COVID-19 Results Briefing

Thailand

January 21, 2022

This document contains summary information on the latest projections from the IHME model on COVID-19 in Thailand. The model was run on January 20, 2022, with data through January 18, 2022.

Current situation

- Daily infections in the last week increased to 1,132,800 per day on average compared to 659,400 the week before (Figure 1.1). Daily hospital census in the last week (through January 18) increased to 5,400 per day on average compared to 3,000 the week before.
- Daily reported cases in the last week increased to 16,400 per day on average compared to 6,800 the week before (Figure 2.1).
- Reported deaths due to COVID-19 in the last week decreased to 13 per day on average compared to 15 the week before (Figure 3.1).
- Total deaths due to COVID-19 in the last week decreased to 36 per day on average compared to 40 the week before (Figure 3.1). This makes COVID-19 the number 13 cause of death in Thailand this week (Table 1). Estimated total daily deaths due to COVID-19 in the past week were 2.7 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 38% of people in Thailand 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 8 countries and 27 subnational locations in the region. Effective R in Thailand was 2 on January 7 (Figure 7.1).
- The infection-detection rate in Thailand was close to 6% 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 1% 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, 81% of people self-report that they always wore a mask when leaving their home compared to 81% last week (Figure 13.1).
- There were 55 diagnostic tests per 100,000 people on January 18 (Figure 15.1).
- As of January 18, 4 countries and no subnationals have reached 70% or more of the population who have received at least one vaccine dose and 2 countries and no subnationals have reached 70% or more of the population who are fully vaccinated (Figure 17.1). 78% of people in Thailand have received at least one vaccine dose and 69% are fully vaccinated.
- In Thailand, 94.1% 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 0.6 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 63.0 million people will be vaccinated with at least one dose by May 1 (Figure 20.1). We expect that 85% 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 1,379,730 by January 22, 2022 (Figure 21.1).
- Daily estimated infections in the 80% mask coverage scenario will rise to 1,382,690 by January 22, 2022 (Figure 21.1).
- Daily estimated infections in the third dose scenario will rise to 1,290,570 by January 22, 2022 (Figure 21.1).

Cases

- Daily cases in the reference scenario will rise to 70,100 by February 4, 2022 (Figure 21.2).
- Daily cases in the 80% mask coverage scenario will rise to 70,230 by February 4, 2022 (Figure 21.2).
- Daily cases in the third dose scenario will rise to 65,540 by February 4, 2022 (Figure 21.2).

Hospitalizations

- Daily hospital census in the reference scenario will rise to 29,770 by February 10, 2022 (Figure 21.3).
- Daily hospital census in the 80% mask coverage scenario will rise to 29,830 by February 10, 2022 (Figure 21.3).
- Daily hospital census in the third dose scenario will rise to 25,590 by February 10, 2022 (Figure 21.3).

Deaths

- In our reference scenario, our model projects 24,000 cumulative reported deaths due to COVID-19 on May 1. This represents 2,000 additional deaths from January 18 to May 1. Daily reported COVID-19 deaths in the reference scenario will rise to 60 by February 15, 2022 (Figure 21.4).
- Under our reference scenario, our model projects 67,000 cumulative total deaths due to COVID-19 on May 1. This represents 6,000 additional deaths from January 18 to May 1 (Figure 24.2).
- In our 80% mask coverage scenario, our model projects 24,000 cumulative reported deaths due to COVID-19 on May 1. This represents 2,000 additional deaths from January 18 to May 1. Daily reported COVID-19 deaths in the 80% mask coverage scenario will rise to 60 by February 15, 2022 (Figure 21.4).
- In our third dose scenario, our model projects 24,000 cumulative reported deaths due to COVID-19 on May 1. This represents 2,000 additional deaths from January 18 to May 1. Daily reported COVID-19 deaths in the third dose scenario will rise to 50 by February 13, 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, 7 countries will have high or extreme stress on hospital beds (Figure 23.1). At some point from January through May 1, 9 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

![Graph showing daily COVID-19 hospital census and estimated infections.]

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

![Graph showing reported daily COVID-19 cases, moving average.]

covid19.healthdata.org 
Institute for Health Metrics and Evaluation
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.

