

Cambridge Judge Business School  
Cambridge Centre for Health Leadership & Enterprise

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# COVID-19 TRACKER: INDIA

23 April 2022



Centre for  
**Health Leadership  
& Enterprise**



The filtered daily growth rate of new cases in India stood at 9.5% on 23 April, having risen steadily since turning positive on 13 April.

On a positive note, the current upsurge, following a 12 week long spell of declining infection, has been much more muted than the Omicron wave which took off towards the end of last year. Furthermore the trajectory of the daily growth rate of cases has softened in recent days.

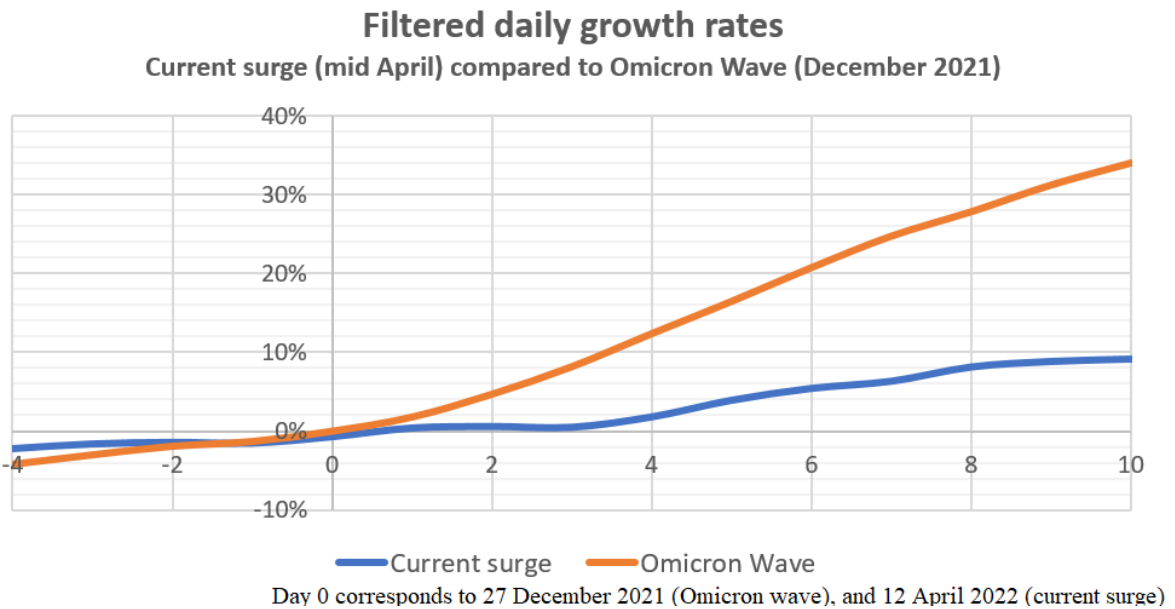
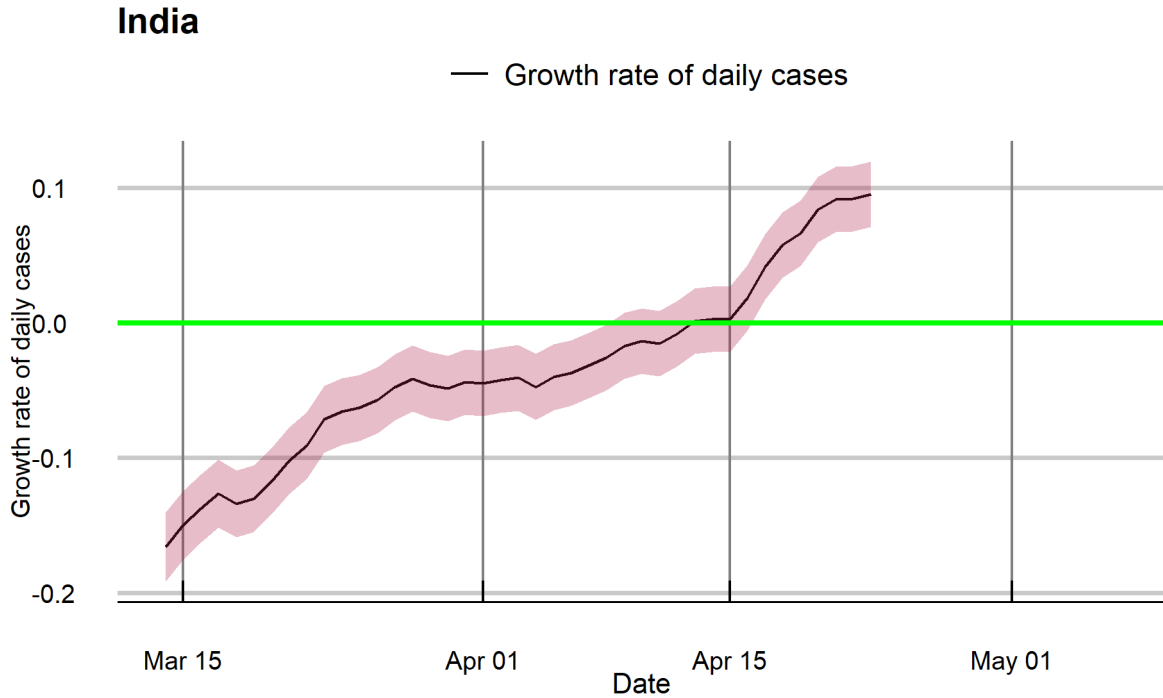
Grounds for national level optimism follow from patterns observed in Delhi and Haryana – the two territories currently leading growth of infection in India -- where the filtered daily growth rates peaked on 20 April. Their daily growth rates are currently declining gradually towards zero, at which point daily cases will peak. That is likely to occur in another 15 to 25 days.

