COVID-19 Results Briefing

Indonesia

January 21, 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 20, 2022, with data through January 18, 2022.

Current situation

Our models project that daily estimated infections will rise to 3,863,069 by February 17, 2022, while cases will rise to 27,132 by March 1. Our model projects 147,300 cumulative reported deaths due to COVID-19 on May 1. This represents 3,100 additional deaths from January 18 to May 1. Daily reported COVID-19 deaths will rise to 72 by March 16, 2022

The Omicron wave continues to spread in Indonesia, with infections and reported cases increasing. Our reference scenario suggests that infections will peak by mid-February and reported cases the first week of February. The intense pressure on hospitals should also have largely abated by end of February.

Given the speed of the wave, policy interventions have a very limited impact on the course of the next 3-4 weeks in our modeling. Testing, contact tracing, and quarantine in the face of so many infections are likely to have little or no impact. Ongoing testing of asymptomatic individuals may exacerbate labor shortages and disruption in schools. The main strategy should be to support hospitals during periods of stress due to increased case load and staff shortages as some would be infected and have to quarantine.

This rapid spread through most of the world, fueled by a larger degree of asymptomatic cases, will lead to a period of low transmission. COVID-19 will become a recurrent disease that health systems and societies will have to manage, re-emerging periodically during winter months and as immunity wanes. Thankfully, we are far better equipped to limit the impact of future waves than we were at the beginning of the pandemic:

1. Broad previous exposure to the virus and vaccines will make it harder for future waves to gain a foothold.
2. We have the technology to rapidly adapt vaccines to new variants, as we do each year with flu vaccines.
3. We can now treat those infected with effective antivirals.
4. We know that high-quality masks and physical distancing work and can use them to protect the vulnerable in future waves.

For these reasons, while COVID-19 will be with us for many years to come, the period of extraordinary social and economic disruption it has caused is coming to an end.

COVID-19 will become an endemic disease and possibly new variants will appear. The endemic phase is due to the fact that vaccine-derived and infection-derived immunity preventing infection will steadily wane. Waning immunity and winter seasonality later in 2022 should lead at least to a winter increase. Still, the billion infections occurring in the world will provide the opportunity for new variants to emerge. To prepare for future COVID-19 variants, countries should maintain surveillance and monitor for the emergence of new variants, continue to promote vaccination including third doses, scale up access to effective antivirals, and provide guidance for high-risk groups to use high-quality masks and social distance if and when a new variant that is more severe than Omicron emerges. With these measures in place, even the emergence of a new variant with increased severity as compared to Omicron should not require the return to pandemic-era mandates.

- Daily infections in the last week increased to 334,400 per day on average compared to 155,700 the week before (Figure 1.1). Daily hospital census in the last week (through January 18) increased to 990 per day on average compared to 620 the week before.
- Daily reported cases in the last week increased to 900 per day on average compared to 500 the week before (Figure 2.1).
- Reported deaths due to COVID-19 in the last week increased to 6 per day on average compared to 5 the week before (Figure 3.1).
- Total deaths due to COVID-19 in the last week increased to 19 per day on average compared to 17 the week before (Figure 3.1). This makes COVID-19 the number 33 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 total COVID-19 deaths greater than 4 per million (Figure 4.2).
- We estimate that 52% of people in Indonesia have been infected at least once as of January 18 (Figure 6.1). Effective R, computed using cases, hospitalizations, and deaths, is greater than 1 in eight countries and 27 subnational locations in the region. Effective R in Indonesia was 1.9 on January 7 (Figure 7.1).
- The infection-detection rate in Indonesia was close to 1% on January 18 (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 and 0 subnational locations, that the Beta variant is circulating in 0 countries and 0 subnational locations, that the Delta variant is circulating in 9 countries and 0 subnational locations, that the Gamma variant is circulating in one country and 0 subnational locations, and that the Omicron variant is circulating in 10 countries and 0 subnational locations.

Trends in drivers of transmission

- Mobility last week was 2% lower than the pre-COVID-19 baseline (Figure 11.1). Mobility was lower than 30% of baseline in no locations.
- As of January 18, 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 42 diagnostic tests per 100,000 people on January 18 (Figure 15.1).
- As of January 18, 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). 68% of people in Indonesia have received at least one vaccine dose and 47% are fully vaccinated.
- In Indonesia, 91.5% 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 0.5 percentage points from last week. The proportion of the population who are open to receiving a COVID-19 vaccine ranges from 70% in Timor-Leste to 100% in Bhutan (Figure 19.1).
- In our current reference scenario, we expect that 194.8 million people will be vaccinated with at least one dose by May 1 (Figure 20.1). We expect that 67% 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 3,863,070 by February 17, 2022 (Figure 21.1).
- Daily estimated infections in the **80% mask coverage scenario** will rise to 3,220,390 by February 20, 2022 (Figure 21.1).
- Daily estimated infections in the **third dose scenario** will rise to 3,682,360 by February 17, 2022 (Figure 21.1).

Cases

- Daily cases in the **reference scenario** will rise to 27,130 by March 1, 2022 (Figure 21.2).
- Daily cases in the **80% mask coverage scenario** will rise to 22,450 by March 4, 2022 (Figure 21.2).
- Daily cases in the **third dose scenario** will rise to 25,560 by March 1, 2022 (Figure 21.2).

Hospitalizations

- Daily hospital census in the **reference scenario** will rise to 36,420 by March 5, 2022 (Figure 21.3).
- Daily hospital census in the **80% mask coverage scenario** will rise to 30,610 by March 9, 2022 (Figure 21.3).
- Daily hospital census in the **third dose scenario** will rise to 33,130 by March 6, 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 18 to May 1. Daily reported COVID-19 deaths in the **reference scenario** will rise to 70 by March 15, 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 10,000 additional deaths from January 18 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 18 to May 1. Daily reported COVID-19 deaths in the **80% mask coverage scenario** will rise to 60 by March 18, 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 3,000 additional deaths from January 18 to May 1. Daily reported COVID-19 deaths in the **third dose scenario** will rise to 60 by March 16, 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, seven 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

No model updates.

