



ISPIRT India COVID-19 SEIR Model

USE CASES: POLICY-MAKERS

Powered by data-led scientific rigor, the India COVID-19 SEIR Model delivers early infection trends for every district in India. The model is geared to help Indians from every walk of life plan life and work decisions around their region's projected caseload over the next 15-30 days. Hospitals can use the model to plan for a surge in demand for resources (beds, ICUs, ventilators); local and national level leaders across private and public sectors can use the model to decide how best to contain the spread of the disease and re-open safely; epidemiologists can use the model to define how different behavioral and environmental factors affect the disease transmission. The rest of us can use the model to simply be more informed. There are multiple approaches to using this model and we introduce a few in this blog post—the first in a series aimed at promoting scientific and modeling capability.

Until we turn the corner, the model delivers real-time data visualisation and predictions to a billion Indians and everyone else as a digital public good. We can all use it to bend India's curve. That's the ultimate use case, really -- where the model tells us where it's going and we, in turn, steer it in an entirely other direction. Models will change and that's a good thing. It means we are responding. The power of models and data science in this particular moment is the ability to assist a very scientific approach to scenario planning during an ongoing health care pandemic. The real outliers are no longer in the data, it's the actions we take based on what the data is telling us. We can turn the course of this pandemic and transform what this model tells us, every 24 hours. We are already watching the shape-shifting in real time. It's in your hands. Go on, try it.

USE CASE: POLICY MAKERS

Purpose:

1. Identify potential hot-spots in the next 15-30 days.
2. Re-organise resources (hospital beds, healthcare officials).
3. Identify districts with under-testing.

User Flow:

1. User enters the website. Main page loads.
2. User clicks on “Live Model”. SEIR Model opens in a new tab.
3. User can now customise flow.



User filters districts by “Hospital beds needed (30 days)”

1. User filters districts by “Hospital beds needed (30 days)”.
2. User can identify top districts where resource-allocation intervention is necessary.
3. User uses data to influence resource-allocation decisions.



Actor selects state by clicking on colored icons on country map

1. User selects a state by clicking on icon on country map.
2. User selects a district of interest within the selected state.
3. User uses toggle buttons in the Legend Key to understand data.
4. User uses data to influence decisions.



User filters districts by “R(t)”.

1. User filters districts by “R(t)”.
2. User can identify districts where rate of transmission of COVID-19 is high (typically >1).
3. User can compare data within different districts to identify possibility of under-testing within district.
4. User uses data to influence lockdown decisions.