At present, apart from Delhi and Haryana, infection is growing at concerning rates in Karnataka, Maharashtra, Tamil Nadu, Uttar Pradesh and West Bengal. Infection is growing in another fourteen states though at low rates from low case numbers .

Aggregated over states and union territories at various stages of upsurge, the national level growth rate of cases has not yet peaked though the peak appears to be close. The decline phase will follow but the daily growth rate is likely to remain positive over the coming three to four weeks during which period daily cases in India can be expected to continue to increase.

# Daily Covid-19 cases in India: Forecast

## Filtered daily growth rate of COVID-19 cases in India

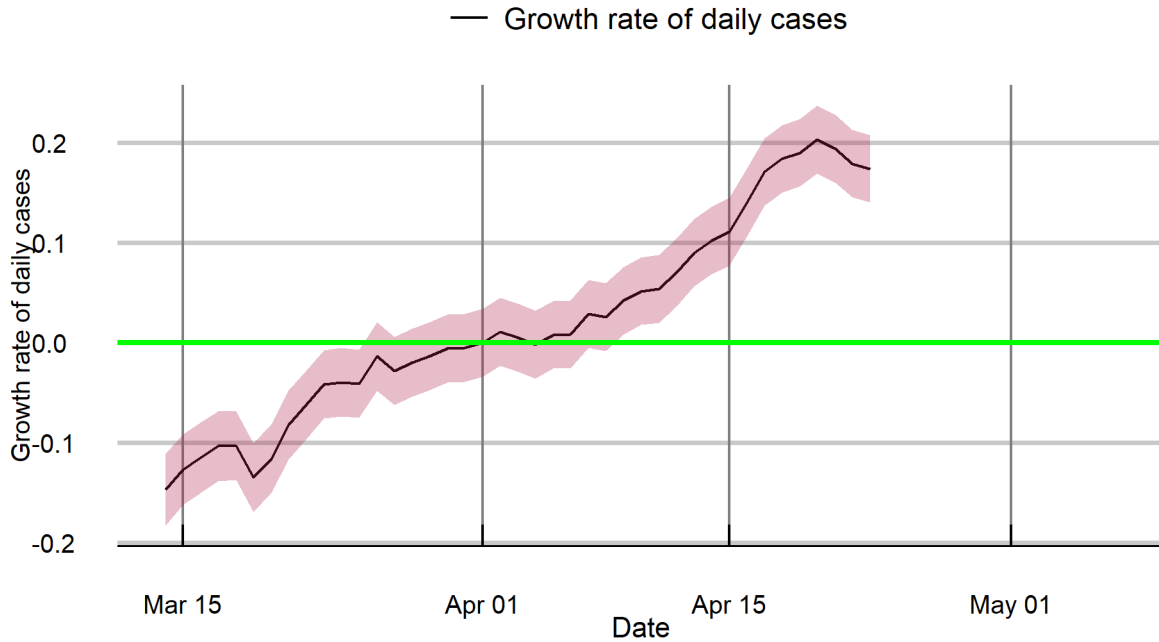


CIBS COVID-19 Tracker for India can be accessed at: [www.jbs.cam.ac.uk/covid-india](http://www.jbs.cam.ac.uk/covid-india).