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

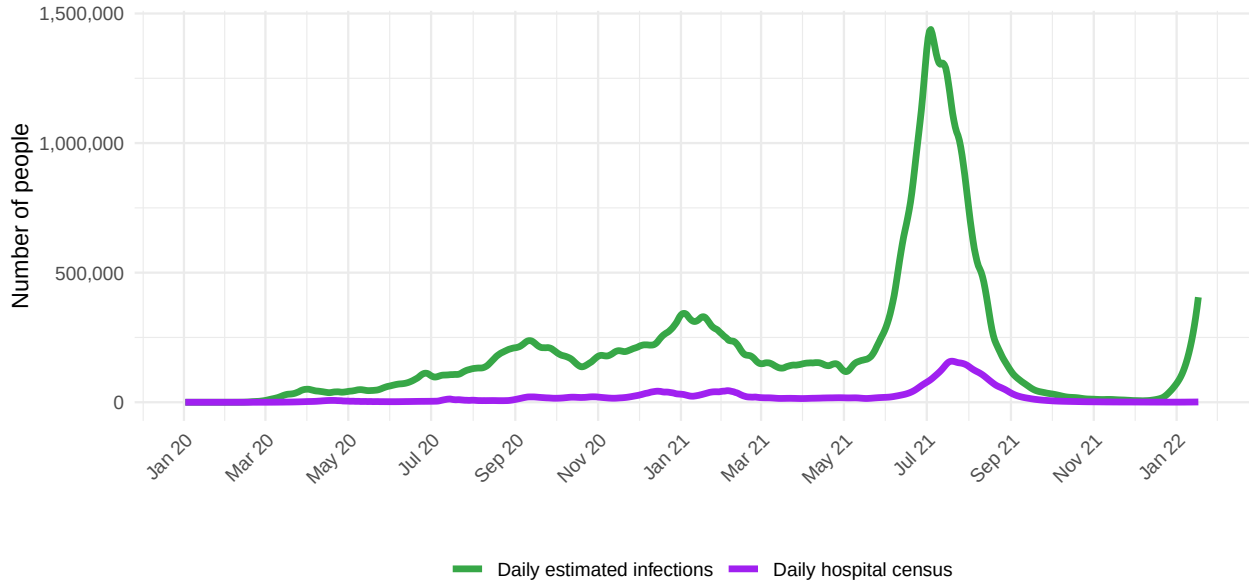


Figure 2.1. Reported daily COVID-19 cases, moving average

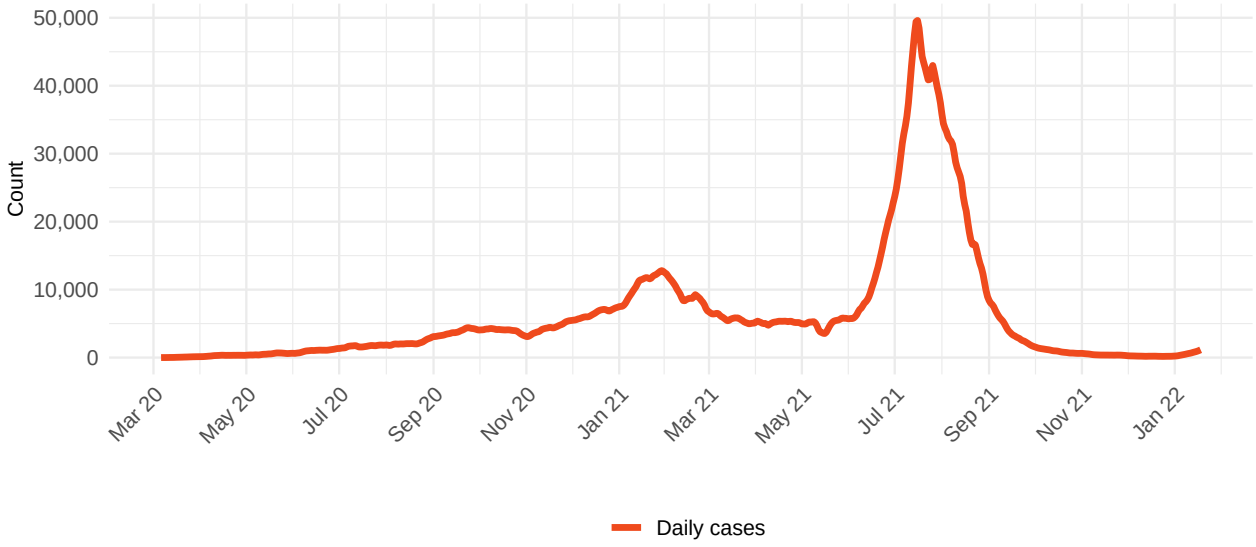
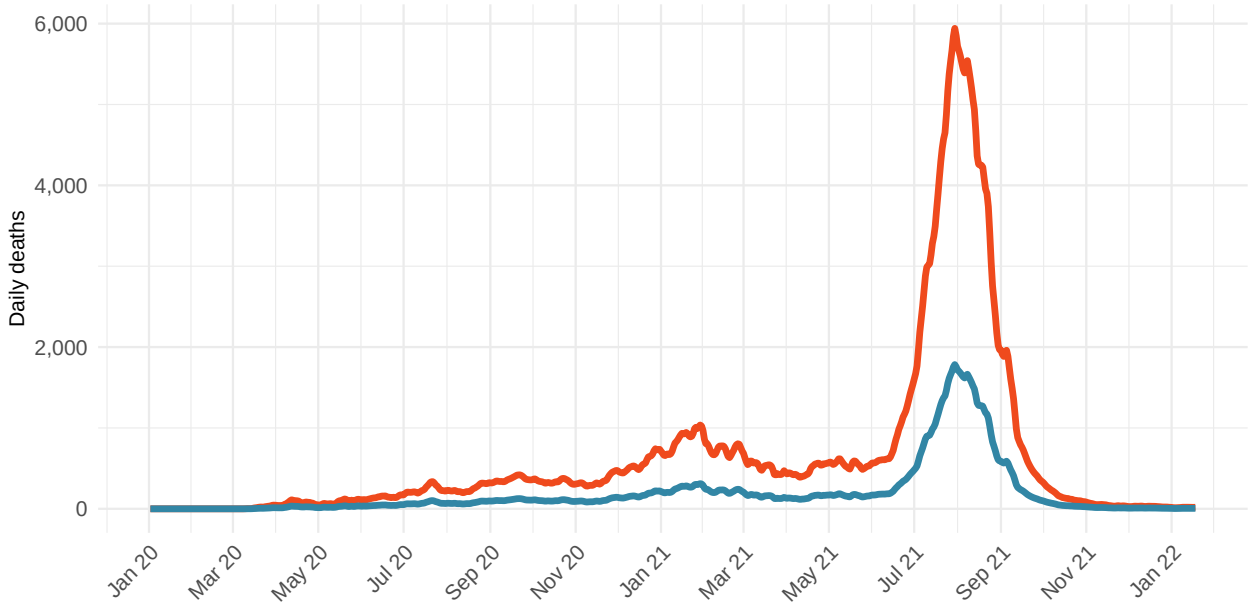


Table 1. Ranking of total deaths due to COVID-19 among the leading causes of mortality this week, assuming uniform deaths of non-COVID causes throughout the year

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	132	33

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 18, 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 18, 2022

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

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

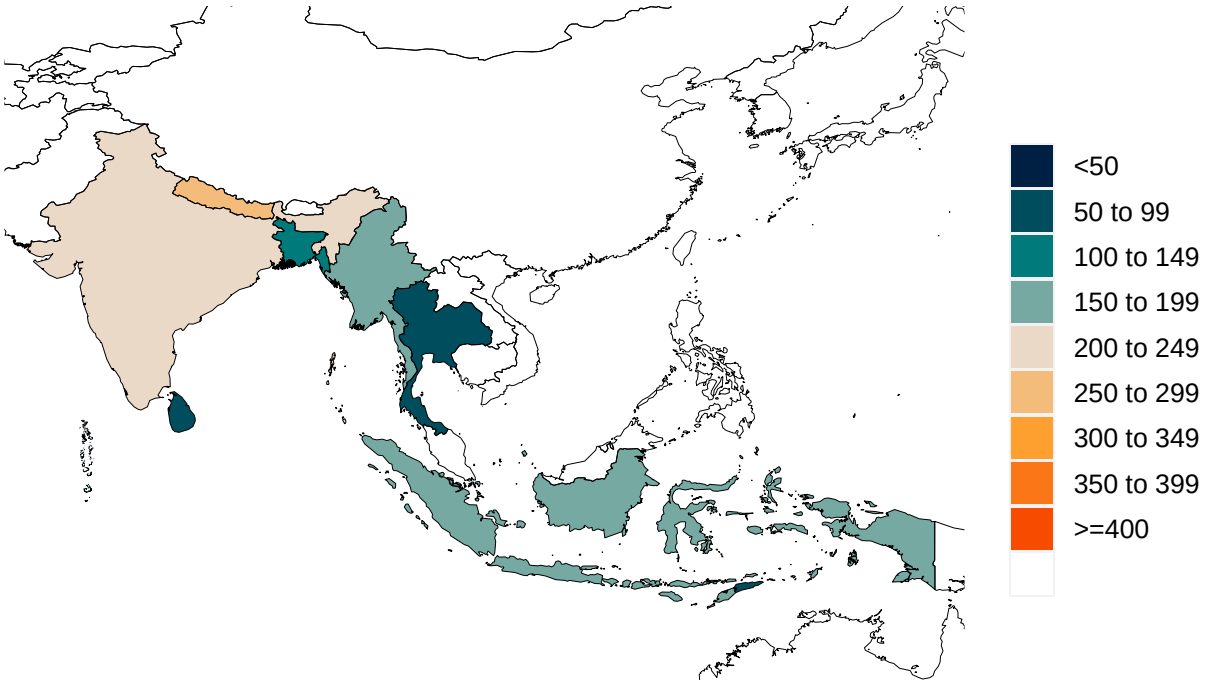


Figure 6.1. Estimated percent of the population infected with COVID-19 on January 18, 2022

Figure 7.1. Mean effective R on January 7, 2022. 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.

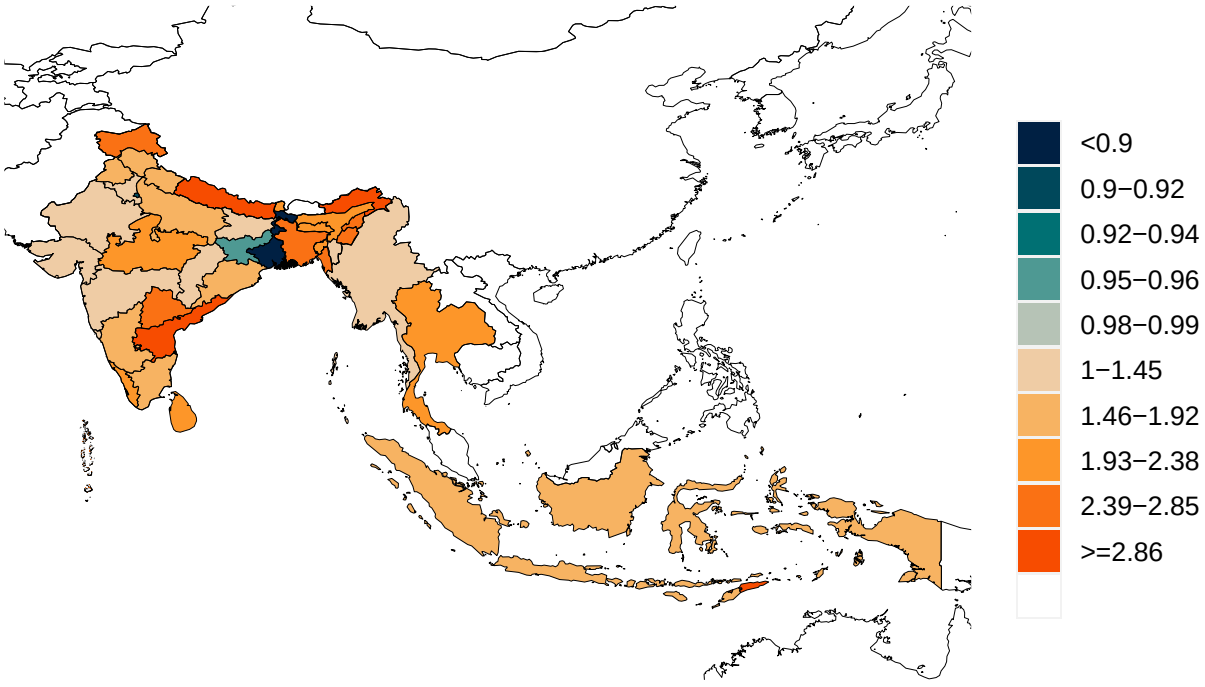
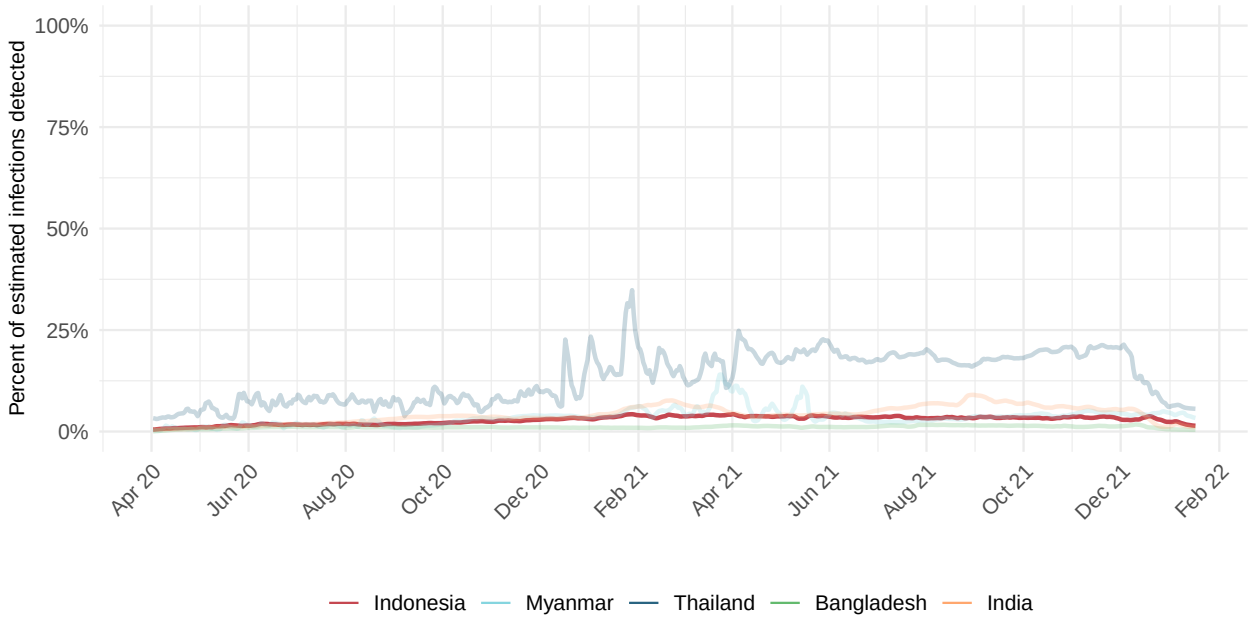


