

COVID-19: What's New for April 21, 2020

Main updates on IHME COVID-19 predictions since April 17, 2020

More data, improved models, better estimates

Our last release on [April 17](#) involved a number of model updates and innovations, namely substantially improving our death model and including initial predictions on when US states could safely consider easing current social distancing policies while shifting to robust containment strategies (widely available testing, contact tracing and case-based isolation, restrictions on mass gatherings).

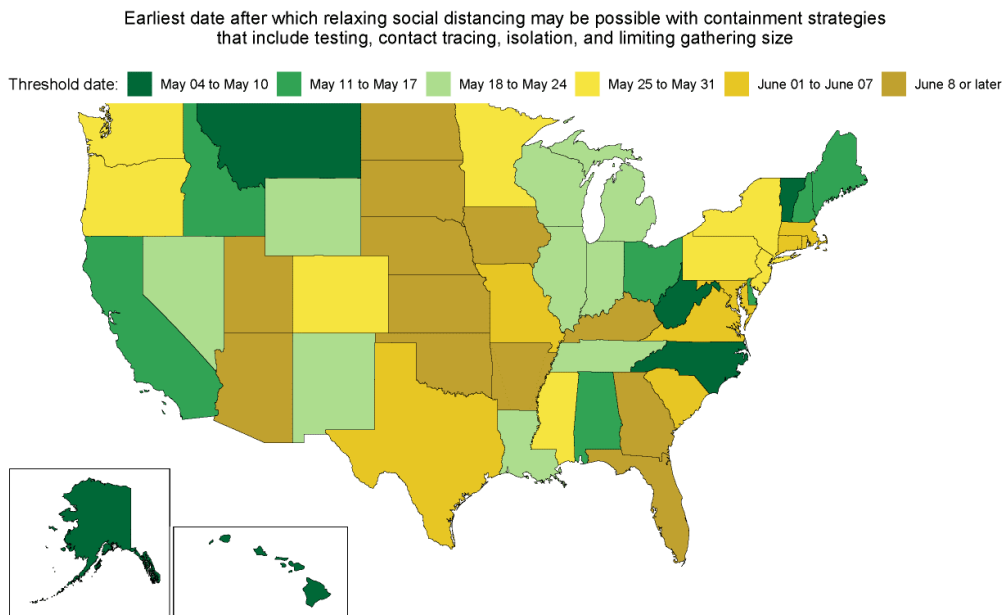
With no substantive model changes since April 17, today's release provides an update with new data for Europe and the US. We also aim to release initial estimates for a number of Latin American countries soon, as well as those for Puerto Rico and by province in Canada. The next update will provide a more in-depth discussion around key findings for Europe and the US.

Key findings from today's release (April 21, 2020)

A focus on when US states could consider easing social distancing if containment measures are in place

Today's release involves the second iteration of projecting when states may be able to consider easing currently implemented social distancing policies – *if and only if* – strong containment measures already have been instituted. Based on the latest available data and updated predictions of COVID-19 prevalence, the table below outlines potential timing of these considerations.

Estimates from today's release suggest that 30 states may fall below the 1 prevalent case per 1,000,000 threshold during May (greens to the light yellow in the map below). As further detailed in the [April 17 update](#), this threshold is considered a conservative estimate of the number of COVID-19 infections that states could reasonably identify via active case detection and contact tracing.



Current trajectories indicate that 12 states may need to wait until at least June 8 or beyond that time before they fall below the 1 prevalent infection per 1,000,000 threshold. These projections could change as new data become available or different policies are implemented.

Results from today’s release indicate these projected “threshold” dates are, on average, later than those released on April 17. Arizona, Florida, Kansas, and North Dakota had the largest shifts to later dates. The main driver of these later predictions is the increase in reported deaths since the last release, as well as predictions of longer (and flatter) epidemic peaks for several states. The table below shows predicted dates for each release, with states listed in alphabetical order.

When might US states safely shift to containment strategies?			
Prediction of the earliest week to potentially consider easing currently implemented distancing policies if strong containment measures (widely available testing, contact tracing, case-based isolation, and restrictions on mass gatherings) are already in place*			
State	Today’s release (April 21)	From the April 17 release	Change since the April 17 release
Alabama	May 17	May 18	-1 day
Alaska	May 6	May 11	-5 days
Arizona	June 23	June 8	+15 days
Arkansas	June 20	June 22	-2 days
California	May 17	May 18	-1 day
Colorado	May 25	May 25	0 days
Connecticut	June 7	June 1	+6 days
Delaware	May 17	May 18	-1 day
District of Columbia	June 5	June 8	-3 days
Florida	June 11	June 1	+10 days
Georgia	June 19	June 15	+4 days
Hawaii	May 6	May 4	+2 days
Idaho	May 15	May 11	+4 days
Illinois	May 19	May 25	-6 days
Indiana	May 20	May 25	-5 days
Iowa	June 26	June 29	-3 days
Kansas	June 19	June 1	+18 days
Kentucky	June 11	June 8	+3 days
Louisiana	May 22	May 18	+4 days
Maine	May 13	May 18	-5 days
Maryland	June 5	June 8	-3 days
Massachusetts	June 7	June 8	-1 day
Michigan	May 19	May 18	+1 day
Minnesota	May 30	May 25	+5 days
Mississippi	May 30	June 1	-2 days
Missouri	June 7	June 1	+6 days
Montana	May 1	May 4	-3 days
Nebraska	June 30	June 29	+1 day

