

## Informe de resultados de COVID-19

### México

14 de julio de 2021

Este documento contiene información resumida sobre las últimas proyecciones del modelo IHME sobre COVID-19 en México. El modelo se ejecutó el 13 de julio de 2021 con datos hasta el 1 de julio de 2021.

### Situación actual

- Los casos reportados diariamente en la última semana (hasta el 1 de julio) aumentaron a 5,000 por día en promedio en comparación con los 4,300 de la semana anterior (Figura 1).
- Las muertes reportadas por COVID-19 en la última semana aumentaron a 110 por día en promedio en comparación con 95 la semana anterior (Figura 2).
- El exceso de muertes por COVID-19 en la última semana aumentó a 230 por día en promedio en comparación con 200 la semana anterior (Figura 2). Esto convierte a COVID-19 en la segunda causa de muerte en México esta semana (Tabla 1). El exceso de muertes diarias estimado debido a COVID-19 fue 2.3 veces mayor que el número de muertes reportadas.
- La tasa diaria de mortalidad por COVID-19 reportada es superior a 4 por millón en Baja California Sur y Yucatán (Figura 3).
- La tasa diaria de exceso de muerte por COVID-19 es superior a 4 por millón en Baja California Sur, Campeche, Ciudad de México, Quintana Roo, Sinaloa, Tamaulipas y Yucatán (Figura 3).
- Estimamos que 58% de las personas en México han sido infectadas al 12 de julio (Figura 5). En 12 estados, las personas infectadas están abajo de 50%
- La R efectiva, calculada usando casos, hospitalizaciones y muertes, es mayor que 1 en 25 estados (Figura 6).
- La tasa de detección de infecciones en México fue cercana a 7% el 12 de julio (Figura 7).
- Basándonos en el GISAID y varias bases de datos nacionales, combinado con nuestro modelo de dispersión de variantes, estimamos la prevalencia actual de variantes de interés (Figura 8). Estimamos que B.1.1.7 (Alfa) está presente en 30 estados; B.1.351 no está presente en México; B.1.617 (Delta) circula en 30 estados y P.1 está circulando en 31 estados.

### Tendencias en los impulsores de la transmisión

- La movilidad la semana pasada fue un 2% más baja que la línea de base anterior a COVID-19 (Figura 10). La movilidad estuvo cerca de la línea de base (dentro del 10%) en 29 estados. La movilidad fue inferior al 30% de la línea base en Baja California Sur.

- Al 12 de julio, en la Encuesta de Tendencias e Impacto de COVID-19, 78% de las personas informaron que siempre usaban una máscara al salir de casa en comparación con 79% la semana pasada (Figura 12).
- Se realizaron 14 pruebas de diagnóstico por cada 100,000 personas el 12 de julio (Figura 14).
- En México, 89.4% de las personas dicen que aceptarían o probablemente aceptarían una vacuna para COVID-19. Esto se redujo en 0.4 puntos porcentuales con respecto a la semana pasada. La fracción de la población que está dispuesta a recibir la vacuna COVID-19 oscila entre el 79% en Colima y el 98% en Tlaxcala (Figura 18).
- En nuestro escenario de referencia actual, esperamos que 63.9 millones de personas estén vacunadas para el 1 de noviembre (Figura 19).

## Proyecciones

- En nuestro escenario de referencia, que representa lo que creemos que es más probable que suceda, nuestro modelo proyecta 268,000 muertes acumuladas reportadas por COVID-19 el 1 de noviembre. Esto representa 33,000 muertes adicionales del 12 de julio al 1 de noviembre. Las muertes reportadas diariamente aumentarán a 360 para el 20 de septiembre de 2021 (Figura 20).
- Bajo nuestro escenario de referencia, nuestro modelo proyecta 623,000 muertes en exceso acumuladas debido a COVID-19 el 1 de noviembre. Esto representa 79,000 muertes adicionales del 12 de julio al 1 de noviembre. El exceso de muertes diarias debido a COVID-19 aumentará a 890 para el 26 de septiembre de 2021 (Figura 20).
- Si se alcanzara la cobertura universal de mascarillas (95%) en la próxima semana, nuestro modelo proyecta 10,000 muertes reportadas menos en comparación con el escenario de referencia el 1 de noviembre.
- Si la cobertura universal de la mascarilla (95%) se lograra en la próxima semana, nuestro modelo proyecta 25,000 muertes en exceso menos debido a COVID-19 en comparación con el escenario de referencia del 1 de noviembre.
- En nuestro peor escenario, nuestro modelo proyecta 288,000 muertes reportadas al 1 de noviembre, 20,000 muertes adicionales en comparación con nuestro escenario de referencia. Las muertes reportadas diariamente en el peor escenario aumentarán a 780 para el 15 de septiembre de 2021 (Figura 20).
- En nuestro peor escenario, nuestro modelo proyecta 671,000 muertes en exceso debido al COVID-19 el 1 de noviembre; 48,000 muertes adicionales en comparación con nuestro escenario de referencia. El exceso diario de muertes por COVID-19 en el peor escenario aumentará a 1,900 para el 16 de septiembre de 2021 (Figura 20).
- Para el 1 de noviembre, proyectamos que se salvarán 29,600 vidas gracias la campaña de vacunación. Esto no incluye las vidas salvadas mediante la vacunación que ya se ha entregado.

- Las infecciones diarias en el escenario de referencia se elevarán a 219,110 al 2 de septiembre de 2021 (Figura 25). Las infecciones diarias en el peor escenario aumentarán a 451,420 para el 22 de agosto de 2021 (Figura 25).
- La Figura 22 compara nuestros pronósticos de escenarios de referencia con otros modelos archivados públicamente. Los pronósticos son muy divergentes.
- En algún momento, desde julio hasta el 1 de noviembre, 19 estados tendrán una presión alta o extrema en las camas de hospital (Figura 23). En algún momento, desde julio hasta el 1 de noviembre, 22 estados tendrán una presión alta o extrema en la capacidad de la unidad de cuidados intensivos (UCI) (Figura 24).

## Actualizaciones de modelos

No hay actualizaciones de modelos esta semana.

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## COVID-19 Results Briefing

### Mexico

July 14, 2021

This document contains summary information on the latest projections from the IHME model on COVID-19 in Mexico. The model was run on July 13, 2021, with data through July 1, 2021.

### Current situation

- Daily reported cases in the last week (through July 1) increased to 5,000 per day on average compared to 4,300 the week before (Figure 1).
- Reported deaths due to COVID-19 in the last week increased to 110 per day on average compared to 95 the week before (Figure 2).
- Excess deaths due to COVID-19 in the last week increased to 230 per day on average compared to 200 the week before (Figure 2). This makes COVID-19 the number 2 cause of death in Mexico this week (Table 1). Estimated excess daily deaths due to COVID-19 were 2.3 times larger than the reported number of deaths.
- The daily reported COVID-19 death rate is greater than 4 per million in Baja California Sur and Yucatán (Figure 3).
- The daily rate of excess deaths due to COVID-19 is greater than 4 per million in Baja California Sur, Campeche, Mexico City, Quintana Roo, Sinaloa, Tamaulipas, and Yucatán (Figure 3).
- We estimated that 58% of people in Mexico have been infected as of July 12 (Figure 5).
- Effective R, computed using cases, hospitalizations, and deaths, is greater than 1 in 25 states (Figure 6).
- The infection-detection rate in Mexico was close to 7% on July 12 (Figure 7).
- Based on the GISAID and various national databases, combined with our variant spread model, we estimate the current prevalence of variants of concern (Figure 8). We estimate that B.1.351 is circulating in 0 states, that B.1.617 is circulating in 30 states, and that P.1 is circulating in 31 states.

### Trends in drivers of transmission

- Mobility last week was 2% lower than the pre-COVID-19 baseline (Figure 10). Mobility was near baseline (within 10%) in 29 states. Mobility was lower than 30% of baseline in Baja California Sur.
- As of July 12, in the COVID-19 Trends and Impact Survey, 78% of people self-report that they always wore a mask when leaving their home compared to 79% last week (Figure 12).

- There were 14 diagnostic tests per 100,000 people on July 12 (Figure 14).
- In Mexico, 89.4% of people say they would accept or would probably accept a vaccine for COVID-19. This is down by 0.4 percentage points from last week. The fraction of the population who are open to receiving a COVID-19 vaccine ranges from 79% in Colima to 98% in Tlaxcala (Figure 18).
- In our current reference scenario, we expect that 63.9 million people will be vaccinated by November 1 (Figure 19).