Figure 8.1. Percent of estimated COVID-19 infections detected. This is estimated as the ratio of reported daily COVID-19 cases to estimated daily COVID-19 infections based on the SEIR disease transmission model. Due to measurement errors in cases and testing rates, the infection-detection rate can exceed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



Estimated percent of circulating SARS-CoV-2 for primary variant families on January 18, 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

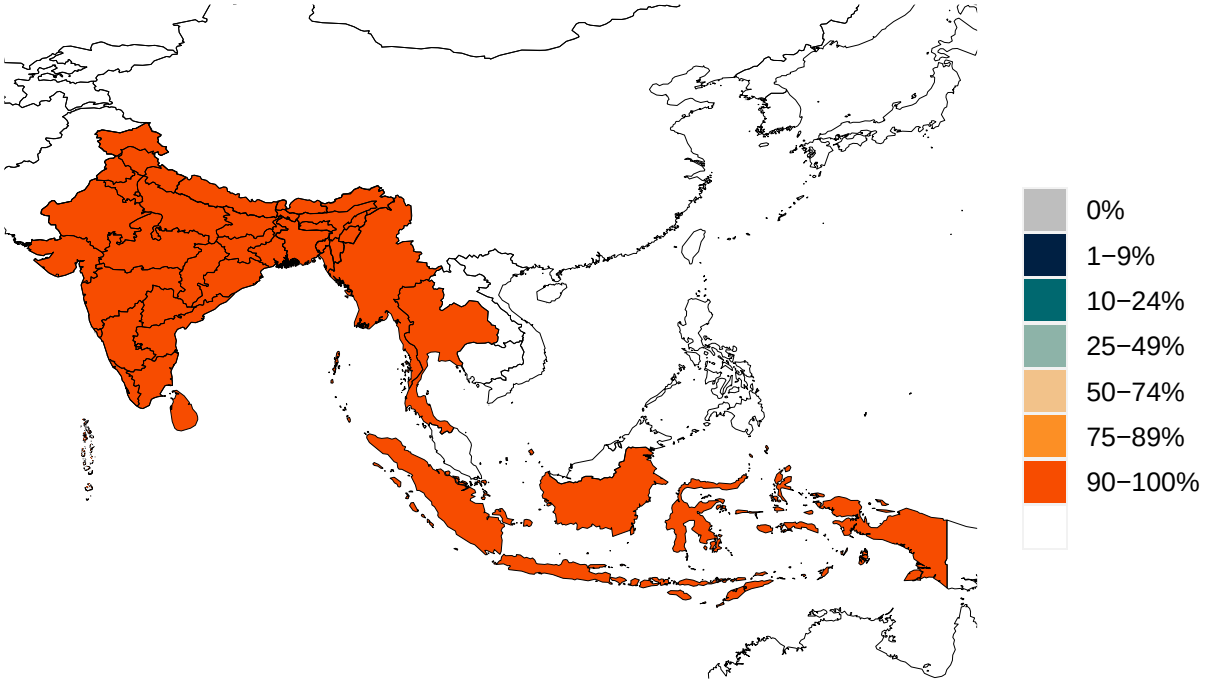


Figure 10.1. Infection-fatality rate on January 18, 2022. This is estimated as the ratio of COVID-19 deaths to estimated daily COVID-19 infections.

Critical drivers

Table 2. Current mandate implementation

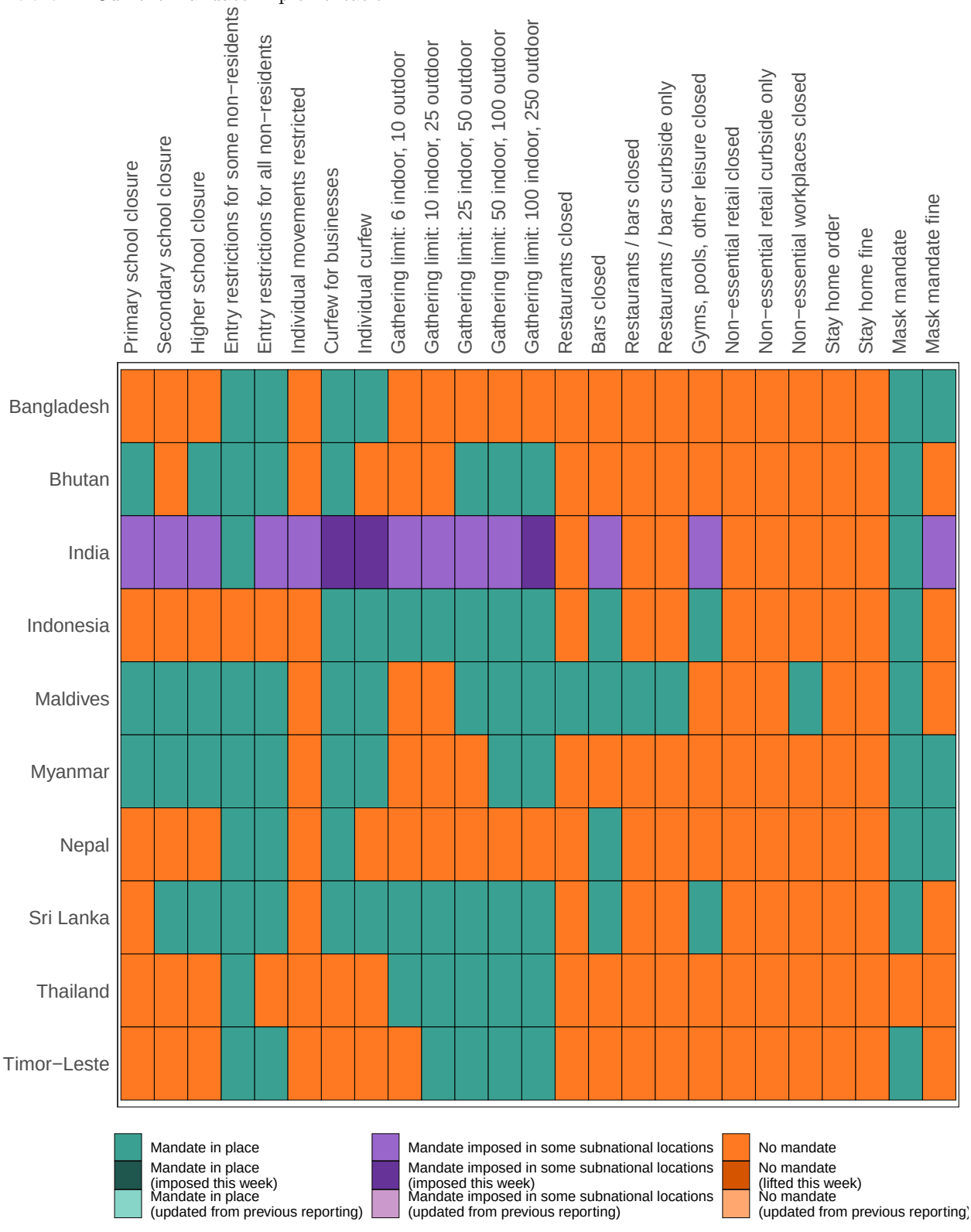


Figure 11.1. Trend in mobility as measured through smartphone app use, compared to January 2020 baseline