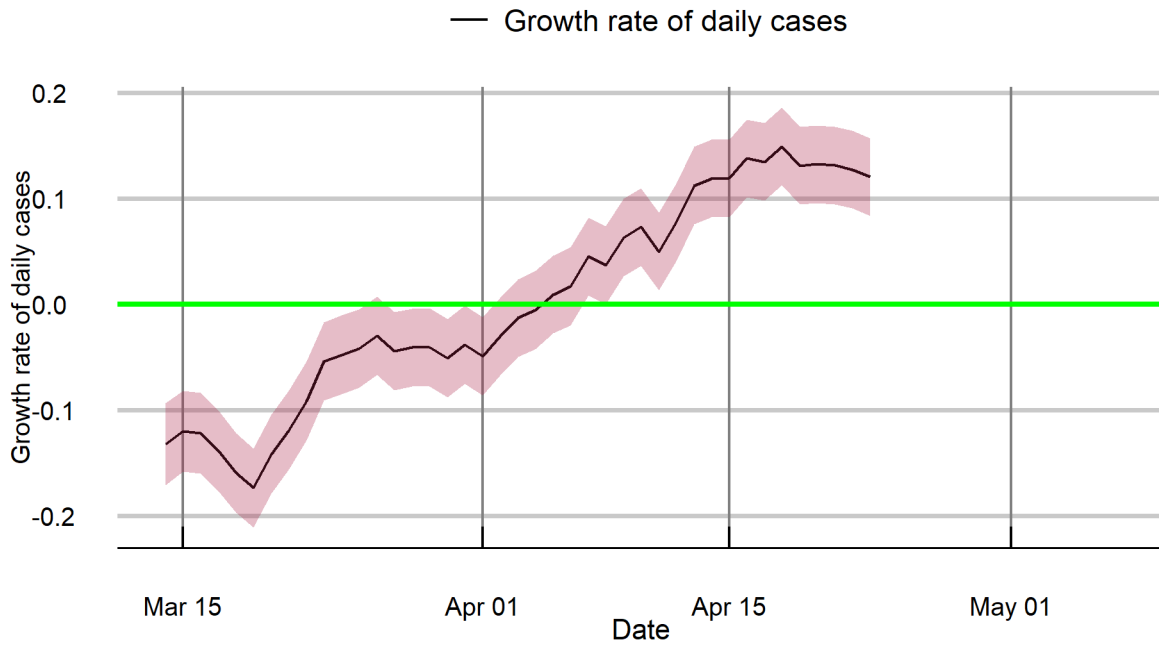
Contact: [Paul Kattuman](#)

