COVID-19 TRACKER: INDIA

3 October 2021
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. The forecasts are based on a structural time series model that uses historical data in estimation but adapts to the trend emerging in the most recent period. The model is described in Harvey and Kattuman (2021) "Time series models based on growth curves with applications to forecasting coronavirus". Harvard Data Science Review, Special issue 1 - COVID -19.

The filtered daily growth rate of cases in India has dropped to -2.4% currently (from -1.1% a week ago). The reproduction number is 0.91 (down from 0.96 a week ago). The trend value of reported cases in India is expected to be around 15,150 per day in two weeks, by 17 October.

Mizoram and West Bengal are the only states that currently have the combination of high infection incidence and positive growth in cases.

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1 CJBS COVID-19 Tracker for India can be accessed at: www.jbs.cam.ac.uk/covid-india

The companion spreadsheet contains all the estimates and forecasts. A UK tracker based on the same forecasting method is published by the National Institute of Economic and Social Research.

Contact: Paul Kattuman
Daily Covid-19 cases in India: Forecast

Forecasts of daily new cases for the period 4 October to 17 October 2021, based on data till 3 October 2021. The trend value of new COVID-19 cases is likely be about 15,150 per day by 17 October.

The filtered growth rate of daily new cases was -0.024 (-2.4 %) as on 3 October 2021.
Note: Small daily numbers (less than 25) currently seen in Andaman and Nicobar Islands, Bihar, Chandigarh, Chhattisgarh, Dadra and Nagar Haveli, Gujarat, Haryana, Jharkhand, Ladakh, Lakshadweep, Madhya Pradesh, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh and Uttarakhand make their estimates and forecasts less precise.
Daily growth rates of cases (%)
Trend values as on 03 October 2021
New cases forecasts and daily growth rates:
States and Union territories

Andhra Pradesh

New Cases

Date

Andhra Pradesh

Growth rate of daily cases

Date
Assam

- Data
- Forecast New cases
- Forecast Trend

New Cases

Date

Sep 01  Sep 15  Oct 01  Oct 15

Growth rate of daily cases

Date

Sep 01  Sep 15  Oct 01  Oct 15
Chandigarh

- Data
- Forecast
- New cases
- Trend

Chandigarh

Growth rate of daily cases

Sep 01 | Sep 15 | Oct 01 | Oct 15

Growth rate of daily cases
Meghalaya

- Data
- Forecast
- New cases
- Trend

New Cases

Growth rate of daily cases

Date

Sep 01  Sep 15  Oct 01  Oct 15

Growth rate of daily cases

Sep 01  Sep 15  Oct 01  Oct 15
Note: Actuals over the week 17 September to 3 October have consistently been lower than forecasts based on data till 26 September, suggesting a downshift in the transmission rate.
Notes

Data: COVID-19 confirmed cases and deaths data are sourced from COVID19-India API: https://api.covid19india.org/

New cases: forecasts. Forecasts above are based on a structural time series model that uses all the data in estimation but adapts to the trend emerging in the most recent period.


Forecast accuracy: is assessed using mean absolute percentage error of the forecasts of cases over the past week. Forecast accuracy will in general be lower for the smaller states / union territories. It is important to pay attention to the confidence intervals around the forecasts. The coverage of the confidence intervals presented is 68%, implying there is 16% probability of the upper bound being exceeded.

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. The method is described in the papers listed above.


Note: The accuracy of forecasts rely on the quality of the published data. Further, changes in government pandemic policies and in transmission relevant social behaviour may lead realised numbers to deviate from forecasts.

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