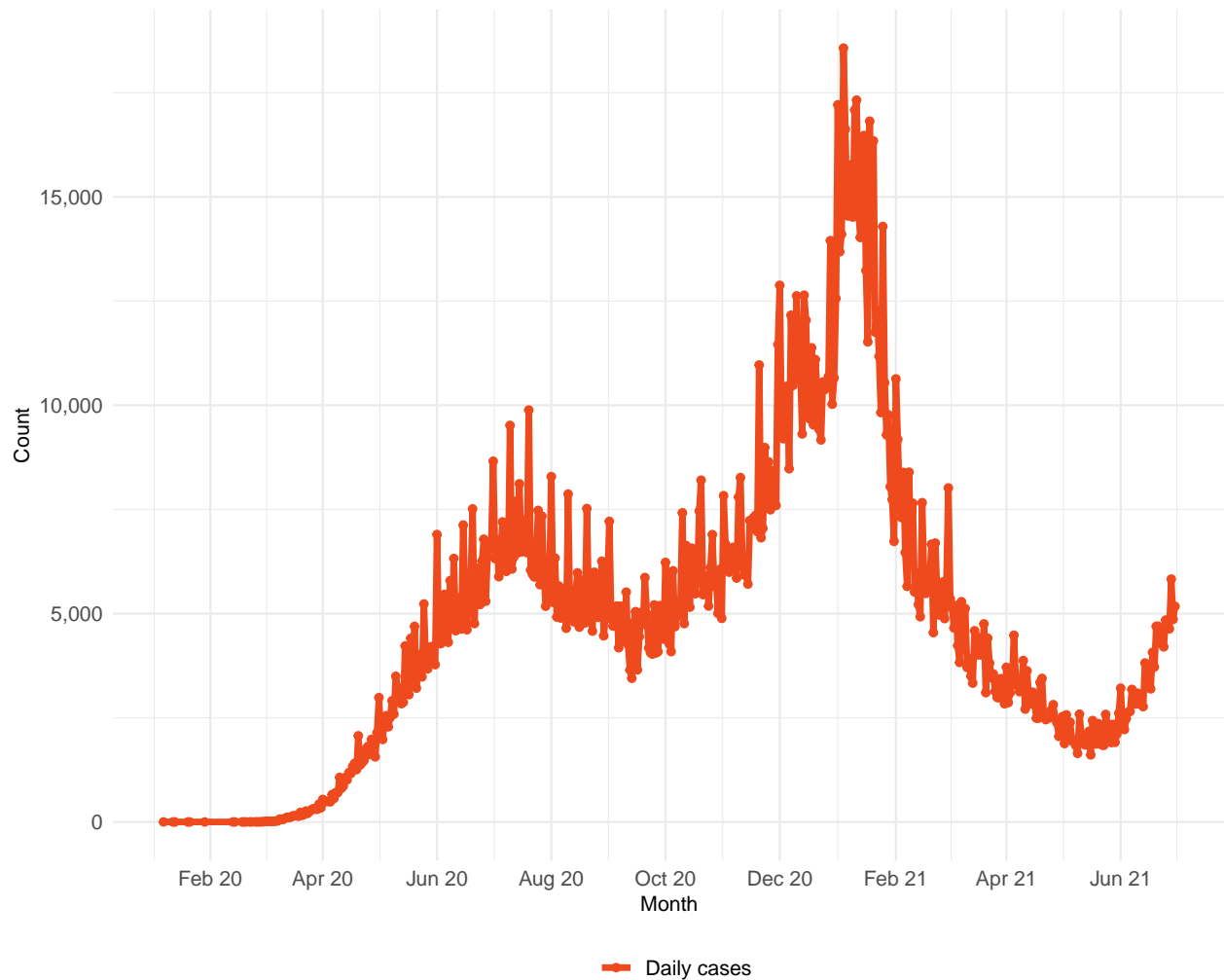
## Projections

- In our **reference scenario**, which represents what we think is most likely to happen, our model projects 268,000 cumulative reported deaths due to COVID-19 on November 1. This represents 33,000 additional deaths from July 12 to November 1. Daily reported deaths will rise to 360 by September 20, 2021 (Figure 20).
- Under our **reference scenario**, our model projects 623,000 cumulative excess deaths due to COVID-19 on November 1. This represents 79,000 additional deaths from July 12 to November 1. Daily excess deaths due to COVID-19 will rise to 890 by September 26, 2021 (Figure 20).
- If **universal mask coverage (95%)** were attained in the next week, our model projects 10,000 fewer cumulative reported deaths compared to the reference scenario on November 1.
- If **universal mask coverage (95%)** were attained in the next week, our model projects 25,000 fewer cumulative excess deaths due to COVID-19 compared to the reference scenario on November 1.
- Under our **worse scenario**, our model projects 288,000 cumulative reported deaths on November 1, an additional 20,000 deaths compared to our reference scenario. Daily reported deaths in the worse scenario will rise to 780 by September 15, 2021 (Figure 20).
- Under our **worse scenario**, our model projects 671,000 cumulative excess deaths due to COVID-19 on November 1, an additional 48,000 deaths compared to our reference scenario. Daily excess deaths due to COVID-19 in the worse scenario will rise to 1,900 by September 16, 2021 (Figure 20).
- By November 1, we project that 29,600 lives will be saved by the projected vaccine rollout. This does not include lives saved through vaccination that has already been delivered.
- Daily infections in the reference scenario will rise to 219,110 by September 2, 2021 (Figure 25). Daily infections in the worse scenario will rise to 451,420 by August 22, 2021 (Figure 25).
- Figure 22 compares our reference scenario forecasts to other publicly archived models. Forecasts are widely divergent.

- At some point from July through November 1, 19 states will have high or extreme stress on hospital beds (Figure 23). At some point from July through November 1, 22 states will have high or extreme stress on intensive care unit (ICU) capacity (Figure 24).

**Model updates**

No model updates.

**Figure 1.** Reported daily COVID-19 cases

**Table 1.** Ranking of excess 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
Ischemic heart disease	2,044	1
COVID-19	1,595	2
Diabetes mellitus	1,420	3
Chronic kidney disease	1,395	4
Cirrhosis and other chronic liver diseases	891	5
Stroke	729	6
Chronic obstructive pulmonary disease	630	7
Interpersonal violence	590	8
Alzheimer's disease and other dementias	455	9
Lower respiratory infections	434	10



**Figure 2.** Smoothed trend estimate of reported daily COVID-19 deaths (blue) and excess daily deaths due to COVID-19 (orange).

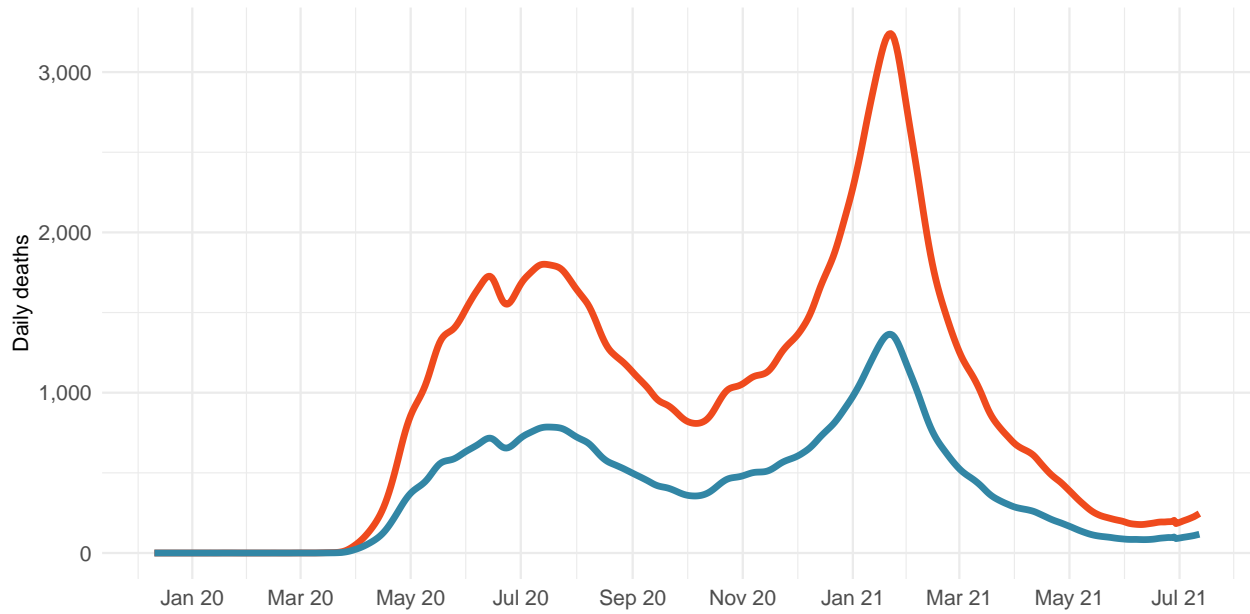
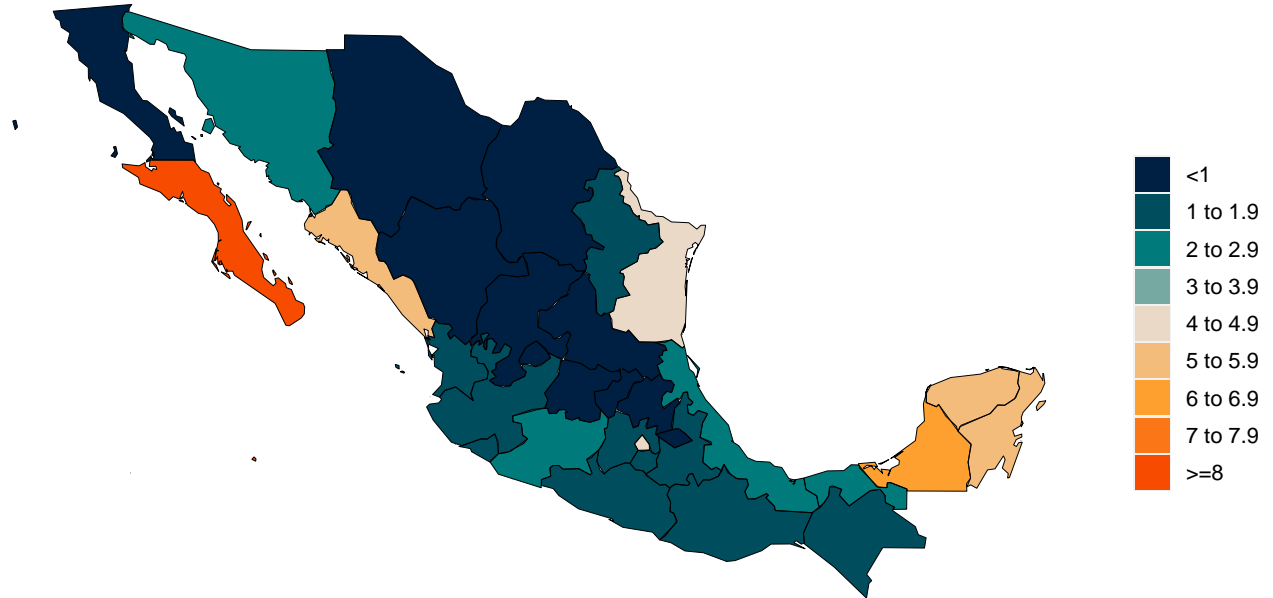