<table>
<thead>
<tr>
<th>Cause name</th>
<th>Weekly deaths</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischemic heart disease</td>
<td>992</td>
<td>1</td>
</tr>
<tr>
<td>Stroke</td>
<td>981</td>
<td>2</td>
</tr>
<tr>
<td>Lower respiratory infections</td>
<td>597</td>
<td>3</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>528</td>
<td>4</td>
</tr>
<tr>
<td>Liver cancer</td>
<td>472</td>
<td>5</td>
</tr>
<tr>
<td>Tracheal, bronchus, and lung cancer</td>
<td>444</td>
<td>6</td>
</tr>
<tr>
<td>Alzheimer’s disease and other dementias</td>
<td>414</td>
<td>7</td>
</tr>
<tr>
<td>Cirrhosis and other chronic liver diseases</td>
<td>377</td>
<td>8</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>376</td>
<td>9</td>
</tr>
<tr>
<td>Road injuries</td>
<td>376</td>
<td>10</td>
</tr>
<tr>
<td>COVID-19</td>
<td>252</td>
<td>13</td>
</tr>
</tbody>
</table>

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**

| Country       | Primary school closure | Secondary school closure | Higher school closure | Entry restrictions for some non-residents | Entry restrictions for all non-residents | Individual movements restricted | Curfew for businesses | Individual curfew | Gathering limit: 6 indoor, 10 outdoor | Gathering limit: 10 indoor, 25 outdoor | Gathering limit: 25 indoor, 50 outdoor | Gathering limit: 50 indoor, 100 outdoor | Gathering limit: 100 indoor, 250 outdoor | Restaurants closed | Bars closed | Restaurants / bars closed | Restaurants / bars curbside only | Gyms, pools, other leisure closed | Non-essential retail closed | Non-essential workplaces closed | Stay home order | Stay home fine | Mask mandate | Mask mandate fine |
|---------------|------------------------|--------------------------|----------------------|------------------------------------------|------------------------------------------|----------------------------------------|----------------------|-------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|-----------------|---------------|------------------|---------------------|------------------------|-----------------------------|--------------------------|
| **Bangladesh**|                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Bhutan**    |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **India**     |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Indonesia** |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Maldives**  |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Myanmar**   |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Nepal**     |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Sri Lanka** |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Thailand**  |                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |
| **Timor-Leste**|                        |                          |                      |                                          |                                          |                                        |                      |                   |                                                        |                                                        |                                                        |                                                        |                                                        |                 |               |                  |                     |                       |

*Not all locations are measured at the subnational level.*

covid19.healthdata.org Institute for Health Metrics and Evaluation
**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.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Ancestral</th>
<th>Alpha</th>
<th>Beta</th>
<th>Gamma</th>
<th>Delta</th>
<th>Omicron</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
<td>Infection</td>
<td>Severe</td>
<td>Infection</td>
<td>Severe</td>
<td>Infection</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>94%</td>
<td>63%</td>
<td>94%</td>
<td>63%</td>
<td>94%</td>
<td>69%</td>
</tr>
<tr>
<td>CanSino</td>
<td>60%</td>
<td>62%</td>
<td>66%</td>
<td>62%</td>
<td>64%</td>
<td>61%</td>
</tr>
<tr>
<td>CoronaVac</td>
<td>50%</td>
<td>47%</td>
<td>50%</td>
<td>47%</td>
<td>49%</td>
<td>46%</td>
</tr>
<tr>
<td>Covaxin</td>
<td>78%</td>
<td>73%</td>
<td>78%</td>
<td>73%</td>
<td>76%</td>
<td>72%</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>86%</td>
<td>72%</td>
<td>86%</td>
<td>72%</td>
<td>76%</td>
<td>64%</td>
</tr>
<tr>
<td>Moderna</td>
<td>97%</td>
<td>92%</td>
<td>97%</td>
<td>92%</td>
<td>97%</td>
<td>91%</td>
</tr>
<tr>
<td>Novavax</td>
<td>89%</td>
<td>83%</td>
<td>89%</td>
<td>83%</td>
<td>86%</td>
<td>82%</td>
</tr>
<tr>
<td>Pfizer/BioNTech</td>
<td>95%</td>
<td>86%</td>
<td>95%</td>
<td>86%</td>
<td>95%</td>
<td>84%</td>
</tr>
<tr>
<td>Sinopharm</td>
<td>73%</td>
<td>68%</td>
<td>73%</td>
<td>68%</td>
<td>71%</td>
<td>67%</td>
</tr>
<tr>
<td>Sputnik-V</td>
<td>92%</td>
<td>86%</td>
<td>92%</td>
<td>86%</td>
<td>89%</td>
<td>85%</td>
</tr>
<tr>
<td>Other vaccines</td>
<td>75%</td>
<td>70%</td>
<td>75%</td>
<td>70%</td>
<td>73%</td>
<td>69%</td>
</tr>
<tr>
<td>Other vaccines (mRNA)</td>
<td>91%</td>
<td>86%</td>
<td>91%</td>
<td>86%</td>
<td>88%</td>
<td>85%</td>
</tr>
</tbody>
</table>
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.