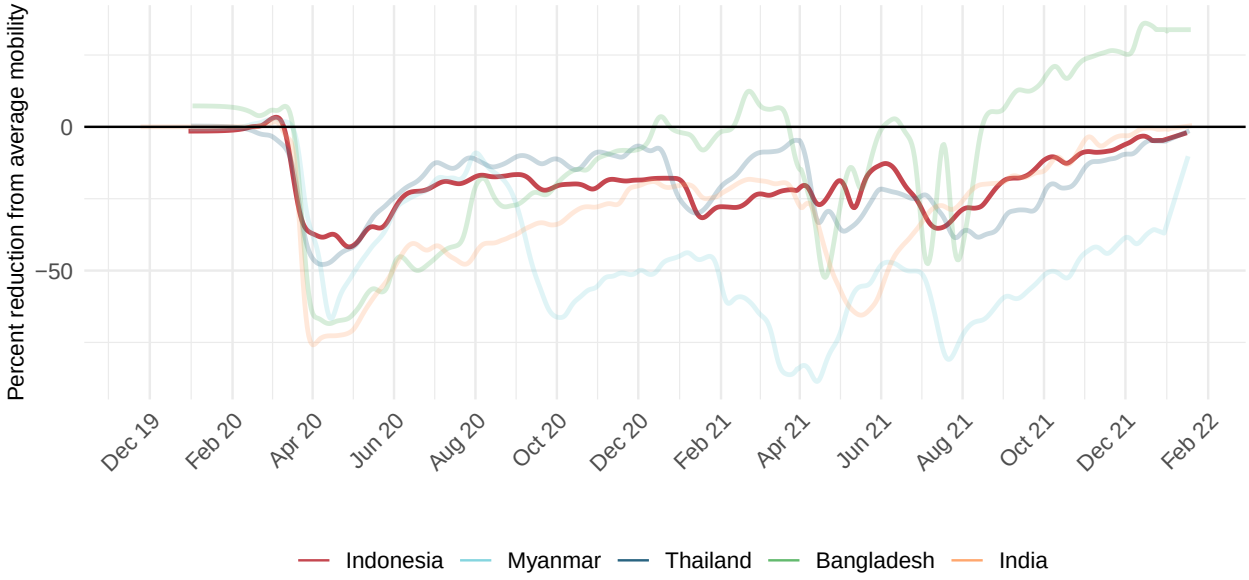


Figure 12.1. Mobility level as measured through smartphone app use, compared to January 2020 baseline (percent) on January 18, 2022

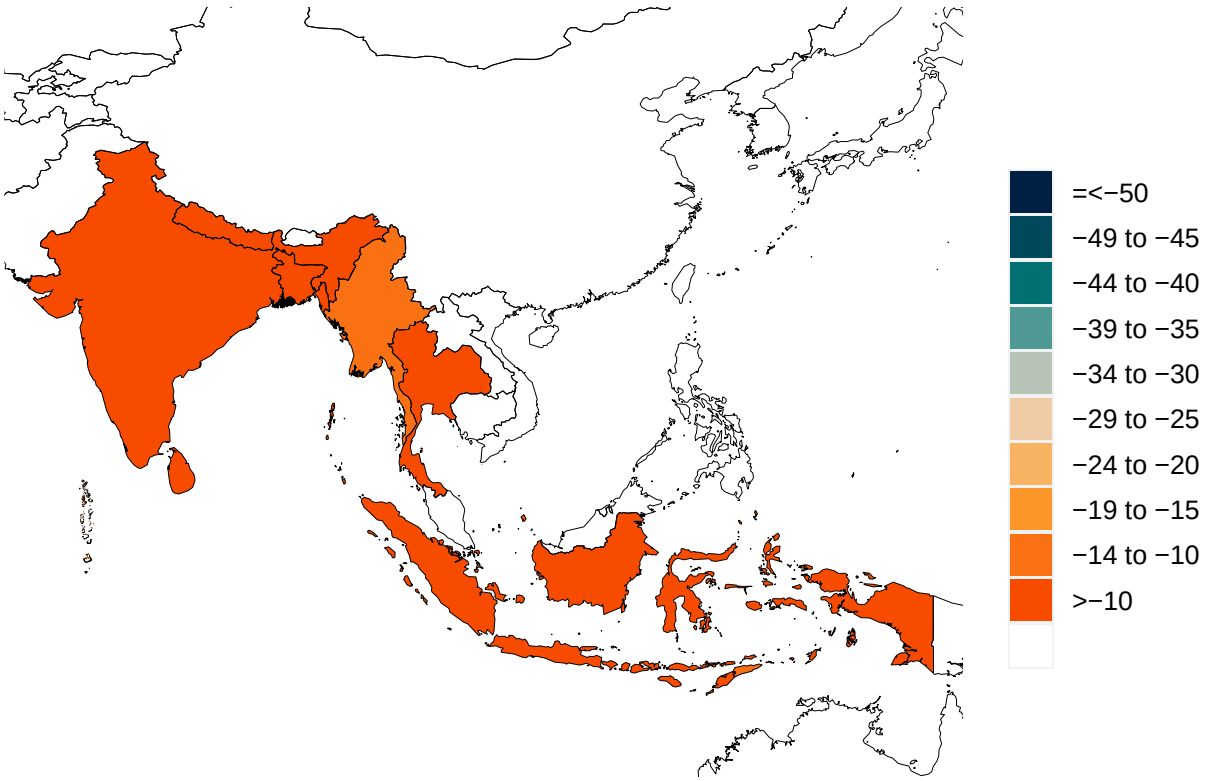


Figure 13.1. Trend in the proportion of the population reporting always wearing a mask when leaving home

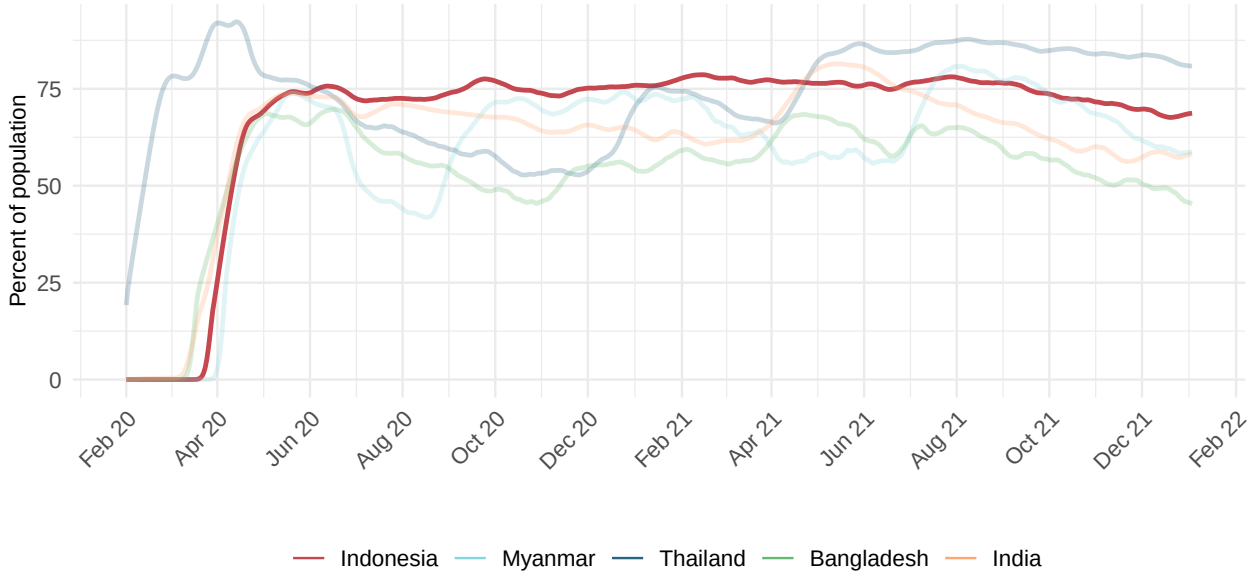


Figure 14.1. Proportion of the population reporting always wearing a mask when leaving home on January 18, 2022