Figure 3. Daily COVID-19 death rate per 1 million on July 12, 2021

A. Daily reported COVID-19 death rate per 1 million

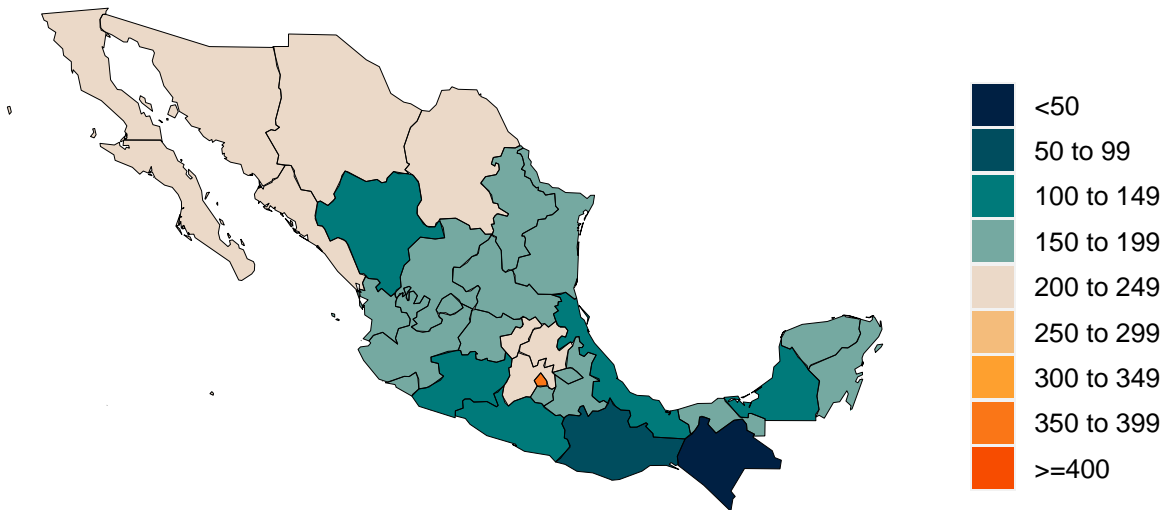


B. Daily excess COVID-19 death rate per 1 million

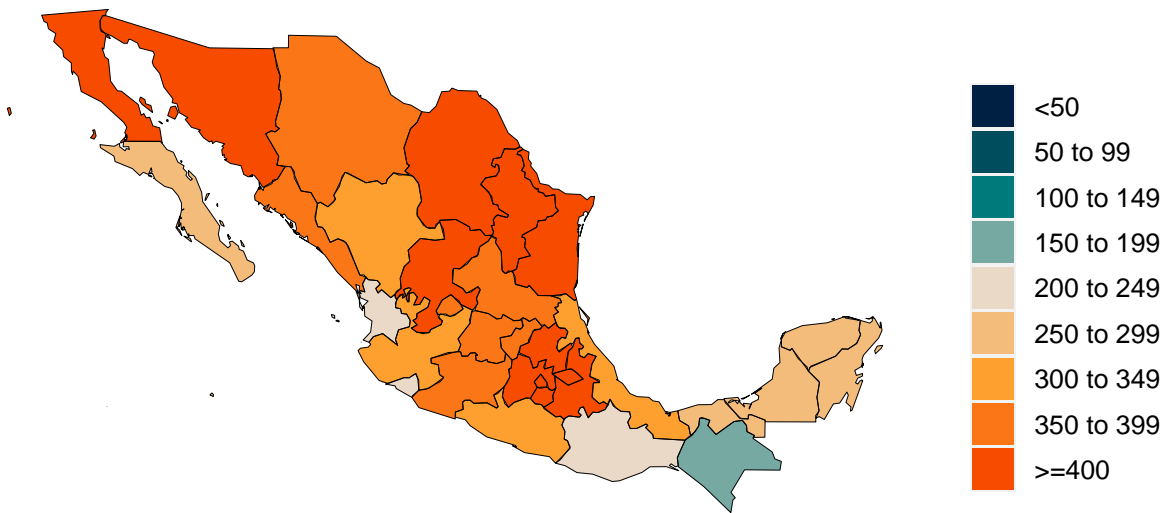


**Figure 4.** Cumulative COVID-19 deaths per 100,000 on July 12, 2021

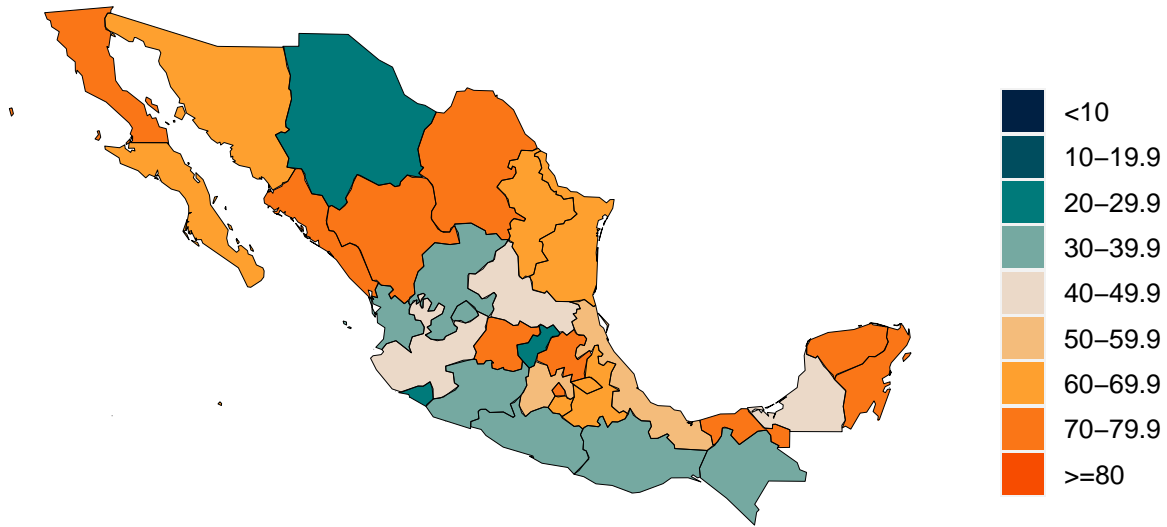
**A. Reported cumulative COVID-19 deaths per 100,000**



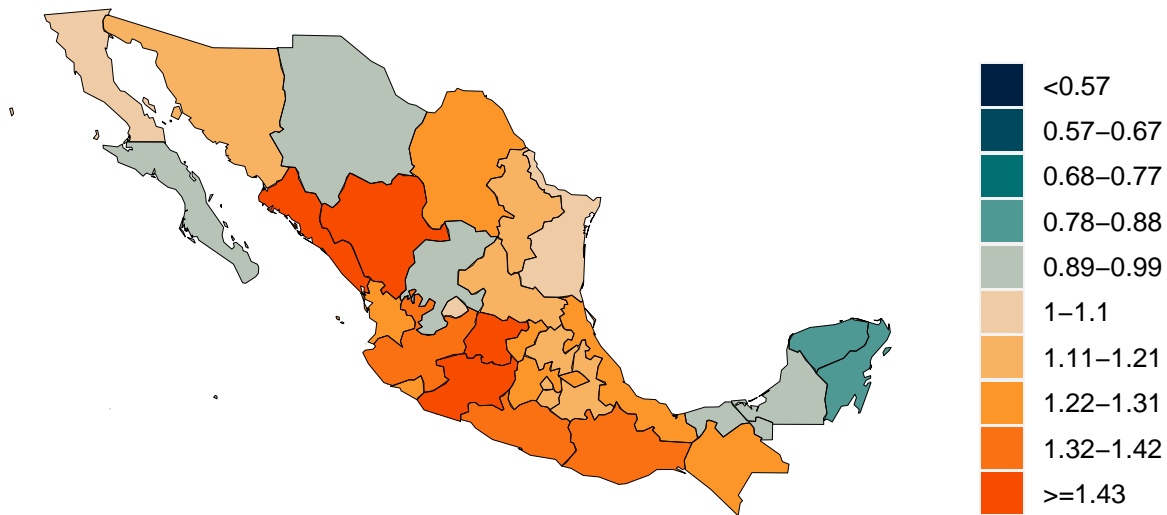
**B. Excess cumulative COVID-19 deaths per 100,000**



