THE ECONOMIC TIMES | ▶ Prime

Nilanjan ⌄
▶ ETPrime

English Edition ▾ | E-Paper

☰ Home ▶ETPrime Markets News Industry RISE Politics Wealth MF Tech Jobs Opinion NRI Panache ET NOW More ▾   🔍

Tech Consumer Markets Corporate Governance Telecom + OTT Auto + Aviation Pharma Fintech + BFSI Economy Infra Environment Energy

DISEASE | ▶ ETPrime

Lax attitude, population density: the virus superspreaders beyond religious, political gatherings

Synopsis

Data from India's 10 most populous cities reveals that there is a direct positive correlation between population density and the number of Covid-19 confirmed cases. While political and religious gatherings are driving the spread, people's lackadaisical attitude towards complying with Covid-19 safety norms is more to blame. A strict lockdown may not work and cause more pain economically.

BY

Nilanjan Banik

6 MINS READ

Apr 28, 2021, 12:01 AM IST

Share This Article

(f) (🐦) (in) (☎)

Sometime during the first week of February, I was on a road trip to Rajasthan. Covid-19 appeared to be a thing of the distant past. From roadside dhabas to fine dining, from cafes to bars and pubs, no one was wearing masks. Life had returned to normal, or that's what people thought.

Just two months later, the horror is back. India has once more been tossed into the world map for having the largest number of Covid-19-affected people (measured in terms of a seven-day rolling average of new cases). A new, more contiguous variant of the wily virus is behind this sudden spread. Events such as political gatherings in West Bengal, Assam, Kerala, Tamil Nadu, and Puducherry — where Assembly elections were held — and the *Shahi Kumbh Snan* in Haridwar, Uttarakhand are seen as superspreaders.

But *what if* these two events were not to happen? Could we have a Covid-19-*mukt* Bharat? *Can* public awareness and attitude play a key role in containing the spread?

The real superspreaders

Data from the 10 most populous cities in India – Mumbai, Delhi, Kolkata, Chennai, Hyderabad, Bengaluru, Ahmedabad, Jaipur, Pune, and Surat – reveals some interesting patterns.

There is a direct positive correlation between population density and the number of Covid-19-affected persons (confirmed cases). For example, in recent times, no big festivals or political events took place in Mumbai, Bengaluru, and Delhi. Yet, in terms of Covid-19 caseload, as of April 26, 2021, these three cities contributed the most. On the other hand, Kolkata has been at the epicentre of all political gatherings. To the extent, Mamata Banerjee attributed the second Covid wave as a "Modi-made" disaster. Yet, Kolkata has reported fewer confirmed cases compared to Mumbai, Delhi, Bengaluru, and Chennai.

True, political and religious gatherings are driving the spread, but a lack of awareness and people's lackadaisical attitude towards complying with Covid-19 safety and hygiene norms are contributing to the rising number of cases.

A majority of the Indian population, especially the urban poor, live in a congested environment, with all the family members sharing a single room. A reason why Mumbai and Bengaluru have higher caseloads is that these two are the most densely populated cities. People while spending time on household chores often forget to wear masks or maintain social distancing.

A strict lockdown may not change their attitude towards wearing masks. In fact, a strict lockdown may force people to remain huddled in their rooms, thereby spreading the disease even more. Economically, it is going to hurt the poor and the migrant labourers the most, depriving them of their life and livelihood. Instead, there is a need to impose a strict penalty (monetary or even jail time) on the people not adhering to social distancing and not wearing a mask. It is equally important to spread public awareness about the importance of following Covid-19 safety guidelines.

The challenges of population density, health infrastructure

Plotting the number of the affected persons against population density gives a positive correlation, as shown in the graphic below.