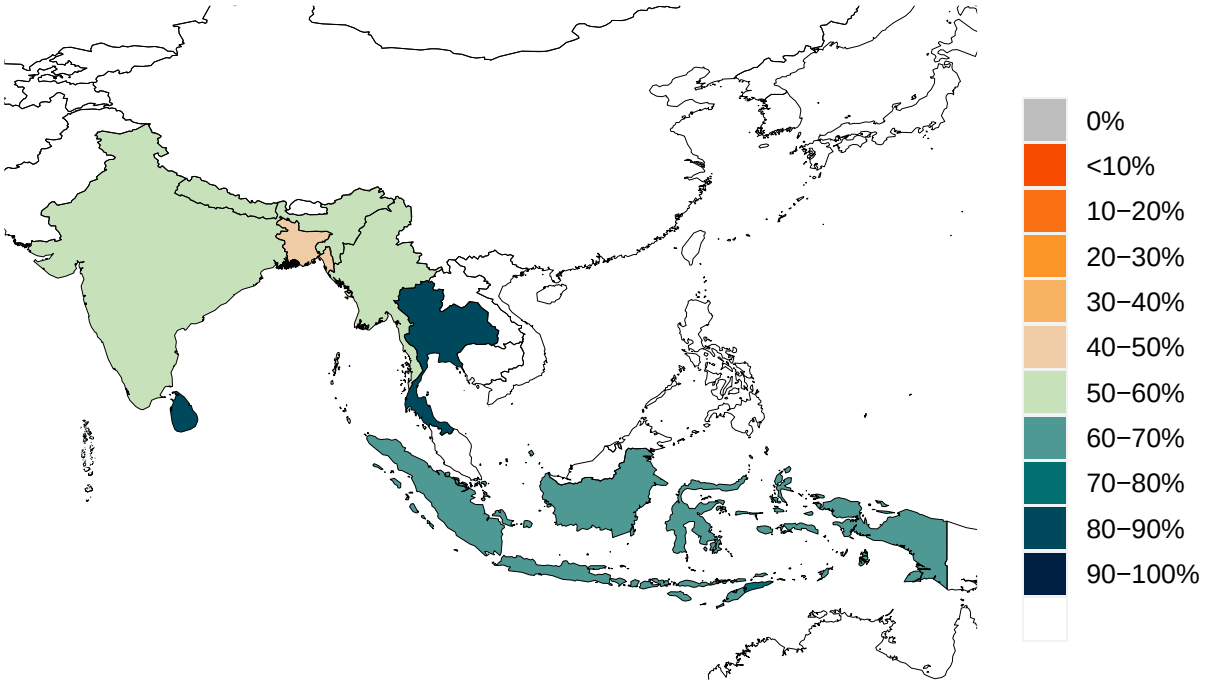


Figure 15.1. Trend in COVID-19 diagnostic tests per 100,000 people

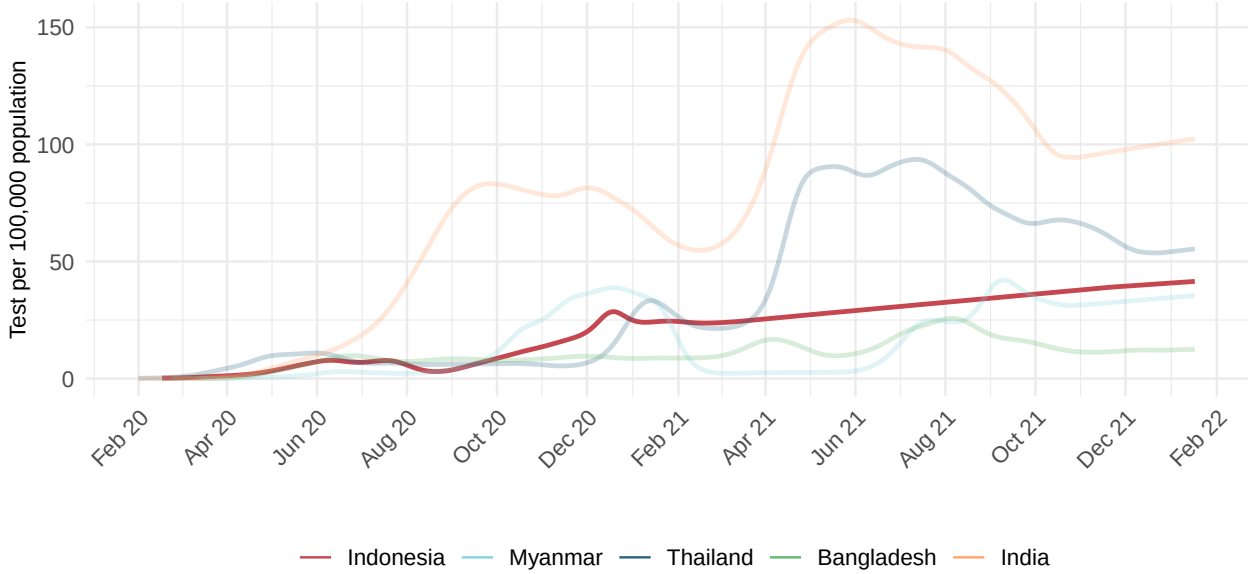


Figure 16.1. COVID-19 diagnostic tests per 100,000 people on January 18, 2022

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.

	Effectiveness at preventing											
	Ancestral		Alpha		Beta		Gamma		Delta		Omicron	
Vaccine	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 18, 2022

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

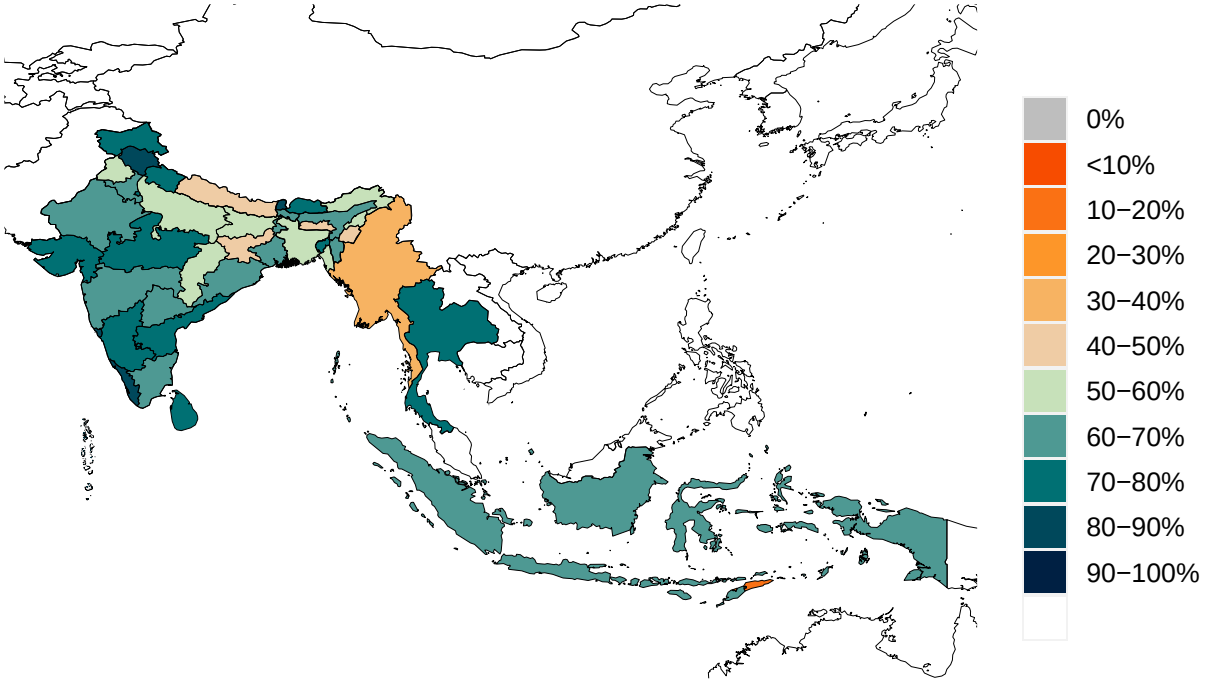


Figure 17.2 Percent of the population fully vaccinated against SARS-CoV-2

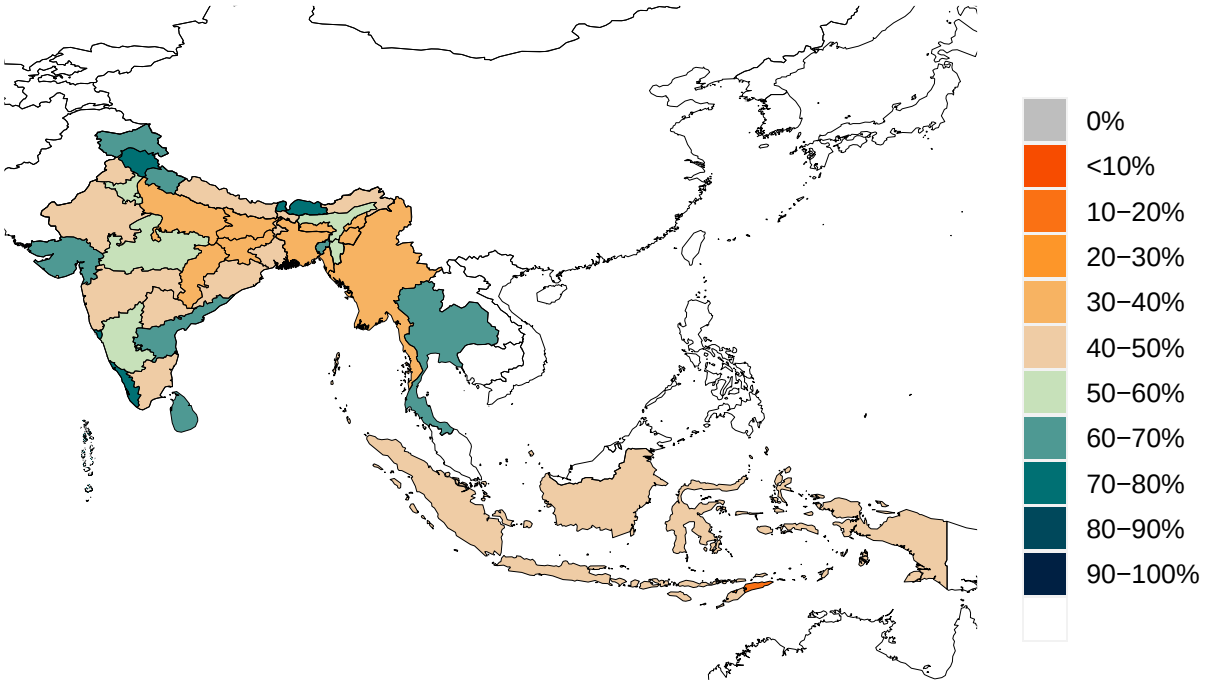


Figure 18.1. Trend in the estimated proportion of the population that is 12 years and older that has been vaccinated or would probably or definitely receive the COVID-19 vaccine if available. Note that vaccine acceptance is calculated using survey data from the 18+ population.

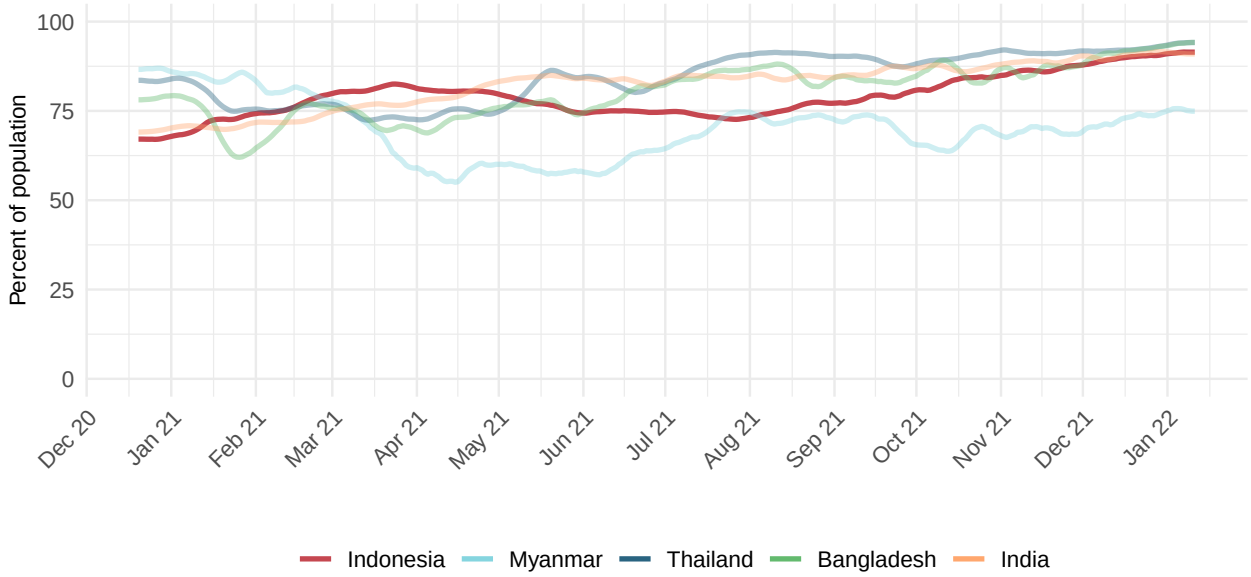


Figure 19.1. Estimated proportion of the population that is 12 years and older that has been vaccinated or would probably or definitely receive the COVID-19 vaccine if available. Note that vaccine acceptance is calculated using survey data from the 18+ population.