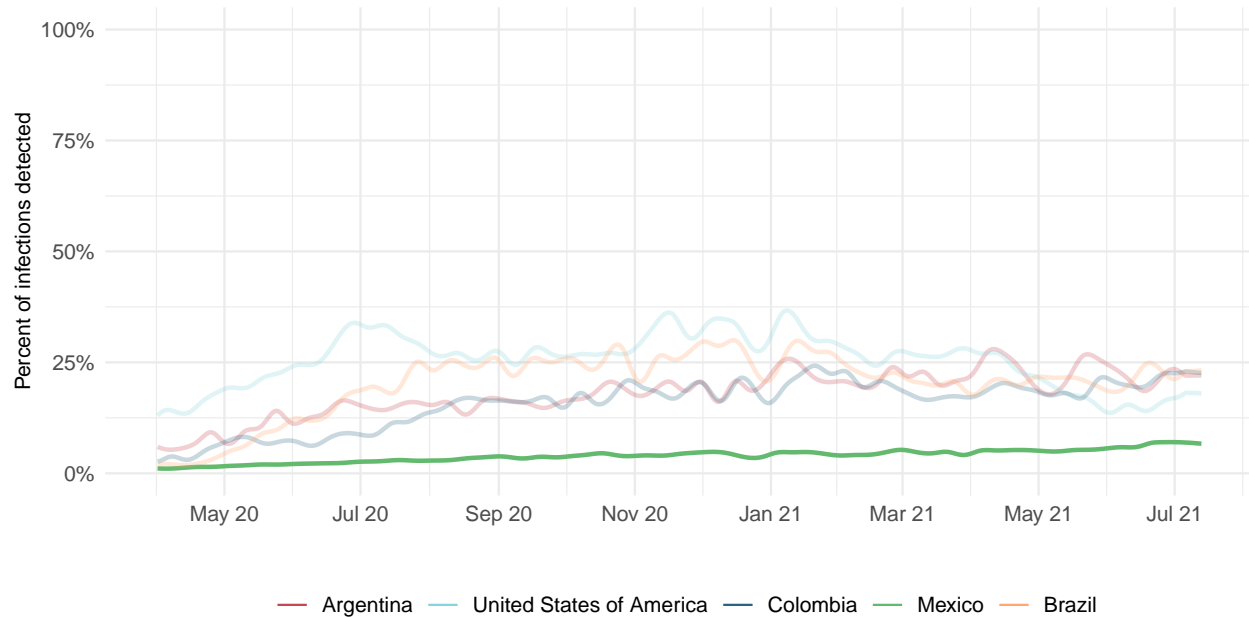
**Figure 5.** Estimated percent of the population infected with COVID-19 on July 12, 2021



**Figure 6.** Mean effective R on July 1, 2021. 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.

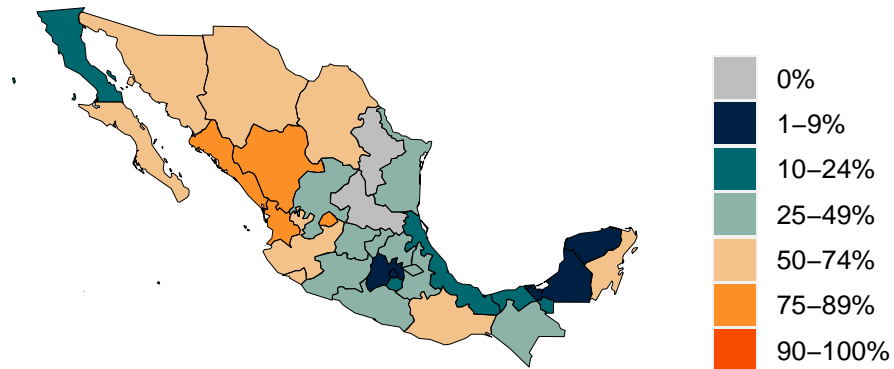


**Figure 7.** Percent of COVID-19 infections detected. This is estimated as the ratio of reported daily COVID-19 cases to estimated daily COVID-19 infections based on the SEIR disease transmission model. Due to measurement errors in cases and testing rates, the infection-detection rate can exceed 100% at particular points in time.



**Figure 8.** Estimated percent of circulating SARS-CoV-2 for primary variant families on July 12, 2021.

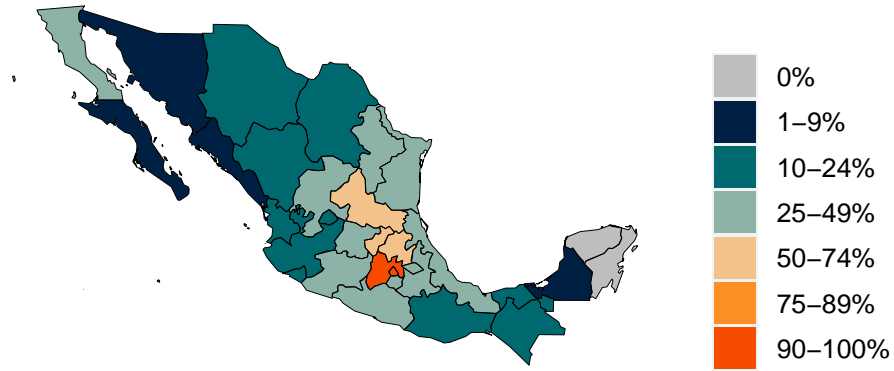
**A. Estimated percent B.1.1.7 variant**



**B. Estimated percent B.1.351 variant**



C. Estimated percent B.1.617 variant



D. Estimated percent P.1 variant

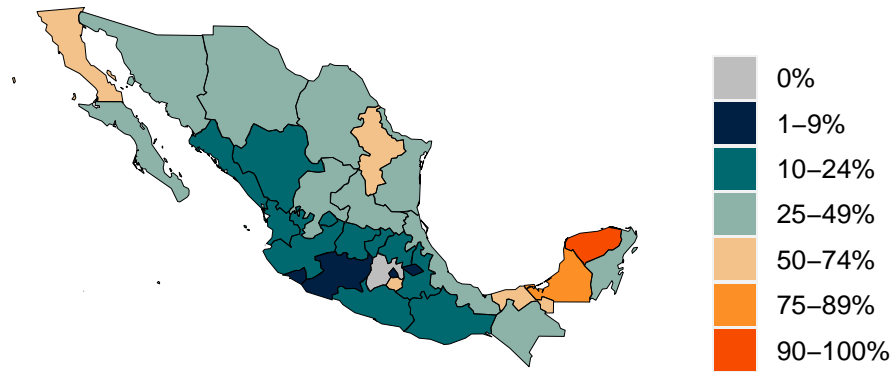
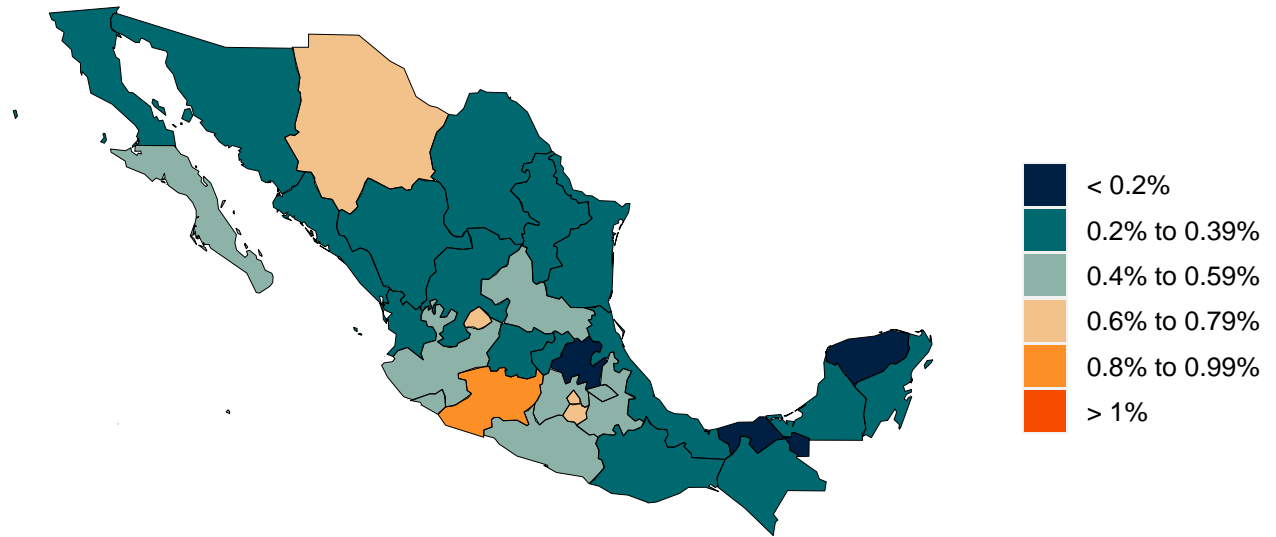