## Filtered daily growth rate of COVID-19 cases States and Union territories

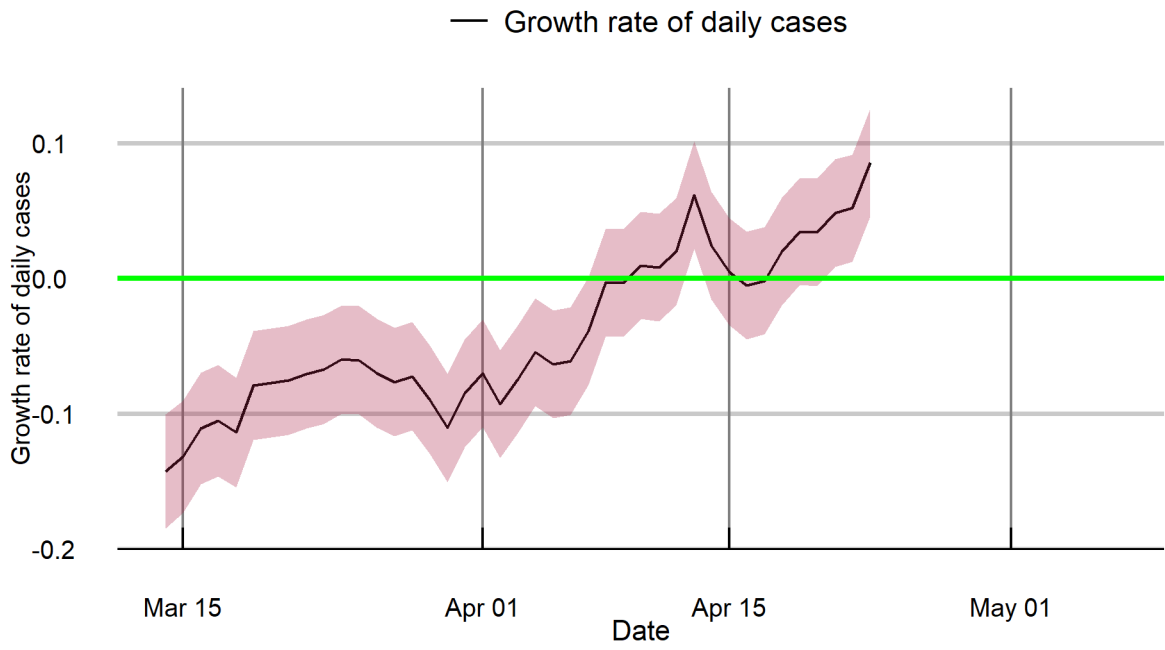
### Delhi



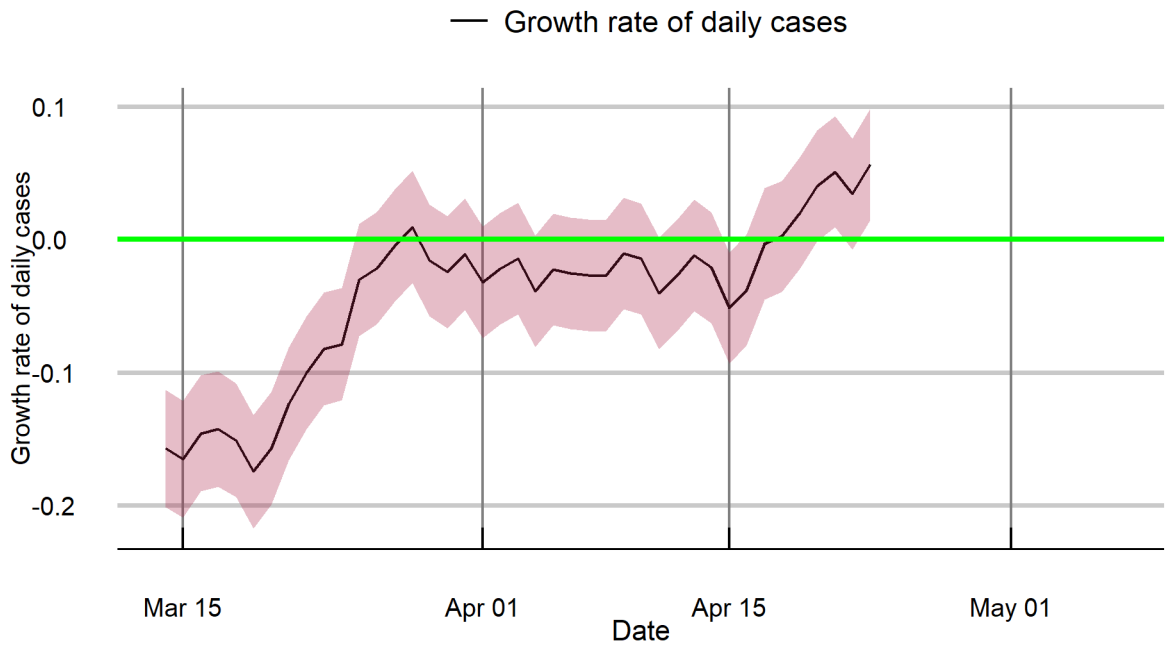
### Haryana



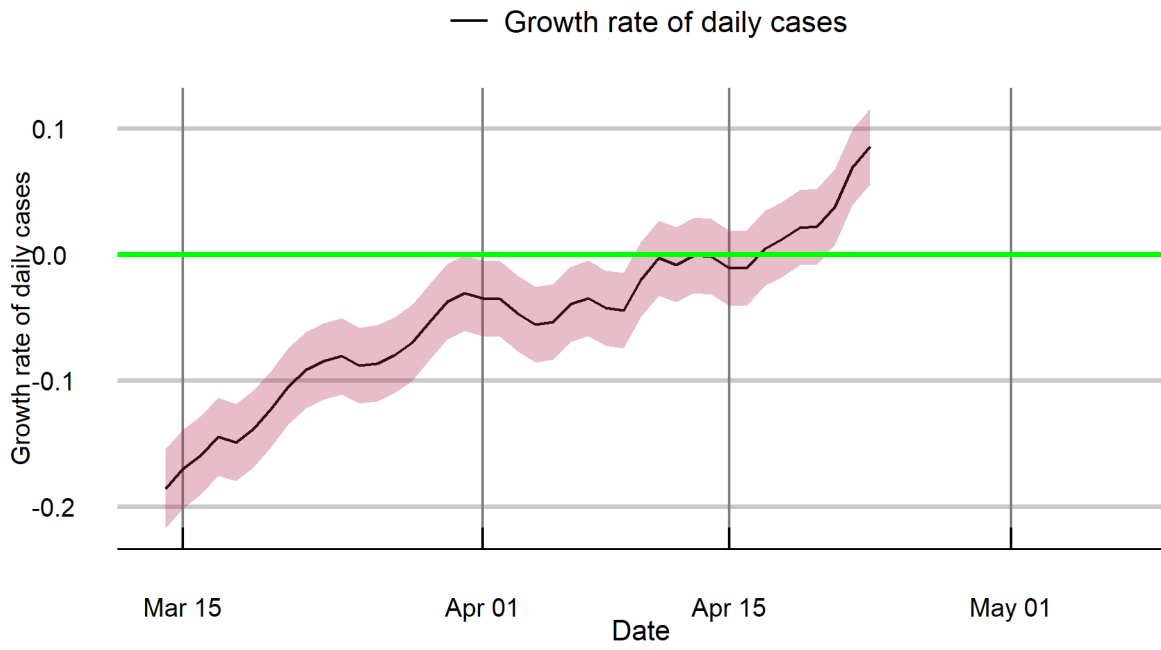
## Karnataka



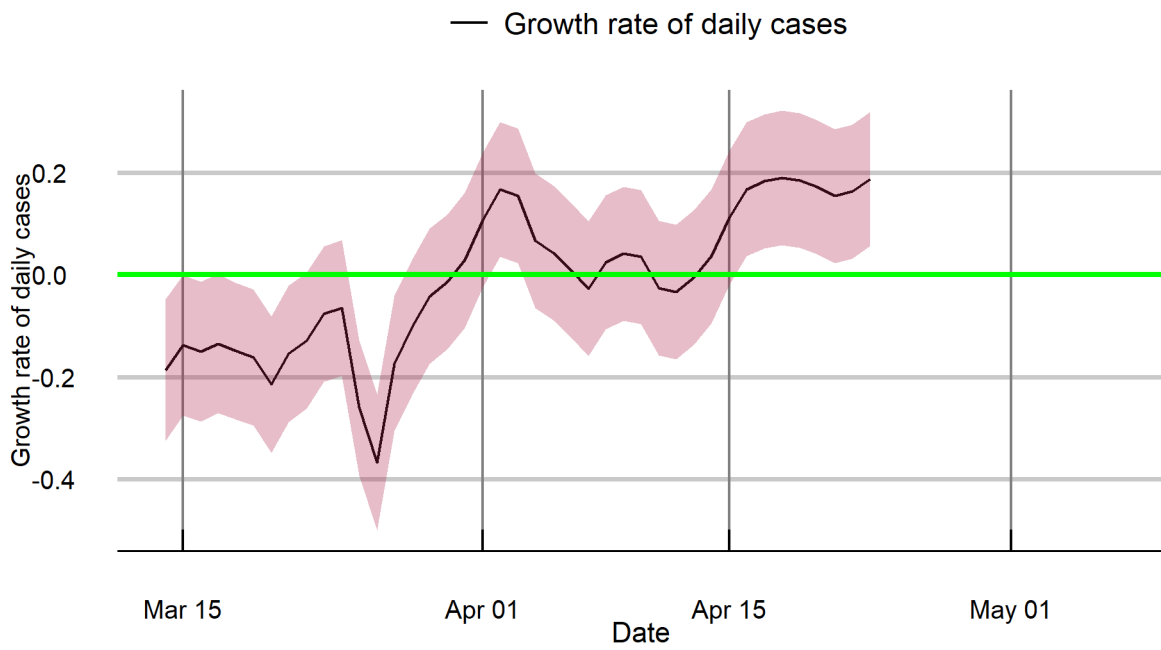
## Maharashtra



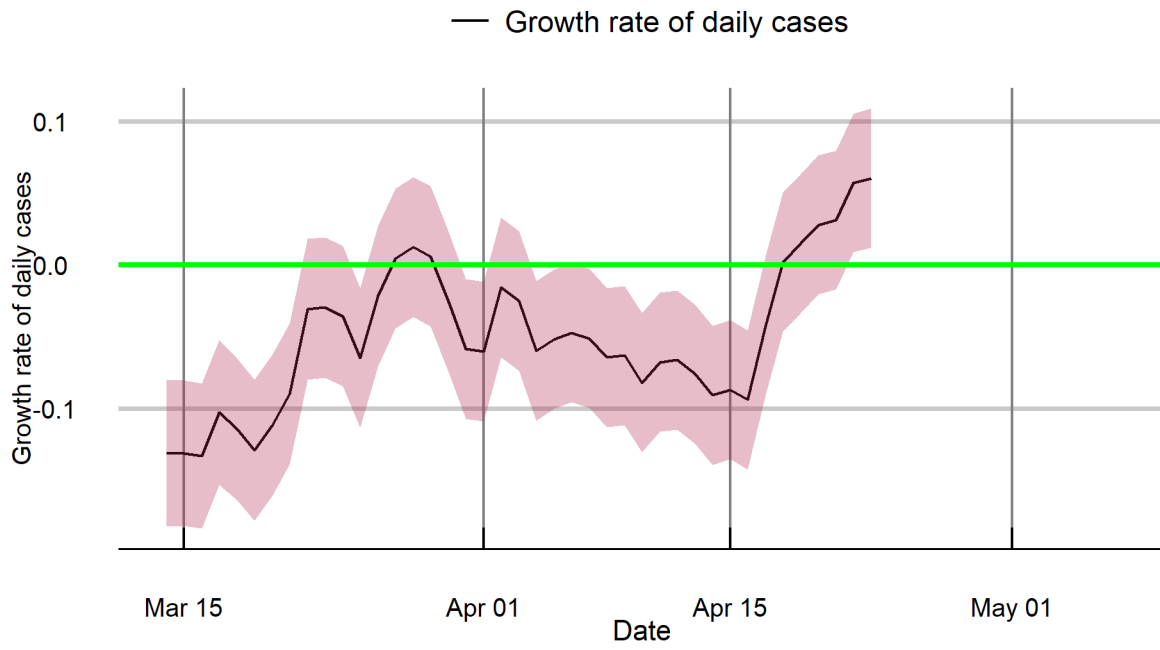
## Tamil Nadu



## Uttar Pradesh



## West Bengal



## Notes

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This tracker was developed by researchers at Cambridge Judge Business School and National Institute of Economic and Social Research, working with Health Systems Transformation Platform in India, as part of a pandemic monitoring series devoted to India and its states and union territories. It provides short term forecasts of the trajectory of the pandemic, identifying states and union territories that are at risk of increases in infection incidence.

**Data:** COVID-19 confirmed cases and deaths data are sourced from Johns Hopkins University (JHU), Center for Systems Science and Engineering (CSSE).

**New cases: growth rate.** The filtered trends presented for daily growth rates of cases are estimated using the Kalman filter, applied to the observed series. The method filters out day of the week effects and random noise to reveal the underlying signal. Unlike methods such as the moving average, this method adapts the trend to changes in real time and characterises underlying patterns of surges or attenuations that are hidden in the volatile series. See: Harvey, A. and P. Kattuman (2020). Time series models based on growth curves with applications to forecasting coronavirus. *Harvard Data Science Review*, Special issue 1 - COVID -19.

<https://hdsr.mitpress.mit.edu/pub/ozgix0yn/release/2>

**Note:** Accuracy relies on the quality of the published data. Further, changes in government pandemic policies including testing, and changes in transmission relevant social behaviour may lead to actual outcomes that differ from the current projections.

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