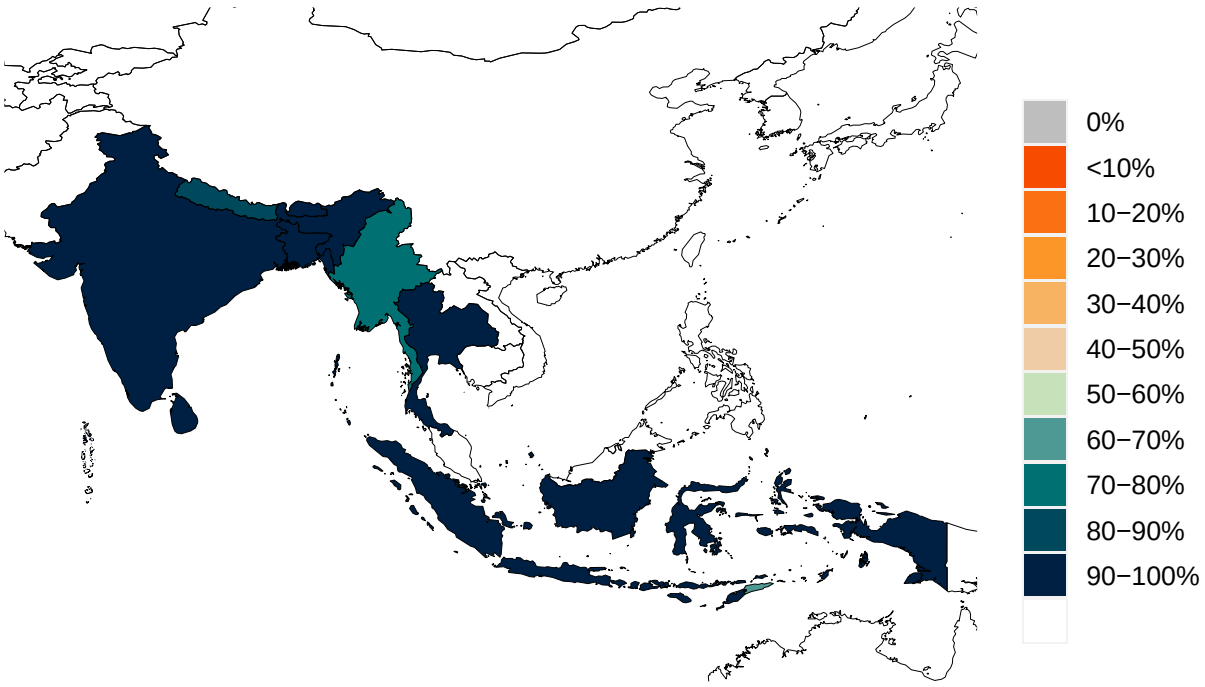
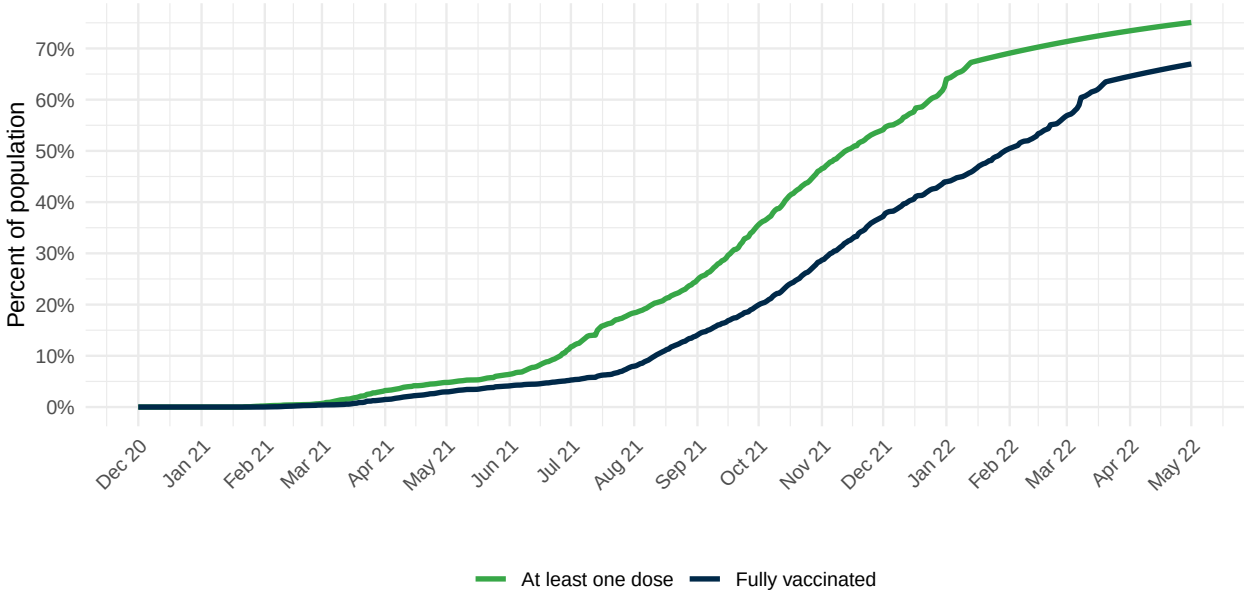


Figure 20.1. Percent of people who receive at least one dose of a COVID-19 vaccine and those who are fully vaccinated



Projections and scenarios

We produce 3 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.

