Covid-19 Visualization & Analysis

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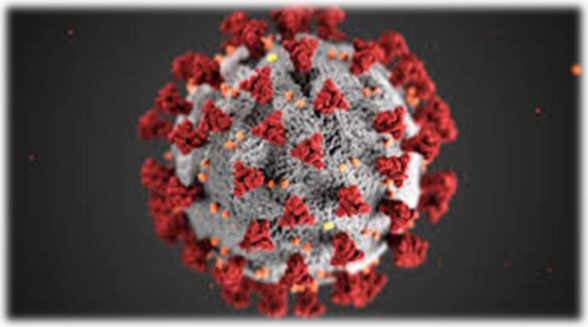
Problem Statement

To study and analyse the epidemiology of COVID-19 pandemic in India.



Motivation

Most of the Media coverage focused on the number of total infections in the entire country. Given the diversity, multicultural nature, and vastness of India, it was important to analyse spread and behaviour of Covid-19 state wise. I aim to analyse data on the number of infected people in each Indian state in hope of helping the state governments better channelize their limited health care resources.

Methodology

- I Found out that state wise Analysis would be most effective.

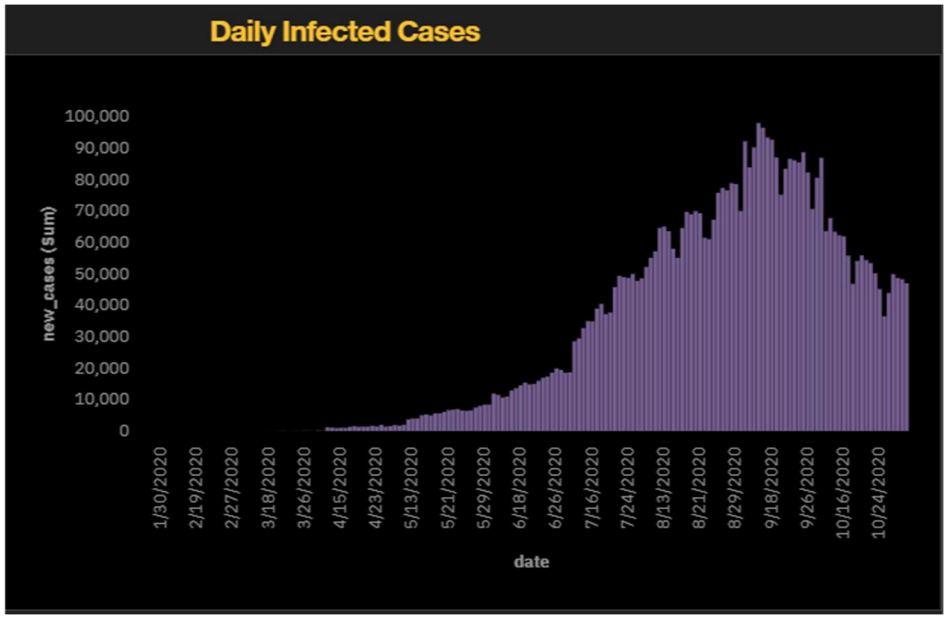
Why State wise? India is a vast country with large and diverse geographic area having total population of about 1.3 billion. Analysing coronavirus (Covid-19) data, considering the entirety of India to be on the same page may not provide us the right picture. This could be due to many reasons the major one being infection, new infection rate and preventive measures taken by state governments and the common public for each state are different.

