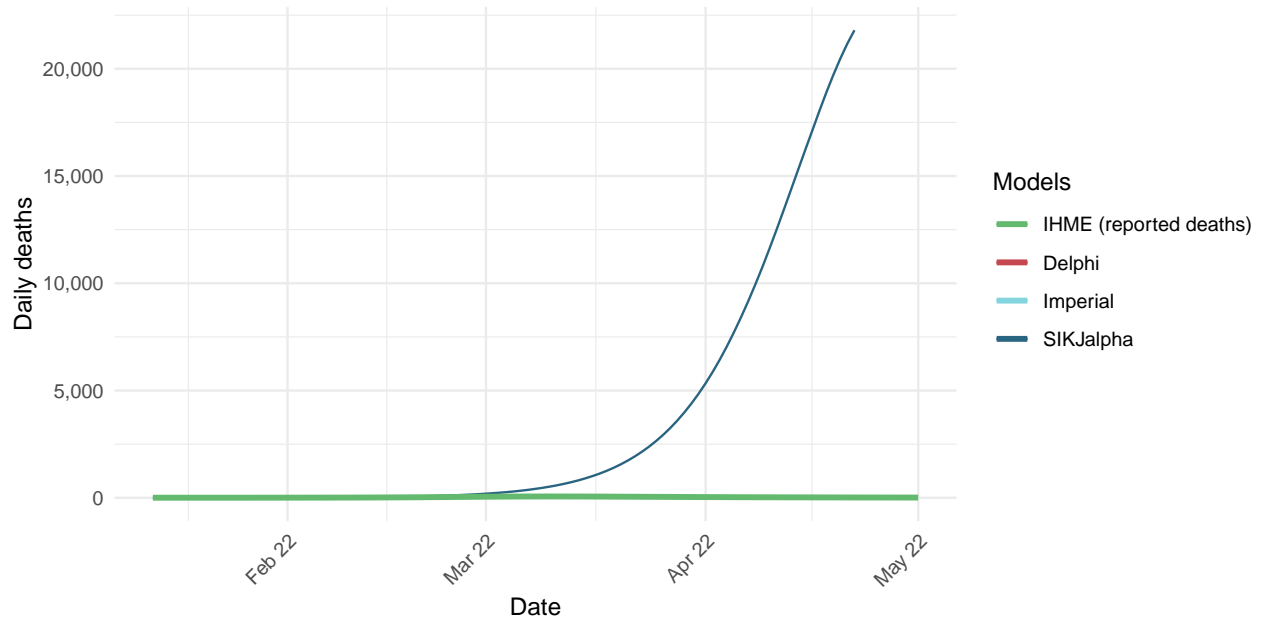


Figure 23.1. The estimated inpatient hospital usage is shown over time. The percent of hospital beds occupied by COVID-19 patients is color-coded based on observed quantiles of the maximum proportion of beds occupied by COVID-19 patients. Less than 5% is considered *low stress*, 5-9% is considered *moderate stress*, 10-19% is considered *high stress*, and 20% or greater is considered *extreme stress*.