Figure 21.1. Daily COVID-19 infections until May 01, 2022 for 3 scenarios

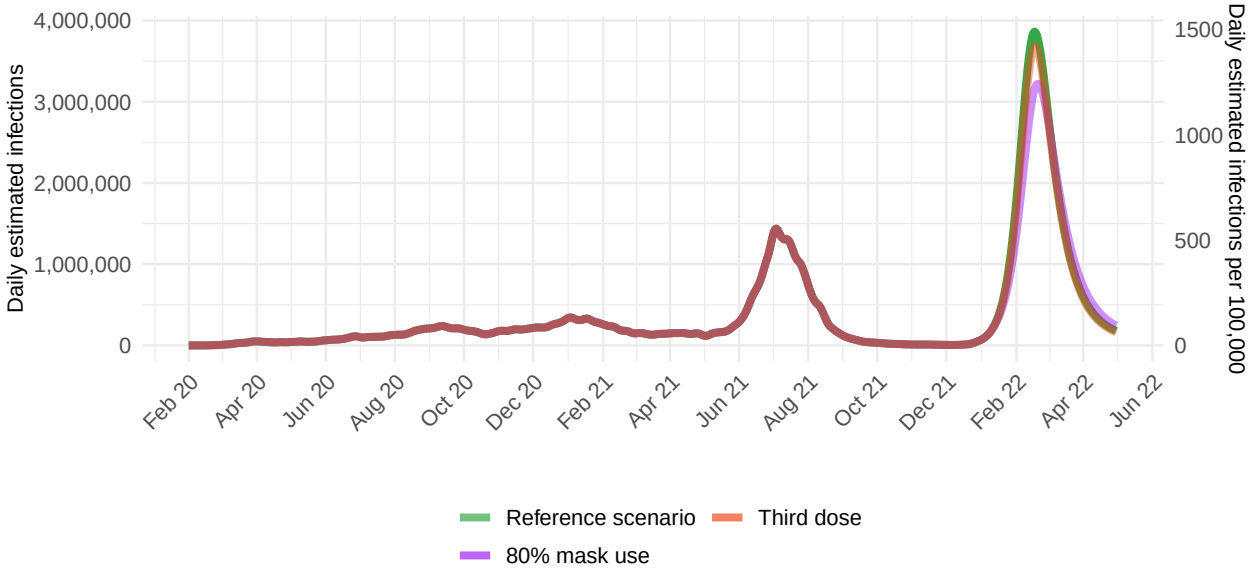


Figure 21.2. Daily COVID-19 reported cases until May 01, 2022 for 3 scenarios

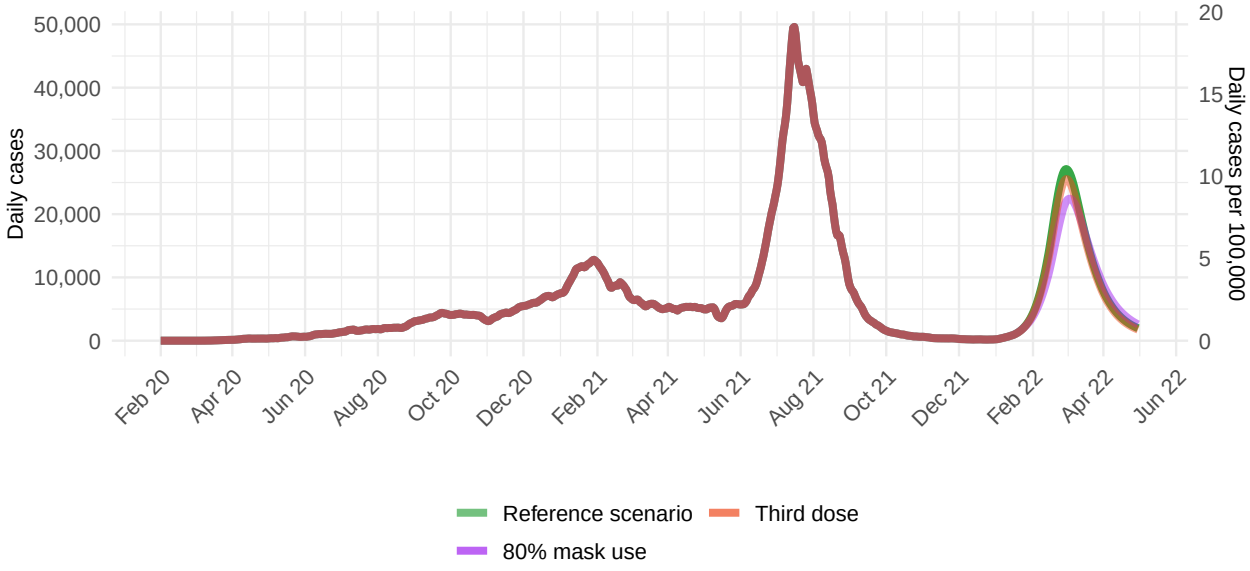


Figure 21.3. Daily COVID-19 hospital census until May 01, 2022 for 3 scenarios

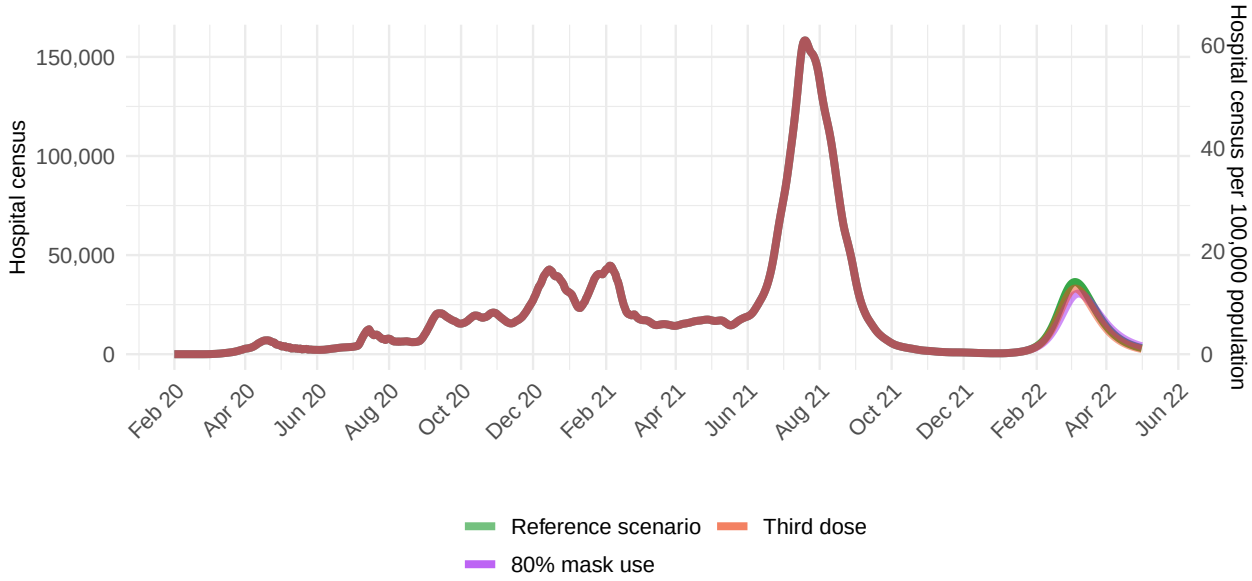


Figure 21.4 Reported daily COVID-19 deaths per 100,000

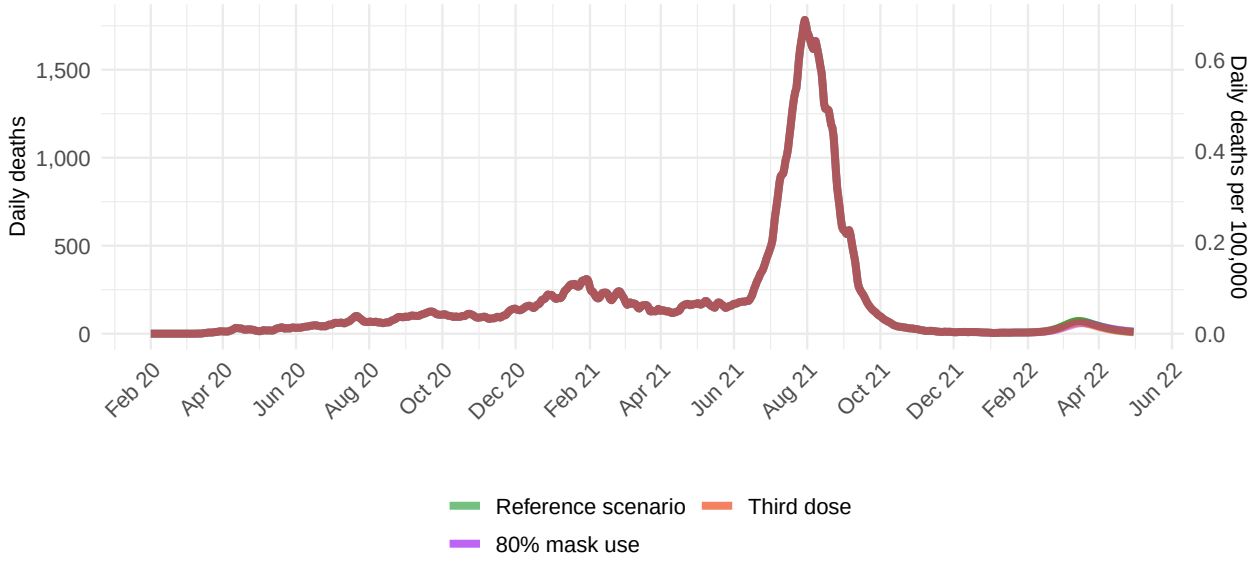


Figure 21.5 Total daily COVID-19 deaths per 100,000

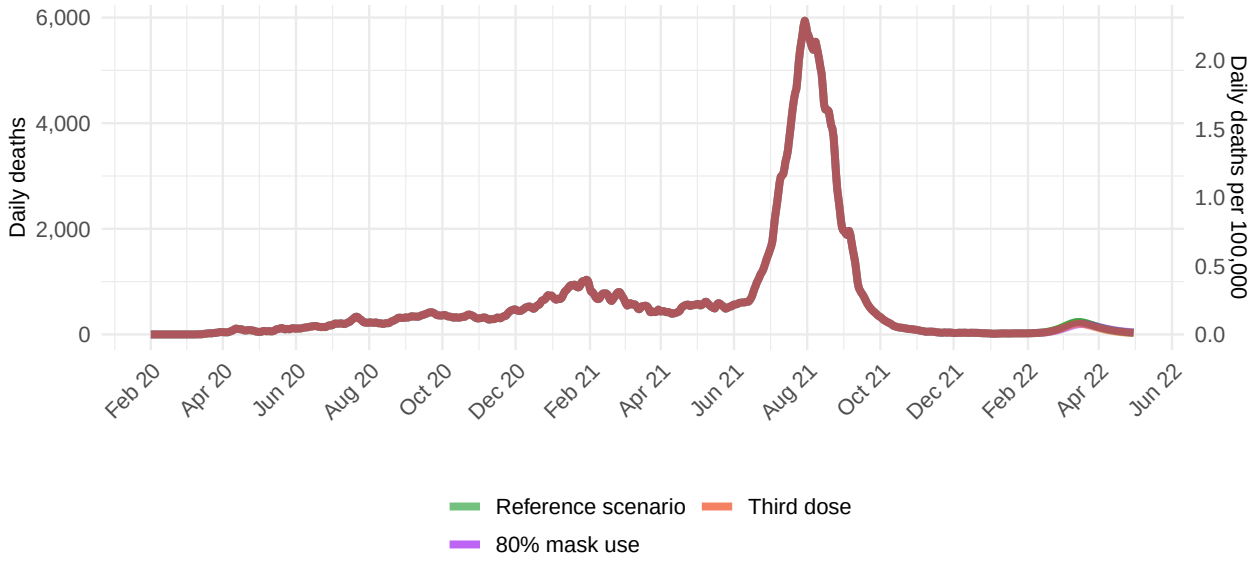


Figure 22.1. Comparison of reference model projections with other COVID modeling groups. For this comparison, we are including projections of daily COVID-19 deaths from other modeling groups when available, last model update in brackets: Delphi from the Massachusetts Institute of Technology (Delphi) [January 21, 2022], Imperial College London (Imperial) [January 2, 2022], the SI-KJalpha model from the University of Southern California (SIKJalpha) [January 20, 2022]. Daily deaths from other modeling groups are smoothed to remove inconsistencies with rounding. Regional values are aggregates from available locations in that region.