Tools Used

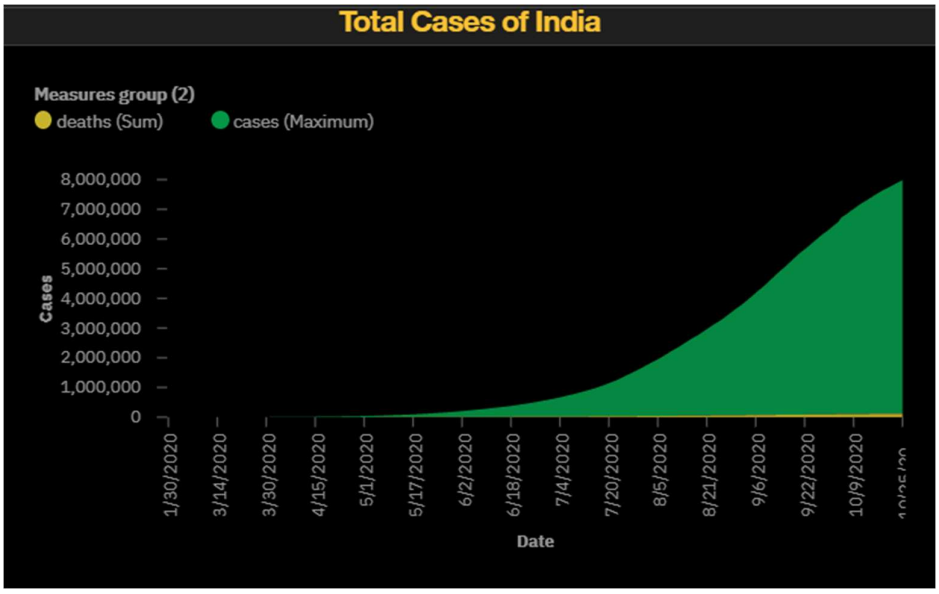
- IBM Cognos Analytics

Report

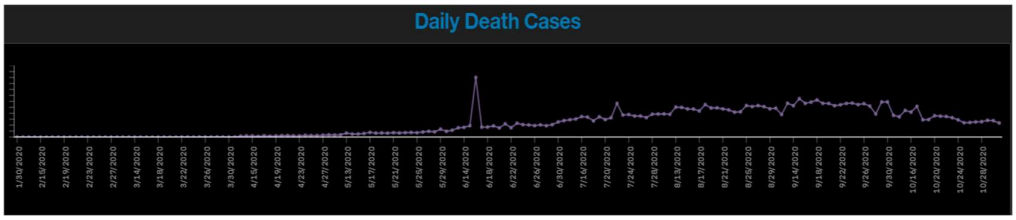
- On 30 January, India reported its first case of COVID-19 in Kerala, which rose to three cases by 3 February.
- All of which were students returning from Wuhan, China.

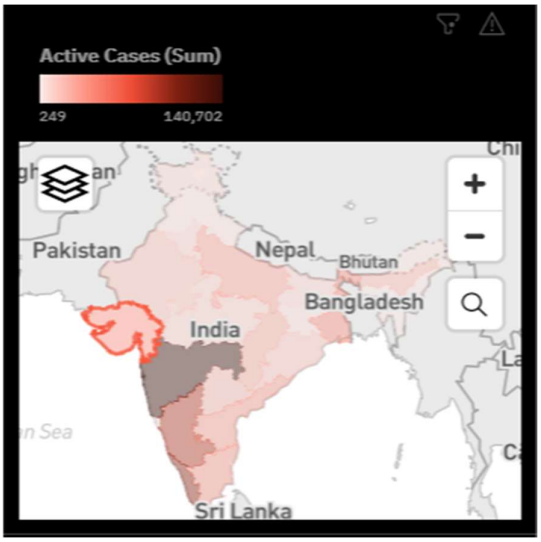


- On 4 March 22 new cases were reported, including 14 infected members of an Italian tourist group.
- On 24 March 2020, the Government of India under Prime Minister Narendra Modi ordered a nationwide lockdown for 21 days which was extended further.
- On 24th March total confirmed cases were 519 with 79 new cases that day alone.
- Maximum cases recorded was on 16th September which was 97,894 new cases after which daily infection rate were showing a decreasing trend.

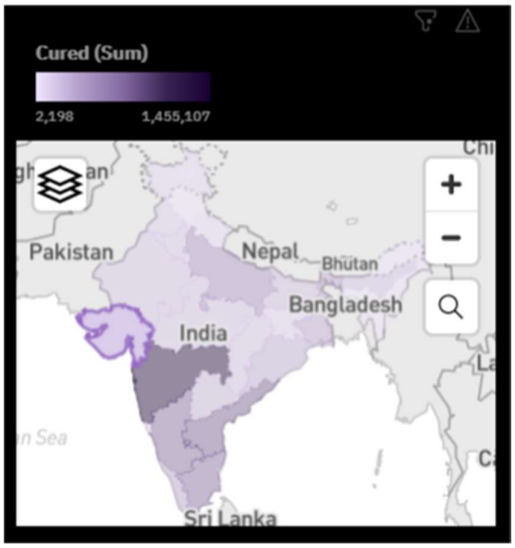


- As of 25th August, total known cases were 7,864,811 and total fatalities were around 118,534.