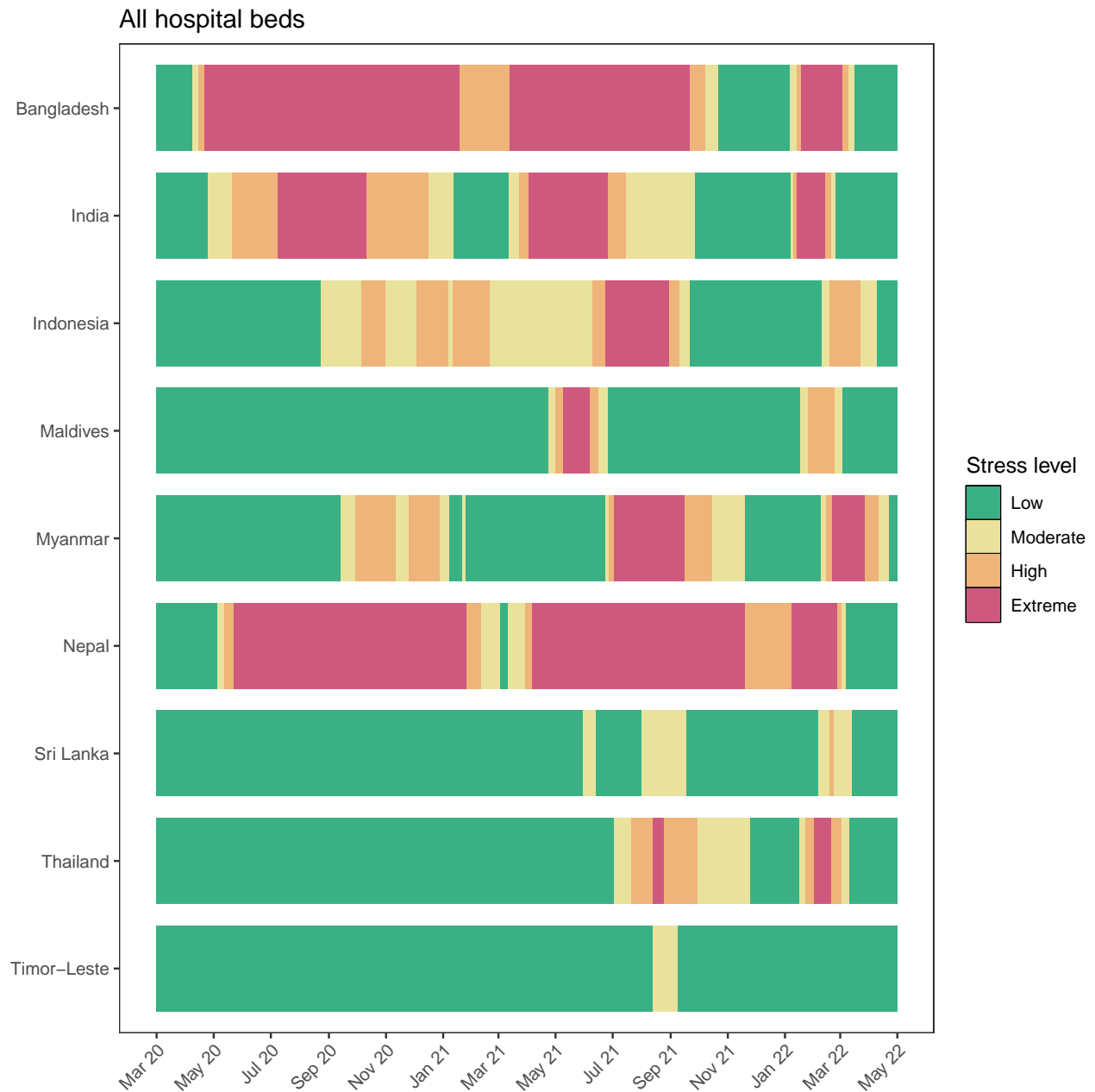
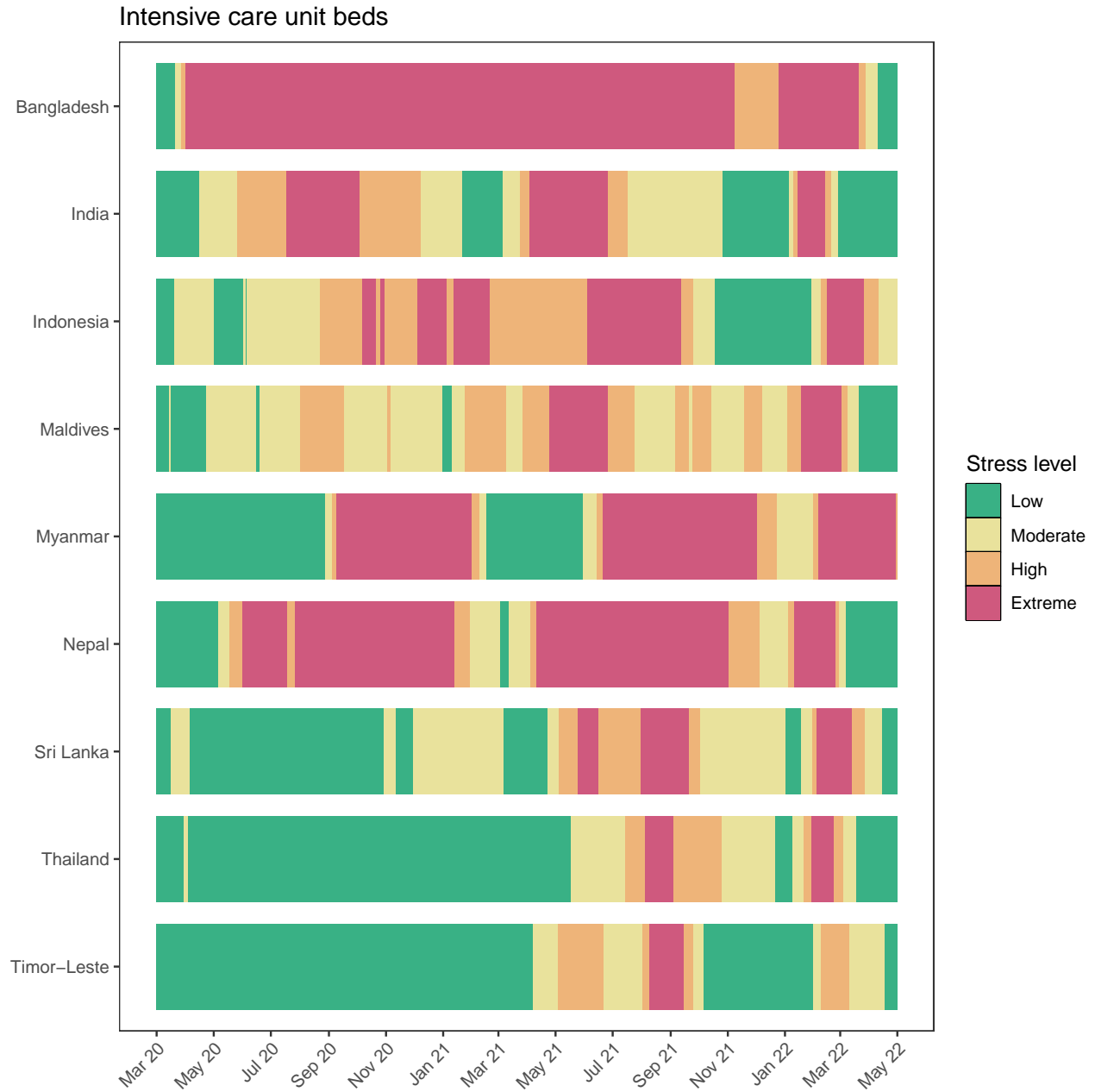


Figure 24.1. The estimated intensive care unit (ICU) usage is shown over time. The percent of ICU beds occupied by COVID-19 patients is color-coded based on observed quantiles of the maximum proportion of ICU beds occupied by COVID-19 patients. Less than 10% is considered *low stress*, 10-29% is considered *moderate stress*, 30-59% is considered *high stress*, and 60% or greater is considered *extreme stress*.



More information

Data sources:

Mask use and vaccine confidence data are from the [The Delphi Group at Carnegie Mellon University and University of Maryland COVID-19 Trends and Impact Surveys](#), in partnership with Facebook. Mask use data are also from [Premise](#), the Kaiser Family Foundation, and the [YouGov COVID-19 Behaviour Tracker](#) survey.

Genetic sequence and metadata are primarily from the GISAID Initiative. Further details available on the COVID-19 model [FAQ page](#).

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>.

To download our most recent results, visit our [Data downloads page](#).

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