Nevada	May 18	May 18	0 days
New Hampshire	May 16	May 11	+5 days
New Jersey	May 27	June 1	-5 days
New Mexico	May 22	May 18	+4 days
New York	May 27	June 1	-5 days
North Carolina	May 10	May 11	-1 day
North Dakota	July 12	June 29	+13 days
Ohio	May 14	May 18	-4 days
Oklahoma	June 14	June 15	-1 day
Oregon	May 25	May 25	0 days
Pennsylvania	May 27	June 1	-5 days
Rhode Island	June 7	June 8	-1 day
South Carolina	June 5	June 1	+4 days
South Dakota	June 25	June 22	+3 days
Tennessee	May 20	May 25	-5 days
Texas	June 7	June 1	+6 days
Utah	June 21	June 15	+6 days
Vermont	May 8	May 4	+4 days
Virginia	June 5	June 8	-3 days
Washington	May 26	May 18	+8 days
West Virginia	May 7	May 4	+3 days
Wisconsin	May 21	May 18	+3 days
Wyoming	May 23	May 25	-2 days

* This prediction is based on when the upper bound of the 95% uncertainty interval for all-age COVID-19 prevalent infections falls below 1 per 1,000,000. To read more on this approach, please refer to our [April 17 estimation update](#).

Data updates since our last release on April 17, 2020

Key changes to data sources and processing

- New York.** About midway through the COVID-19 epidemic in New York City (NYC), reporting of confirmed and probable deaths started to occur separately. To account for this important distinction, we have instituted an alternative data processing step for NYC and thus New York state. To better track with the time series of confirmed cases from the [NYC Department of Health and Mental Hygiene \(DOHMH\)](#), we now use the NYC data captured by the [NY Times GitHub repository](#).

To account for probable deaths, we use the most recent day of reporting and now take the difference between NYC DOHMH total COVID-19 deaths (the sum of probable and confirmed deaths from the virus) and subtract reported deaths for that day based on the NY Times dataset. We then redistribute the remainder of deaths proportionate to the daily COVID-19 deaths from the NY Times data source.

Data and locations

- For all currently included locations, we have added reported data points on COVID-19 deaths and available information on social distancing policies through April 20 at 5:00 pm Pacific Time.
- Currently included locations are the US (national level) and 50 states plus the District of Columbia, as well as European Economic Area (EEA) countries and Switzerland. Three EEA countries – Germany, Italy, and Spain – also have subnational estimates at the first administrative level.

What's in the development pipeline for IHME COVID-19 predictions

Before we introduce new model components or improvements to our current analytical platform for predictions, IHME's COVID-19 development team members test these additions or changes.

Based on currently available data and model testing progress, these are some of our immediate- and medium-term priorities:

- **Shifting to containment strategies for EEA countries.** Our [April 17 release](#) brought initial estimates of when US states could safely consider easing social distancing policies conditional on the implementation of robust containment measures (widespread testing, contact tracing and case-based isolation, mass gatherings restrictions). We are currently applying these models to EEA countries and vetting results with collaborators.
- **Initial COVID-19 projections for a subset of Latin American countries.** Data collation and processing for a wider set of locations and countries worldwide are also in progress.
- **Infectious disease compartmental models capturing susceptible-to-recovered populations.** Our team continues to work on what is known as SEIR models – disease models that simulate if and how groups of people move from being Susceptible to Exposed to Infected to Recovered – to complement our current statistical approach.

A note of thanks

None of these estimation efforts is possible without the tireless data collection and collation efforts of individuals throughout the world. Your work in hospitals, health care organizations, local health departments, and state and national public health agencies, among others, is invaluable.

We thank you for your dedication to fighting the coronavirus pandemic and we appreciate your willingness to share data and collaborate with the IHME COVID-19 team.

For all COVID-19 resources at IHME, visit <http://www.healthdata.org/covid>.
Questions? Requests? Feedback? Please contact covid19@healthdata.org.