Figure 9. Infection-fatality ratio on July 12, 2021



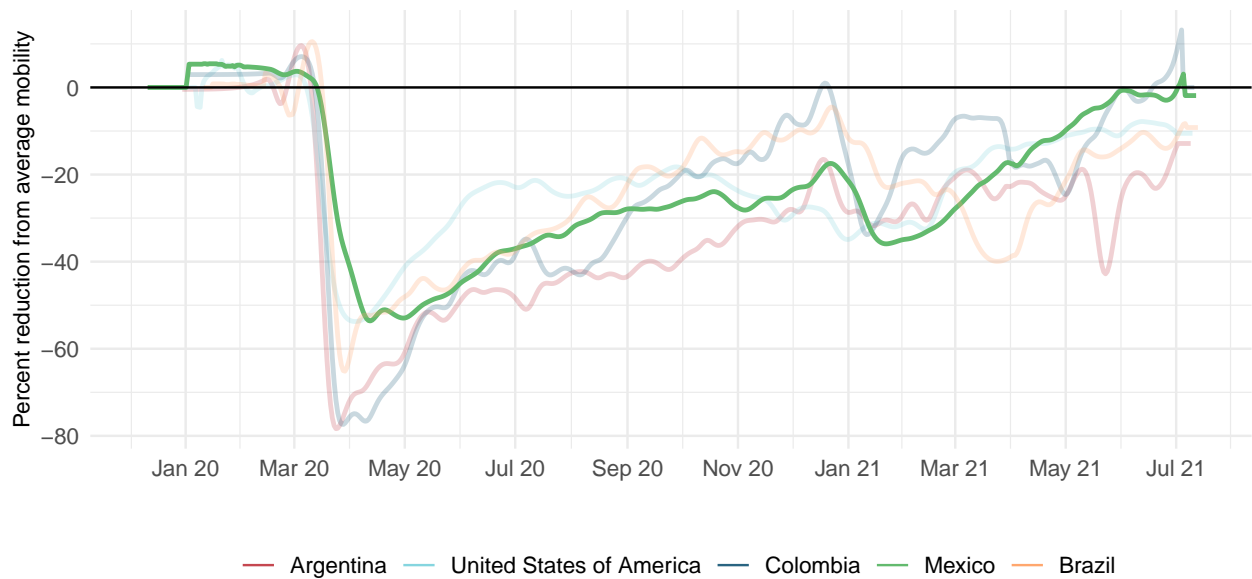


### Critical drivers

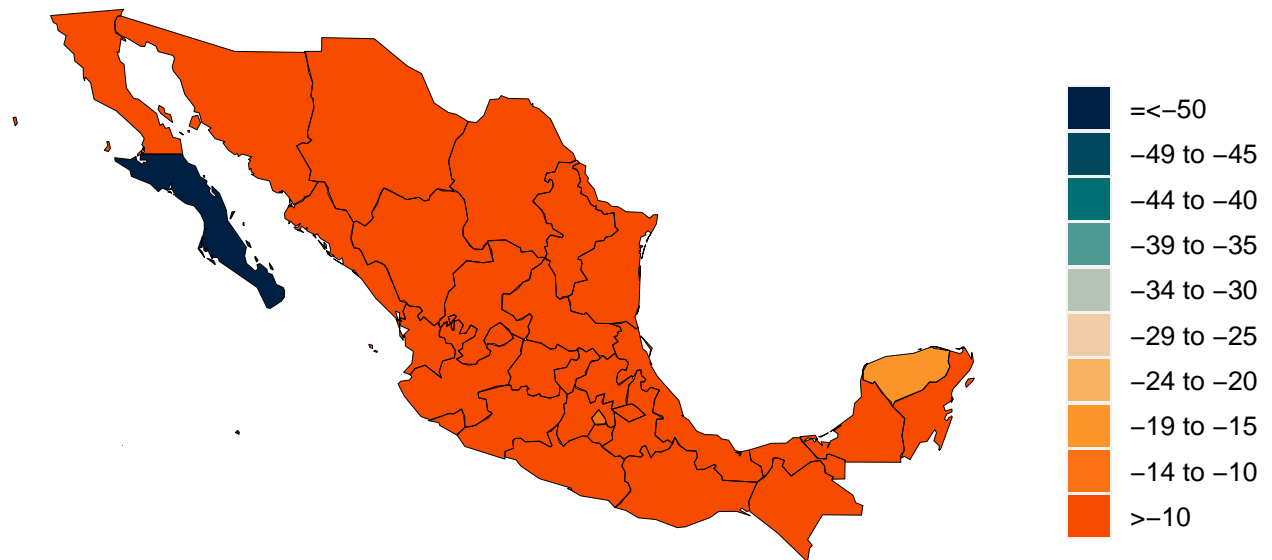
Table 2. Current mandate implementation



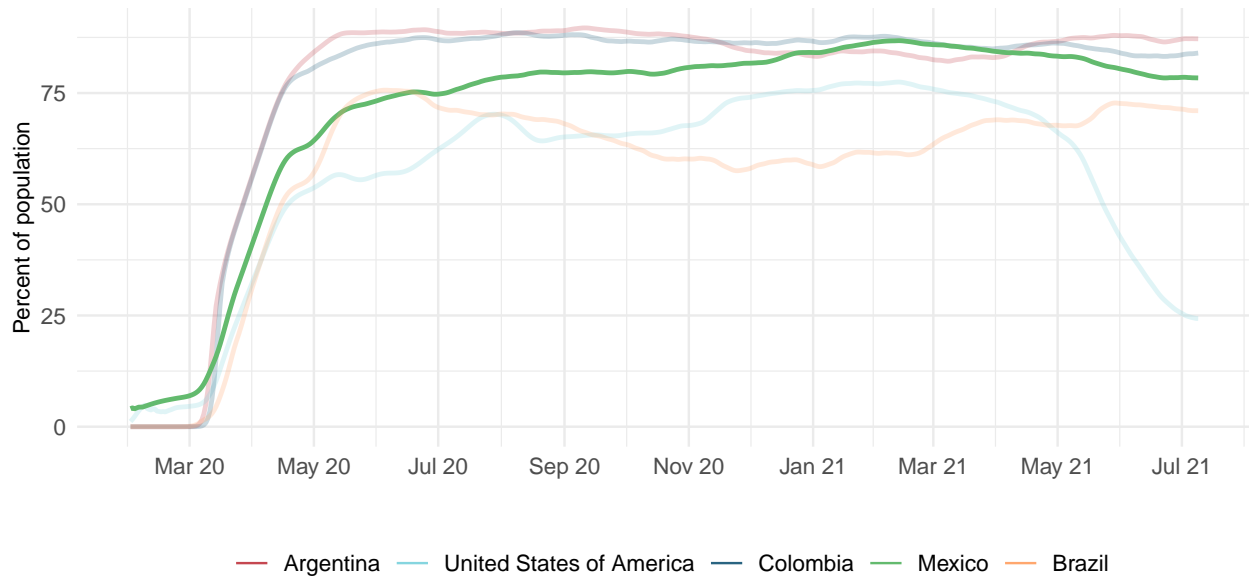
**Figure 10.** Trend in mobility as measured through smartphone app use compared to January 2020 baseline



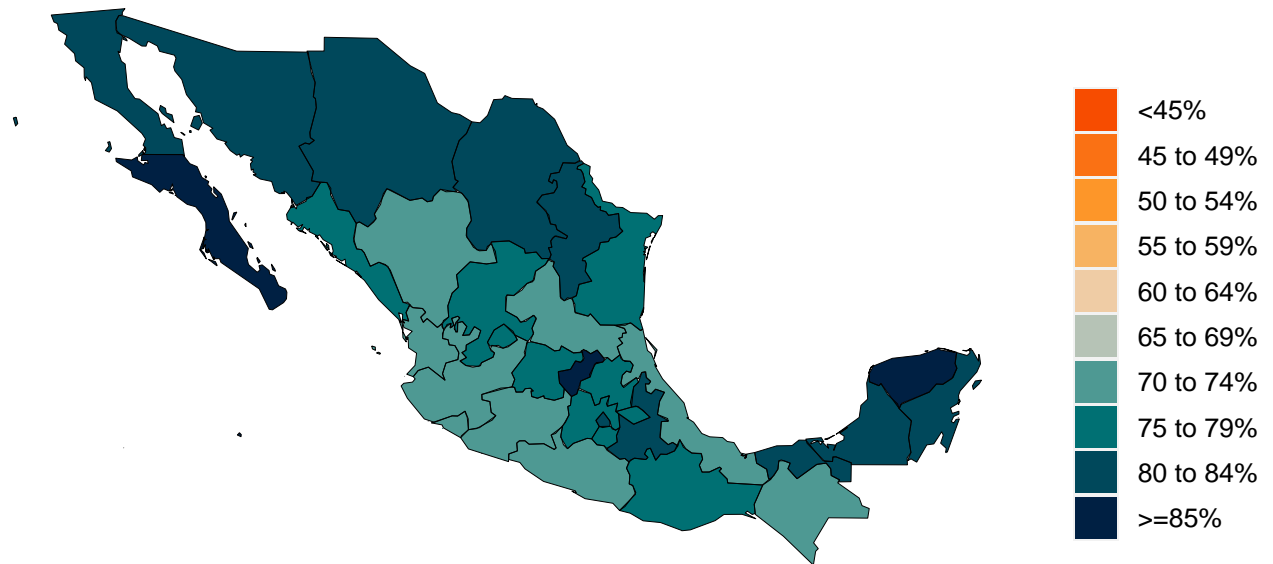
**Figure 11.** Mobility level as measured through smartphone app use compared to January 2020 baseline (percent) on July 12, 2021



