Hammering the curve: Lessons from an Indian state

By Dr. Mureer Mammi Kutty

When the first three cases of COVID-19 were reported in Kerala on 30th January, the entire national focus shifted to the state. A new, albeit deadlier viral outbreak was on the radar which was turning out to be a pandemic. For the next three months, Kerala was very much the epicentre of this novel viral disease. Public health experts were wary that the disease would go out of control in the state, which has the second highest population density of any major state in the country (Census 2011) and a large overseas diaspora, most of whom were returning to spend the summer with their families. However, it looks like that the state is gradually “flattening the curve”, with the number of new positive cases reported either decreasing or remaining static. Kerala is no longer the epicentre of the virus in India with cases increasing at a rapid rate in other parts of the country.

Disease outbreak trend: Steady rise and gradual tapering
The first three affected were medical students who were doing their graduation in Wuhan, from where the viral infection is believed to have originated. For several weeks after this, no new cases were reported in the state. However, there was a second surge of cases from the beginning of March as Keralites started returning from Europe and the Middle East, to where the infections had spread by now. There was a steady increase in infections with all the districts reporting positive cases by the end of March. The state government instituted aggressive mitigation measures which included screening of passengers returning from abroad, quarantining suspected cases, tracing and isolation of contacts, testing of suspected cases and treatment of positive cases. These measures seem to have borne fruit as is seen from the data which indicates that incidences of new positive cases are tapering off (Figures-18&3). The rate of new positive cases reported has also decreased considerably (Figure 3).

![Graphs showing trend of COVID-19 cases](image)

_Source: DHS, Govt. of Kerala_

The recovery of positive cases in relation to the total number of cases is also high in Kerala. As of 9 April 2020, 97 patients out of a total of 357 positive cases have recovered bringing the recovery rate to an appreciable 27%. (Source: DHS, Kerala). This is more than three times that of national average of 9% and more than the global average of 22%.[i]

Kerala also has the lowest mortality rate among the major states in India. Out of 357 positive cases, only two died.

**Table 1: Distribution of COVID-19 cases and deaths in selected states of India (As of 9 April 2020)**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>State/UT</th>
<th>Cases</th>
<th>Deaths</th>
<th>Mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maharashtra</td>
<td>1364</td>
<td>97</td>
<td>7.11</td>
</tr>
<tr>
<td>2</td>
<td>Tamil Nadu</td>
<td>834</td>
<td>8</td>
<td>0.96</td>
</tr>
<tr>
<td>3</td>
<td>Delhi</td>
<td>720</td>
<td>12</td>
<td>1.67</td>
</tr>
<tr>
<td>4</td>
<td>Rajasthan</td>
<td>463</td>
<td>3</td>
<td>0.65</td>
</tr>
<tr>
<td>5</td>
<td>Uttar Pradesh</td>
<td>410</td>
<td>4</td>
<td>0.98</td>
</tr>
<tr>
<td>6</td>
<td>Telangana</td>
<td>442</td>
<td>7</td>
<td>1.58</td>
</tr>
<tr>
<td>7</td>
<td>Kerala</td>
<td>357</td>
<td>2</td>
<td>0.56</td>
</tr>
<tr>
<td>8</td>
<td>Andhra Pradesh</td>
<td>348</td>
<td>4</td>
<td>1.15</td>
</tr>
</tbody>
</table>

_Source: Public Health Department, Govt. of Maharashtra_

_**How is Kerala containing the pandemic?**_

Kerala’s efforts to control the pandemic is a textbook example of crisis management. Two back to back floods in 2018 and 2019 and a Nipah virus outbreak in 2018 seem to have given important lessons for the state in controlling an unprecedented event. Kerala’s action plan to combat COVID 19 outbreak is a combination of various factors;

a) **A proactive governance and stewardship**

1) The most important factor in disaster control and mitigation is the presence of a strong and proactive leadership which can take informed decisions. The governance mechanisms is critical in ensuring the delivery of public goods and services. The Kerala government under the leadership of Shri. pinarayi Vijayan has been proactive in its approach and has taken swift action to control the spread of the virus.

...
2) The daily news briefings of the chief minister have become a staple among Keralites. This also gives reassurance to the people, which is very much required in the time of crisis.
3) Kerala was also one of the first states to roll out welfare measures in the country. The state government announced a welfare package\[i\] of Rs. 20000 crores to fight the pandemic. 
4) The government has also been able to converge the respective functions of different ministries and departments to manage the situation.
5) The state has a large population of guest or migrant workers and the government ensures that they are compensated for their loss of livelihood during the lockdown period. Kerala has opened a large network of relief centres for these workers and the state alone accounts for 69% of all the government run camps\[ii\] in the country. The bureaucracy has also been very responsive and motivated adding further impetus to the state government’s efforts.

b) Efficient public health system:
1) Kerala has one of the best health systems in the country, which has proven its mantle in controlling major viral outbreaks in the recent past.
2) The Nipah virus outbreak\[iii\] of May-June 2018, provided some major learnings for the state, which helped it to considerably ramp up its surveillance. The state was on guard when the first three positive cases\[iv\] were reported in January. It instituted screening of all the passengers arriving at its four international airports.
3) Authorities in the state had anticipated a surge in infections in March with arrival of Keralites from gulf countries. Accordingly, all suspect cases were quarantined, their contacts traced and isolated. Kerala also aggressively tested the suspected cases and so far, has the best testing figures in the country. The state has done 368 tests per million which is more than three times the national average of 120 and more than the global average of 207\[v\].
4) Kerala also ramped up the existing public health infrastructure, by designating one dedicated COVID 19 hospital in each district, significantly increasing the testing capacity from one designated lab for COVID 19 testing to twelve as of 9th April\[vi\].
5) The government also expedited the filling up of human resource vacancies to meet the expected increase in demand. It recruited 276 doctors\[vii\] in a day from the existing rank list of the state public service commission.

c) Community participation:
1) Active participation of the community is key in ensuring the effective implementation of any public health intervention.
2) Risk communication is being effectively carried out and the people are being made aware of the impending dangers of the disease through the media\[viii\].
3) Physical distancing measures were adopted by and large without much cohesion or punitive measures.
4) Volunteers were also mobilised\[ix\] to aid the health workers in contact tracing and identification of cases.
5) The state has a very effective decentralised form of governance and the local self-governments are highly empowered\[x\]. Most of the community level activities are spearheaded at the panchayat or municipal levels.
6) Kerala also utilises its vast network of women led self-groups under the Kudumbashree mission to run community kitchens through which low cost meals are made available during the lockdown.

While, we should be guarded in making any conclusions at this time, given that the outbreak is in its initial stages, all indicators suggest that Kerala has been able to control the outbreak, giving a huge respite to its health system and population. The state has shown that simple cost-effective measures which are informed by science and backed by effective political will can control any crisis. Other states which are witnessing the surge in cases need valuable lessons from Kerala’s approach to manage and control this pandemic.
[i] https://www.worldometers.info/coronavirus/


[v] https://www.worldometers.info/coronavirus/


COVID-19

428 views

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“Pooled testing” – A strategy worth exploring in COVID-19

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