Dynamic Modelling and Live Prediction of COVID-19 Using SIR-D model.

Annexure A

Custom Prediction of COVID-19 counts for Pune Municipal Corporation Region (PMC)

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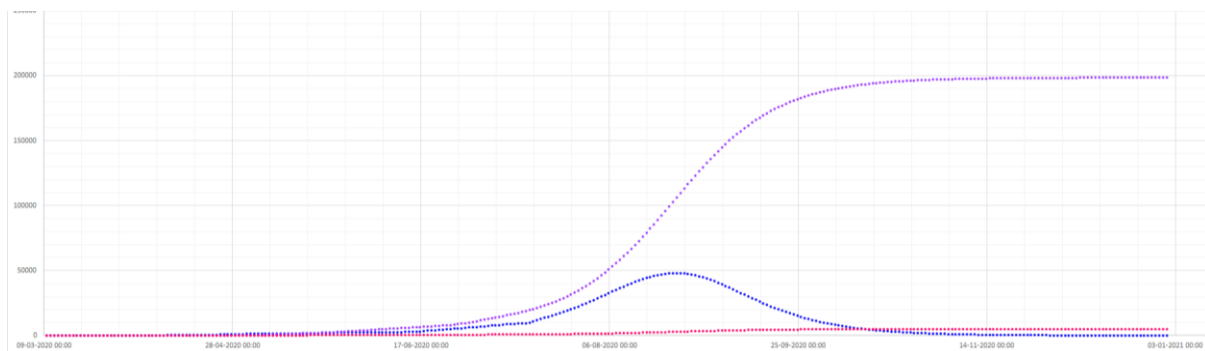rvchavadekar@gmail.com
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Figure 1 : The Progression of COVID counts for Pune PMC, blue = infected, purple = recovered, red = deaths.

The Peak for Pune PMC is expected around **August first week** with around **45,000 reported active cases** and pandemic with around **5,000 deaths** till pandemic **ending on September mid-2020**.

It is observed and studied from https://www.worldometers.info/coronavirus/ that out of complete population hardly 3% people are the 'reported' affected COVID-19 cases. However out of rest 97% of population, many people may be already affected but will not report officially according to this ratio I have made the projections.

Many people confuse between the 'rise' and 'peak' of pandemic. The pandemic is at its peak when the number of active cases reach a 'stable' value over a period of time and eventually start to decline. The pandemic is at 'rise' when there are maximum 'active cases' rising per day. The pandemic is 'ending' when the number of active cases start 'decreasing' overtime. This clarifies from the current values that pandemic has begun to rise in Pune District as well as Maharashtra and not at peak now. However, these projections are subject to change with policies and behavioural pattern of people.

The available beds in Pune PMC are already full and many critical patients deprived of oxygen life support face immediate fatalities hence we should focus on creating new accommodations with oxygen life support, medicines, ambulance services and trained ward boys, nurses and volunteers as they play a crucial role in monitoring patients. We should also meet the increasing demand of oxygen and hence multiply oxygen production.

Annexure A for - Rajas V. Chavadekar, "Dynamic Modelling and Live Prediction of   COVID-19 Using SIR-D model" for Pune PMC

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In the past 12 days after 11th of July, 2020, we have seen a steep rise in active cases of Pune. This is because, the complete lockdown induces insecurity within citizens for essential services and crowding is observed due to restricted time window. Hence it is suggested to open all essential services for full working hours with restricted movement to avoid crowding such that there is a steady and controllable progression of pandemic.

The data for PMC was taken from punecoronatracker.in . For detailed references and proofs for these prayers, please refer the research attached herewith also published on https://unipune.academia.edu/RajasChavadekar and also on my github https://github.com/rvcgeeks/Dynamic-Modelling-and-Live-Prediction-of-COVID-19-Using-SIR-D-model

Annexure A for - Rajas V. Chavadekar, "Dynamic Modelling and Live Prediction of   COVID-19 Using SIR-D model" for Pune PMC

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