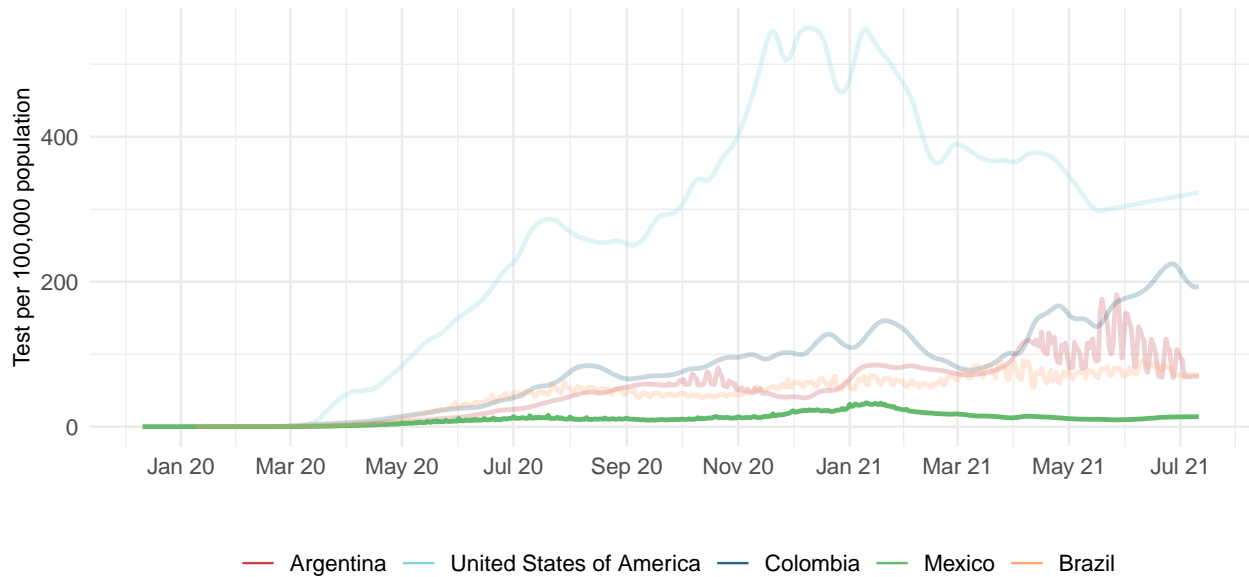
**Figure 12.** Trend in the proportion of the population reporting always wearing a mask when leaving home



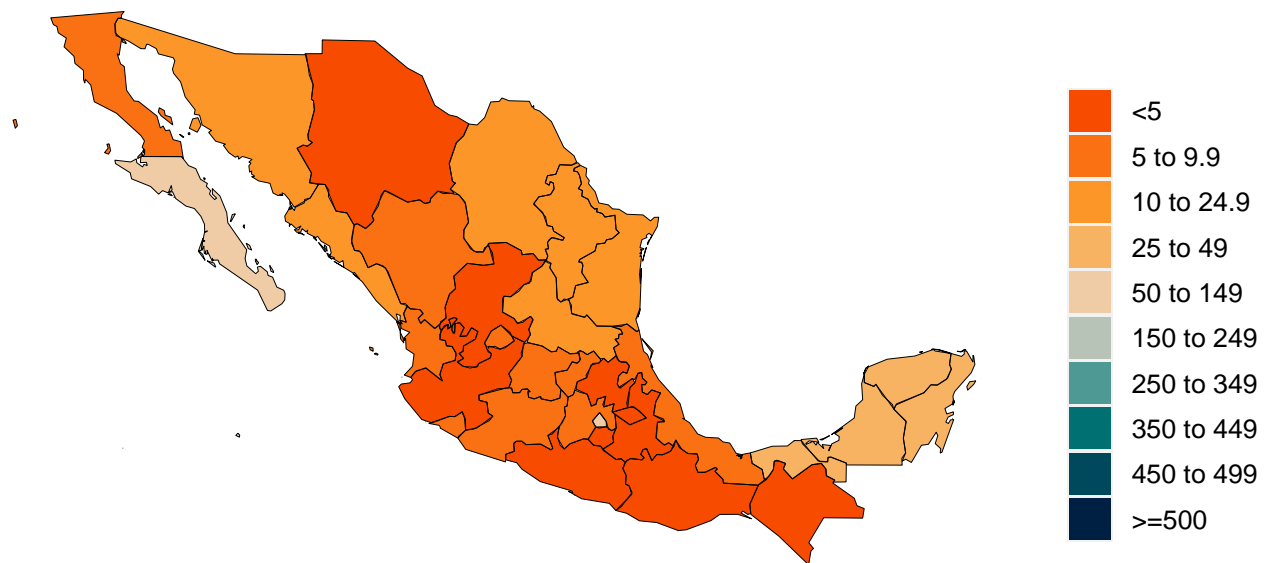
**Figure 13.** Proportion of the population reporting always wearing a mask when leaving home on July 12, 2021



**Figure 14.** Trend in COVID-19 diagnostic tests per 100,000 people



**Figure 15.** COVID-19 diagnostic tests per 100,000 people on July 12, 2021



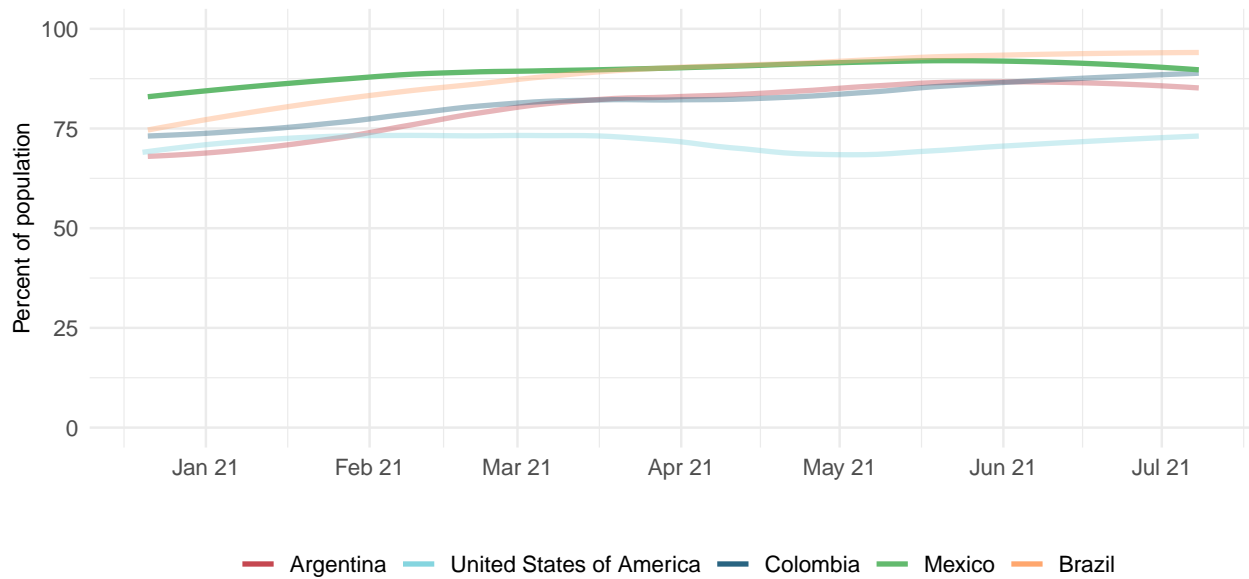
**Figure 16.** Increase in the risk of death due to pneumonia on February 1 compared to August 1



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

Vaccine	Efficacy at preventing disease: D614G & B.1.1.7	Efficacy at preventing infection: D614G & B.1.1.7	Efficacy at preventing disease: B.1.351, B.1.617, & P.1	Efficacy at preventing infection: B.1.351, B.1.617, & P.1
AstraZeneca	74%	52%	53%	47%
CoronaVac	50%	44%	40%	35%
Covaxin	78%	69%	62%	55%
Janssen	72%	72%	64%	56%
Moderna	94%	89%	83%	79%
Novavax	89%	79%	73%	64%
Pfizer/BioNTech	91%	86%	81%	77%
Sinopharm	73%	65%	47%	41%
Sputnik-V	92%	81%	73%	65%
Tianjin	66%	58%	53%	47%
CanSino				
Other vaccines	75%	66%	60%	53%
Other vaccines (mRNA)	91%	86%	81%	77%