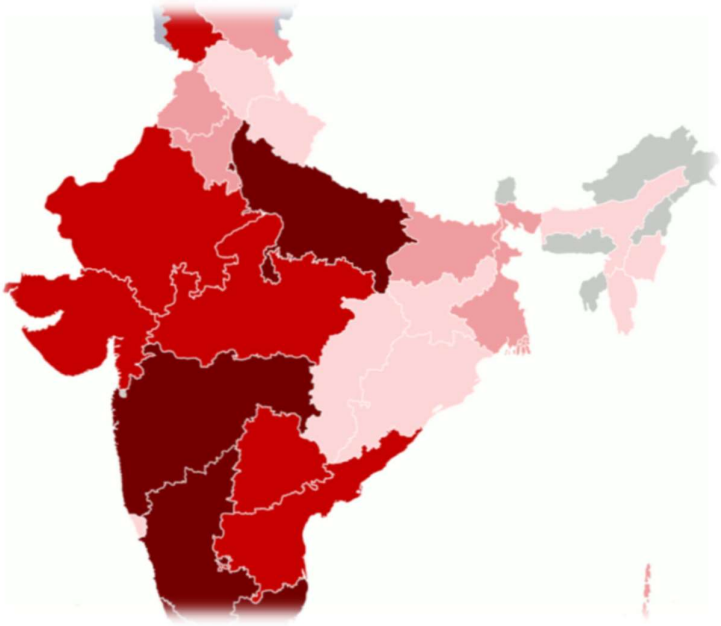


- We found that 7 states, namely, Maharashtra, Delhi, Gujarat, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh, and West Bengal are in the severe category.
- Among the remaining states, Tamil Nadu, Rajasthan, Punjab, and Bihar are in the moderate category, whereas Kerala, Haryana, Jammu and Kashmir, Karnataka, and Telangana are in the controlled category.

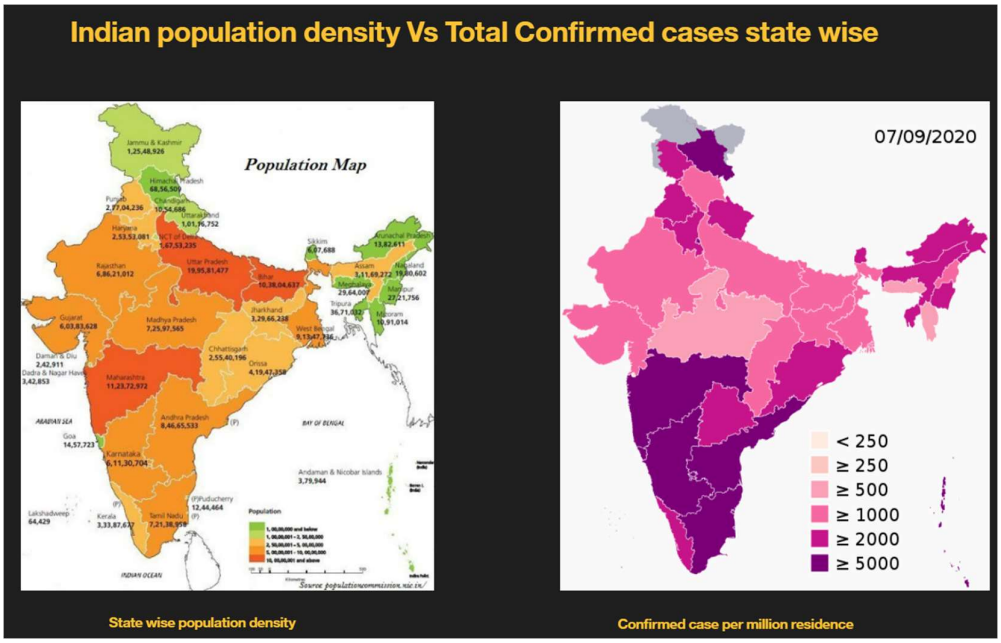


- As of July Chandigarh, topped the list of states with highest COVID-19 recovery rate in India, data released by the Union Ministry of Health and Family Welfare showed today.
- With coronavirus cases crossing the 6-lakh mark to reach 604,641 cases, a total of 3,59,859 patients have recovered from the highly infectious disease.

- While Chandigarh secured 82.3 percent recovery rate, Meghalaya emerged second with 80.8 percent and Rajasthan at 79.6 percent against the national recovery rate of 59.52.
- By October, the national recovery rate increased to 84.7%. This sustained high figure is fuelled by 17 states/UTs reporting recovery rate higher than the national average.



- The Ministry of Health released a list of five states which continue to report the highest number of coronavirus cases in the country. The list of the states includes - Maharashtra, Karnataka, Kerala, Andhra Pradesh, and Tamil Nadu.



- we observe that the population density better explains the contagion effect.
- However, the population density of Kerala and Andhra Pradesh state did not reflect on corona transmission.
- Demographers can play a crucial role in mitigating the spread of diseases.

Economic impact

- On 12 March, Indian stock markets suffered their worst crash since June 2017 after WHO's declaration of the outbreak as a pandemic.
- The BSE SENSEX dropped 8.18 per cent or 2,919 points which was its lowest in 23 months while the NIFTY dropped 9 per cent or 950 points.
- The Indian Space Research Organisation's GISAT-1 mission onboard GSLV which was scheduled for its launch in April was postponed due to the lockdown.

Conclusion

- India has taken many preventive measures to combat COVID-19 in much earlier stages compared to other countries, including a nationwide lockdown from March 25, 2020.
- Note that India may have seen fewer COVID-19 cases in last few weeks, but the war is not over yet. There are many states like Maharashtra, Delhi, Madhya Pradesh, Rajasthan, Gujarat, Uttar Pradesh, and West Bengal who are still at high risk.
- These states may see a significant increase in confirmed COVID-19 cases in the coming days if preventive measures are not implemented properly.
- India’s economy was impacted but is showing positive trends now and will hopefully thrive again soon.