Covid-19 confirmed cases vis-à-vis population density
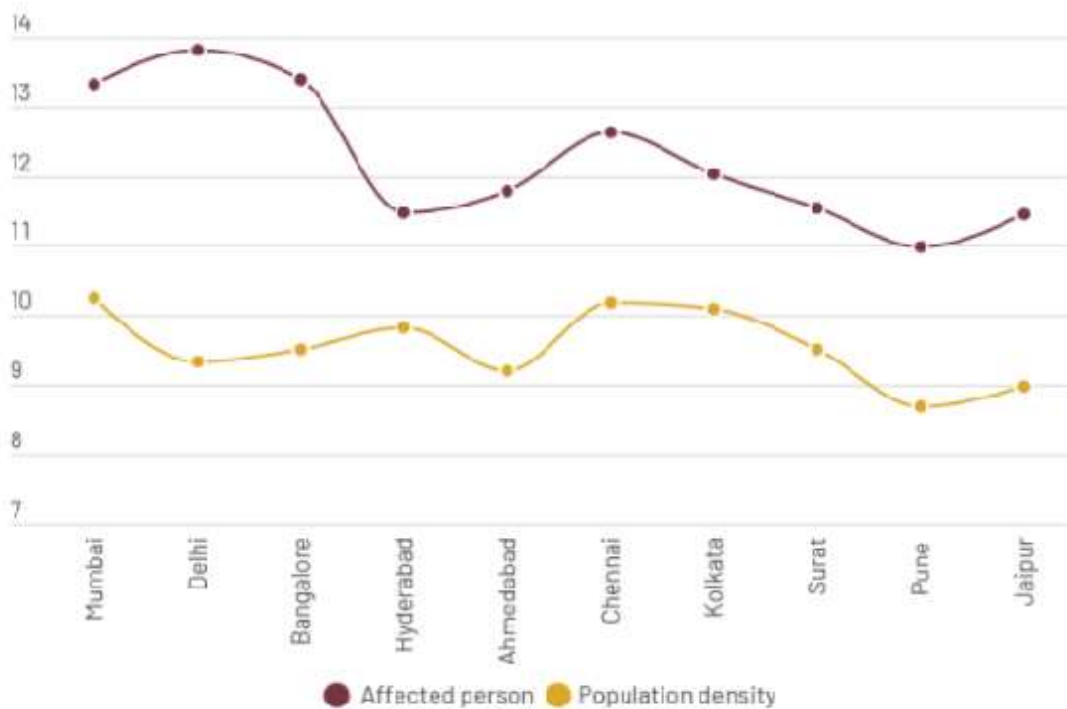
|	Affected person	Population density
Affected person	1	
Population density	0.43225322	1

To neutralise the impact of large-value data and comparing it with smaller-value data (that is, to make the data scale-neutral), I consider the log-transformed data for population density, the number of Covid-19 cases reported, and the number of people receiving vaccination. Population density is measured as the number of people living per square kilometre. The fatality rate is defined as the number of deaths calculated as a percentage of the total cases reported. The data is as on April 26, 2021.

There is also a positive correlation between the number of Covid-19 vaccination and number of confirmed cases reported, as captured in the graphic below. Although India is vaccinating, at the current rate, only 30% of the people will be able to get vaccines by the end of this year. In fact, as of now, there is no correlation between vaccination and the case-fatality

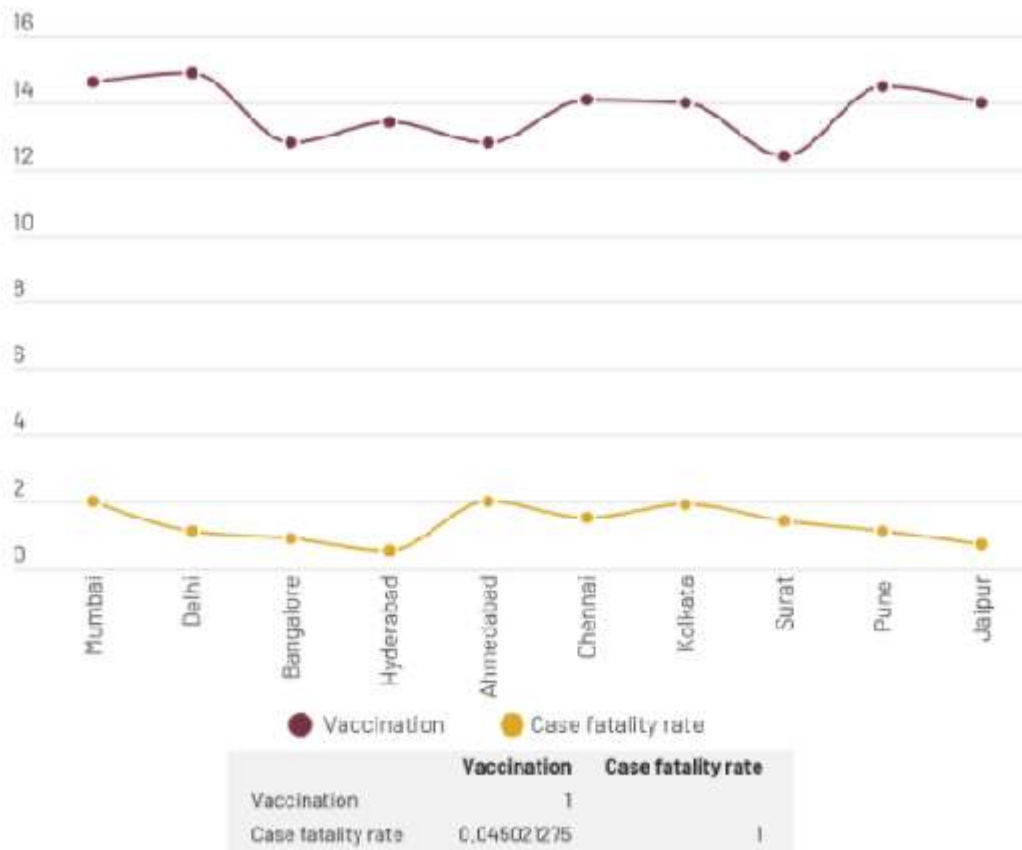rate. At present, Covid-19 confirmed cases consist of people majority of whom have not received vaccination.