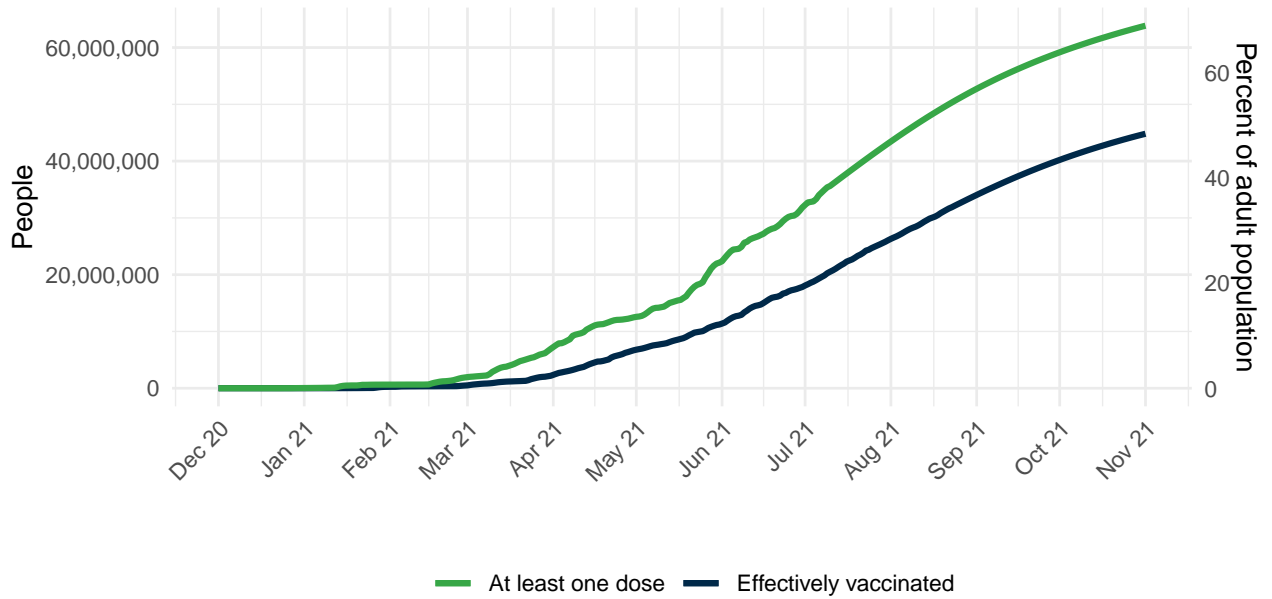
**Figure 17.** Trend in the estimated proportion of the adult (18+) population that have been vaccinated or would probably or definitely receive the COVID-19 vaccine if available.



**Figure 18.** This figure shows the estimated proportion of the adult (18+) population that has been vaccinated or would probably or definitely receive the COVID-19 vaccine if available.



**Figure 19.** Number of people who receive any vaccine and those who are effectively vaccinated and protected against disease, 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 three 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.
- Governments adapt their response by re-imposing social distancing mandates for 6 weeks whenever daily deaths reach 8 per million, unless a location has already spent at least 7 of the last 14 days with daily deaths above this rate and not yet re-imposed social distancing mandates. In this case, the scenario assumes that mandates are re-imposed when daily deaths reach 15 per million.
- Variants B.1.1.7 (first identified in the UK), B.1.351 (first identified in South Africa), and P1 (first identified in Brazil) continue to spread from locations with (a) more than 5 sequenced variants, and (b) reports of community transmission, to adjacent locations following the speed of variant scale-up observed in the regions of the United Kingdom.
- In one-quarter of those vaccinated, mobility increases toward pre-COVID-19 levels.

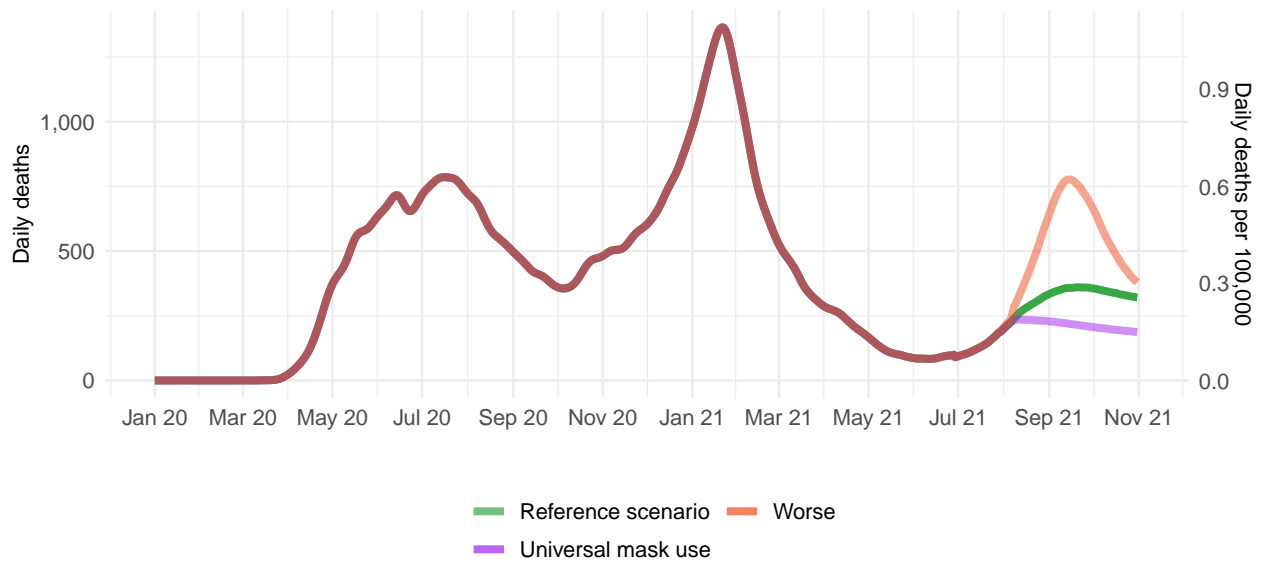
The **worse scenario** modifies the reference scenario assumptions in three ways:

- First, it assumes that variants B.1.351 or P.1 begin to spread within three weeks in adjacent locations that do not already have B.1.351 or P.1 community transmission.
- Second, it assumes that all those vaccinated increase their mobility toward pre-COVID-19 levels.
- Third, it assumes that among those vaccinated, mask use starts to decline exponentially one month after completed vaccination.

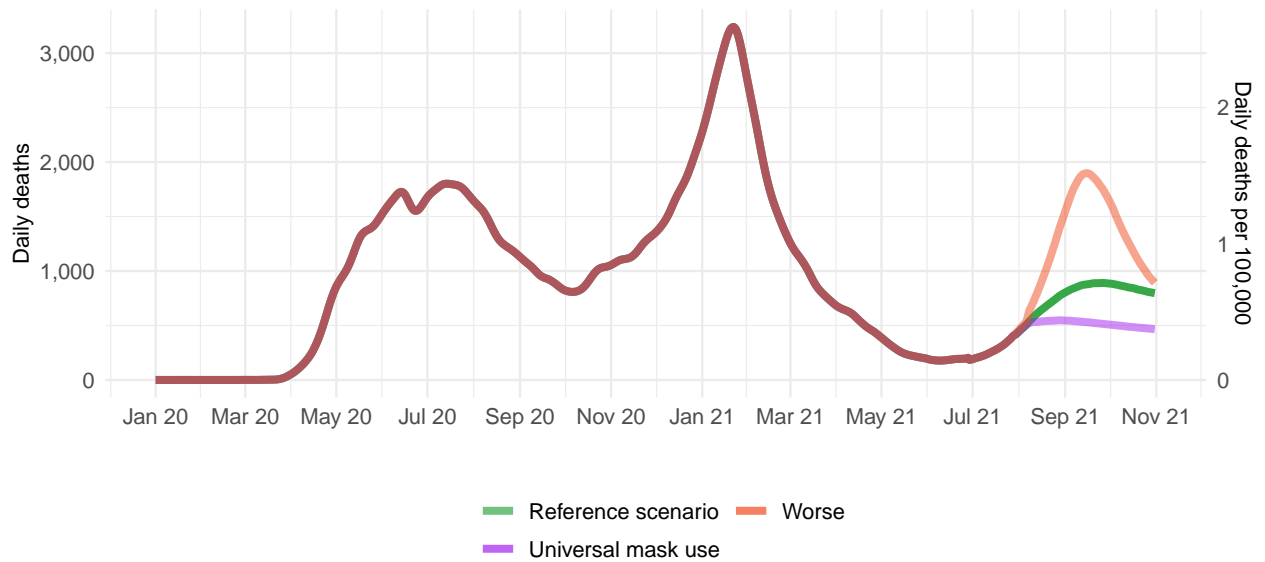
The **universal masks scenario** makes all the same assumptions as the reference scenario but also assumes 95% of the population wear masks in public in every location.