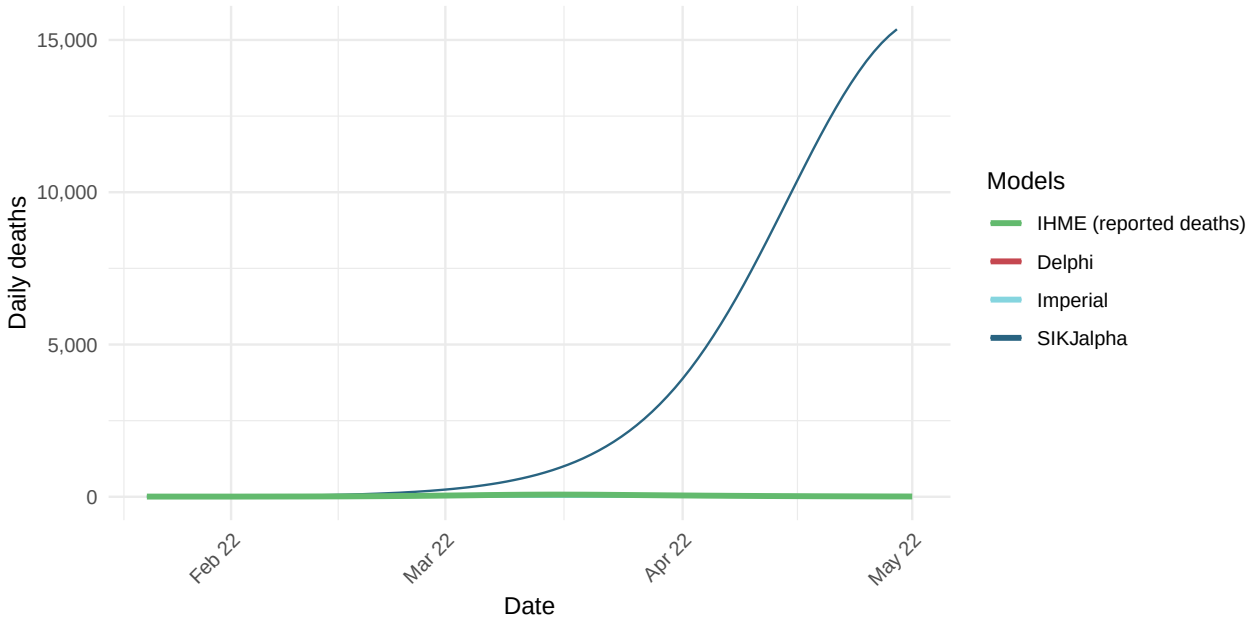


Figure 23.1. The estimated inpatient hospital usage is shown over time. The percent of hospital beds occupied by COVID-19 patients is color-coded based on observed quantiles of the maximum proportion of beds occupied by COVID-19 patients. Less than 5% is considered *low stress*, 5-9% is considered *moderate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

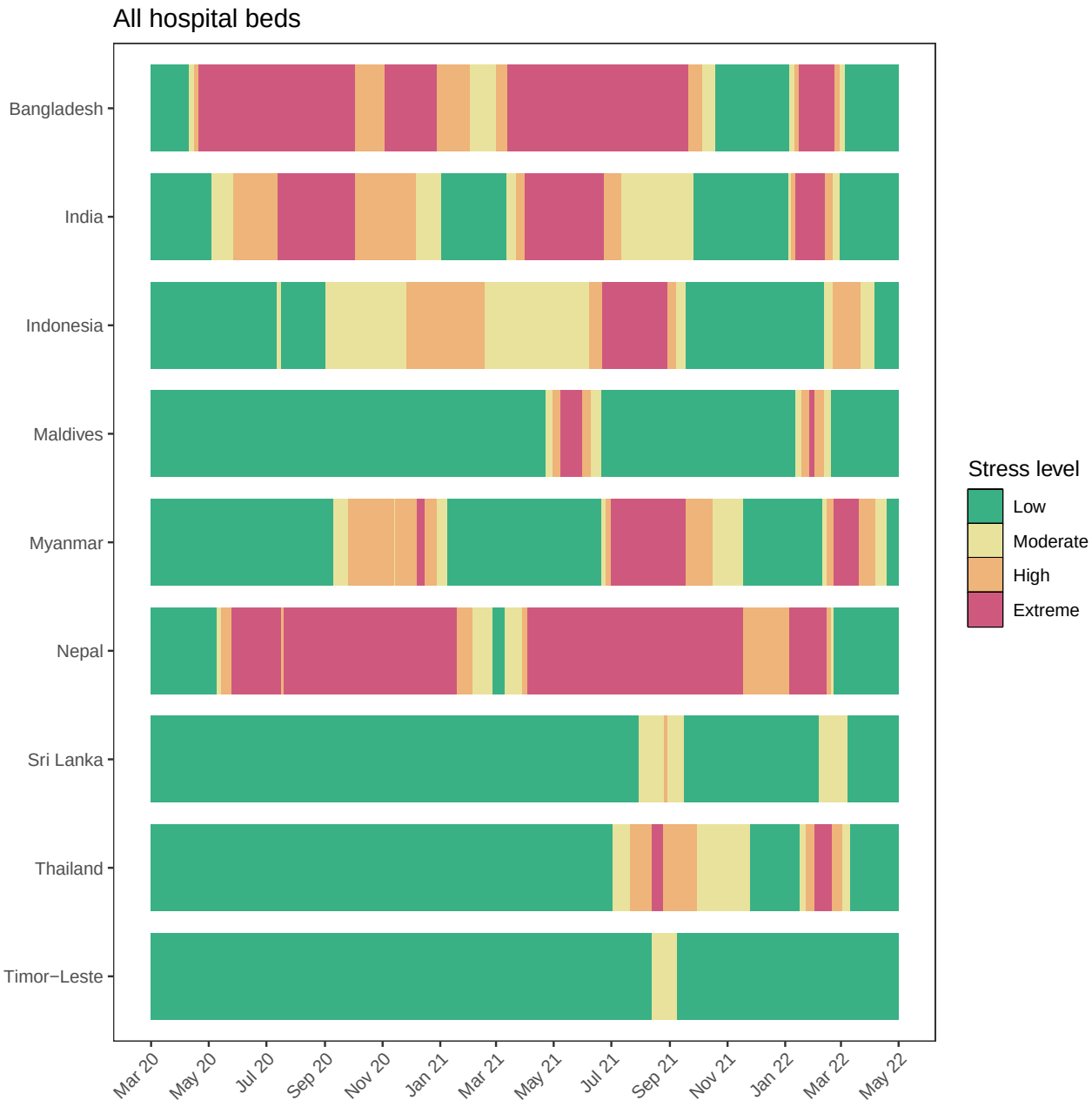
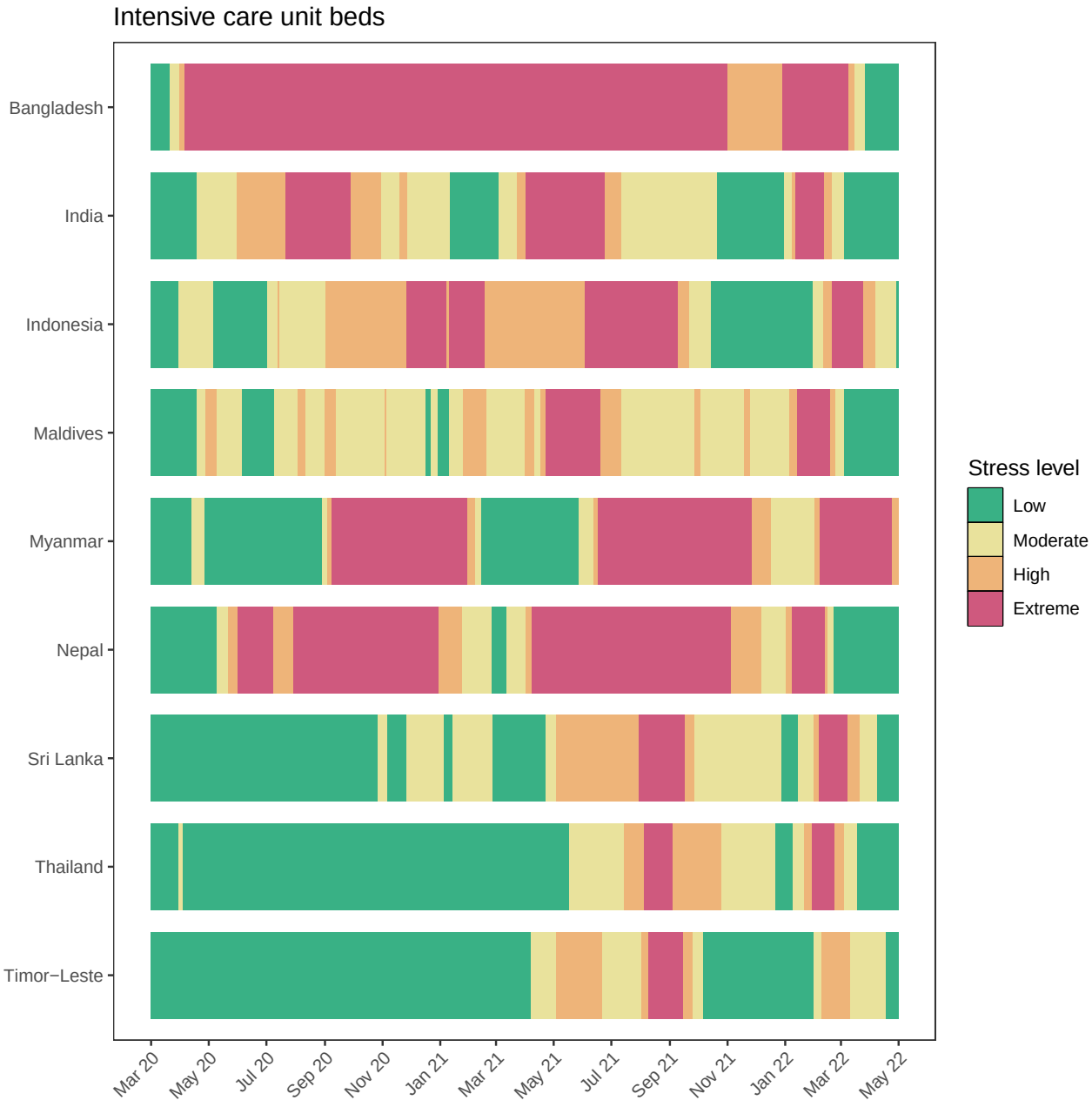


Figure 24.1. The estimated intensive care unit (ICU) usage is shown over time. The percent of ICU beds occupied by COVID-19 patients is color-coded based on observed quantiles of the maximum proportion of ICU beds occupied by COVID-19 patients. Less than 10% is considered *low stress*, 10-29% is considered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