**Figure 20.** Daily COVID-19 deaths until November 01, 2021 for three scenarios

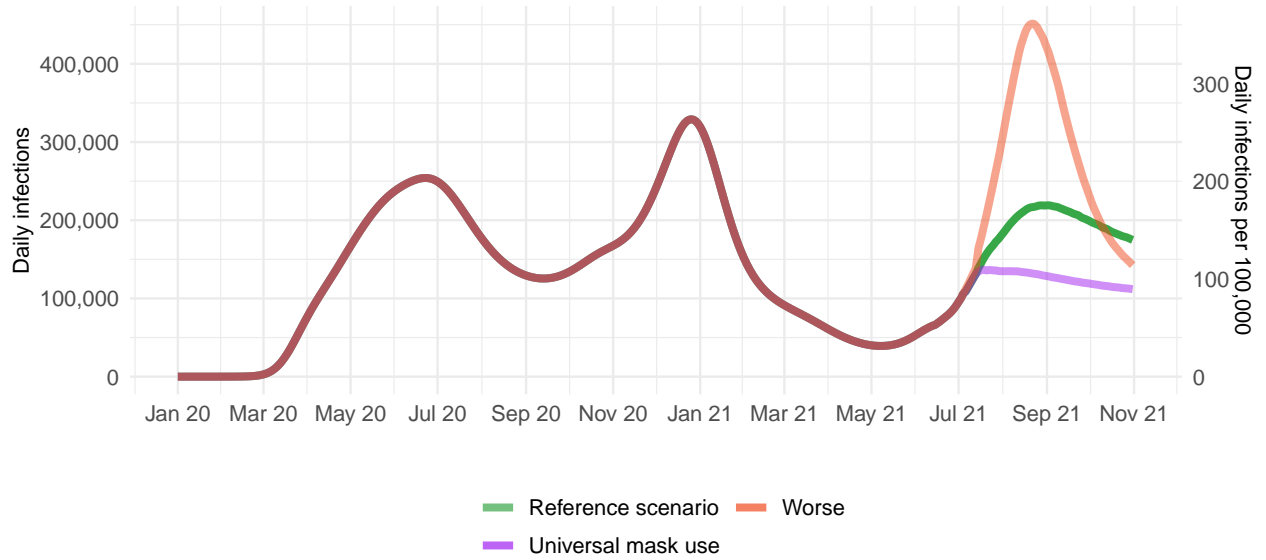
**A. Reported daily COVID-19 death per 100,000**



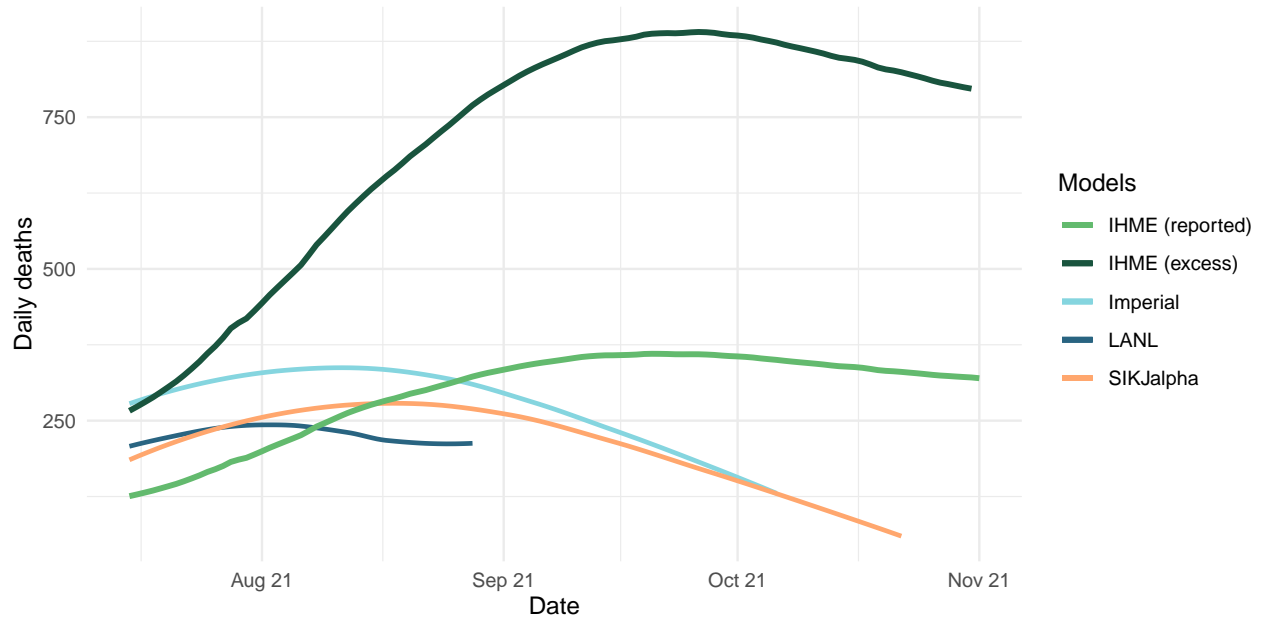
**B. Excess daily COVID-19 deaths per 100,000**



**Figure 21.** Daily COVID-19 infections until November 01, 2021 for three scenarios



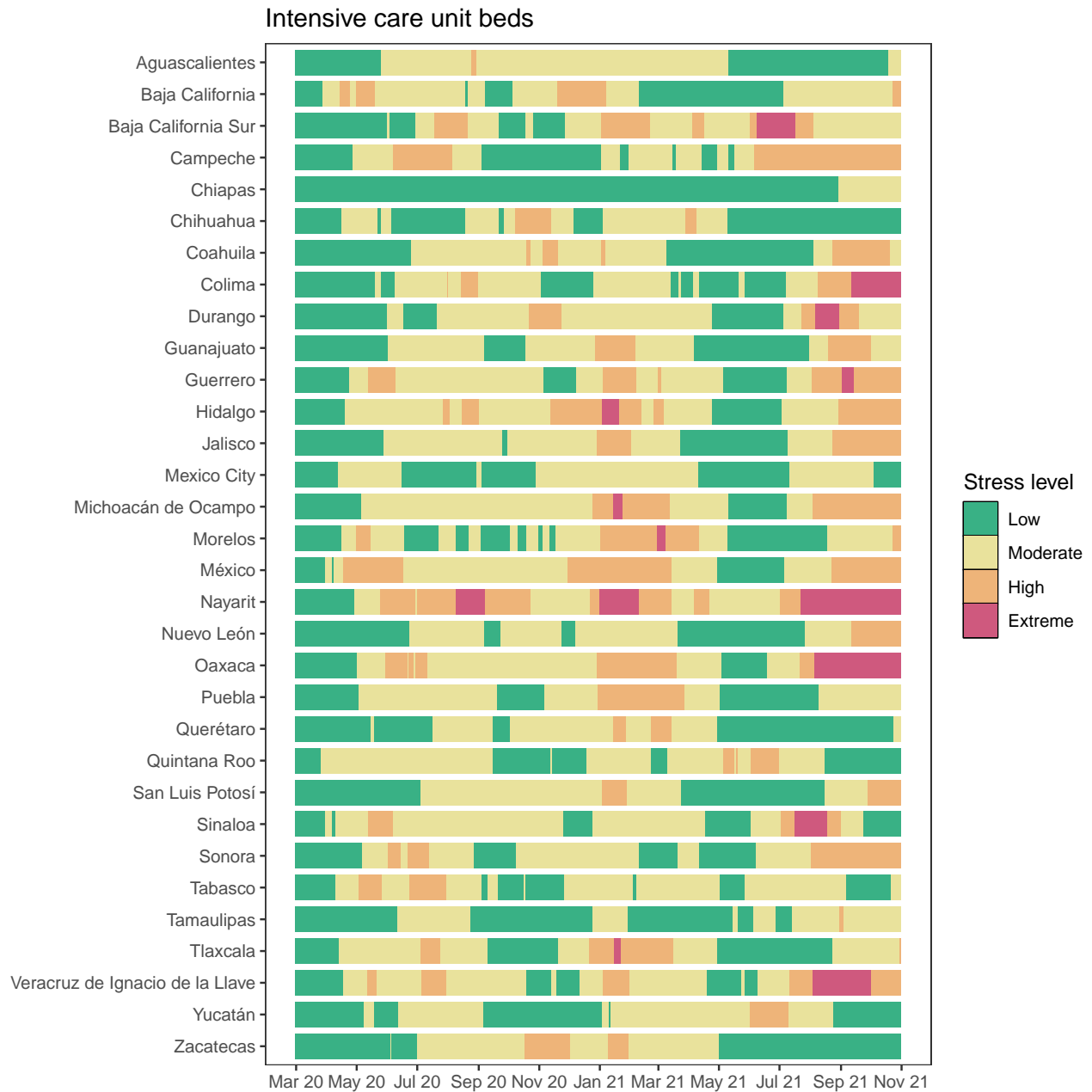
**Figure 22.** Comparison of reference model projections with other COVID modeling groups. For this comparison, we are including projections of daily COVID-19 deaths from other modeling groups when available: Delphi from the Massachusetts Institute of Technology ([Delphi](#)), Imperial College London ([Imperial](#)), The Los Alamos National Laboratory ([LANL](#)), and the SI-KJalpha model from the University of Southern California ([SIKJalpha](#)). 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.** 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.** 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>.

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