Covid-19 vaccination vis-à-vis number of cases
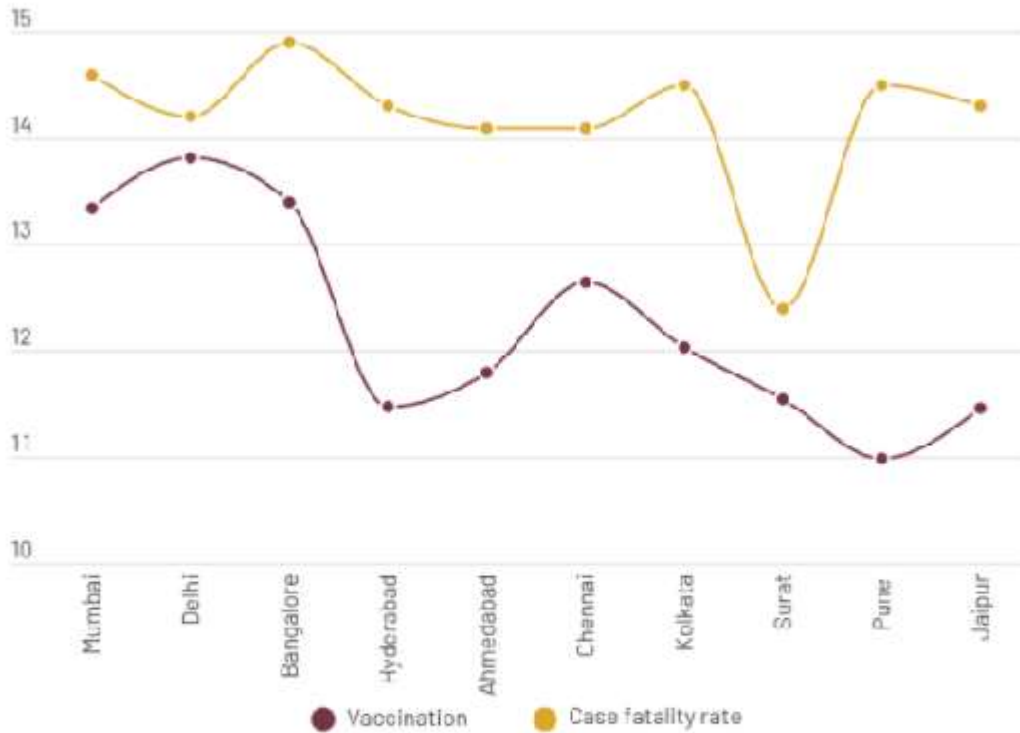
	Affected Person	Vaccination
Affected person	1	
Vaccination	0.315689	1

Source: COVID19 India (https://www.covid19india.org/).

ETPrime

Vaccination vis-à-vis fatality rate

	Vaccination	Case fatality rate
Vaccination	1	
Case fatality rate	0.045021275	1

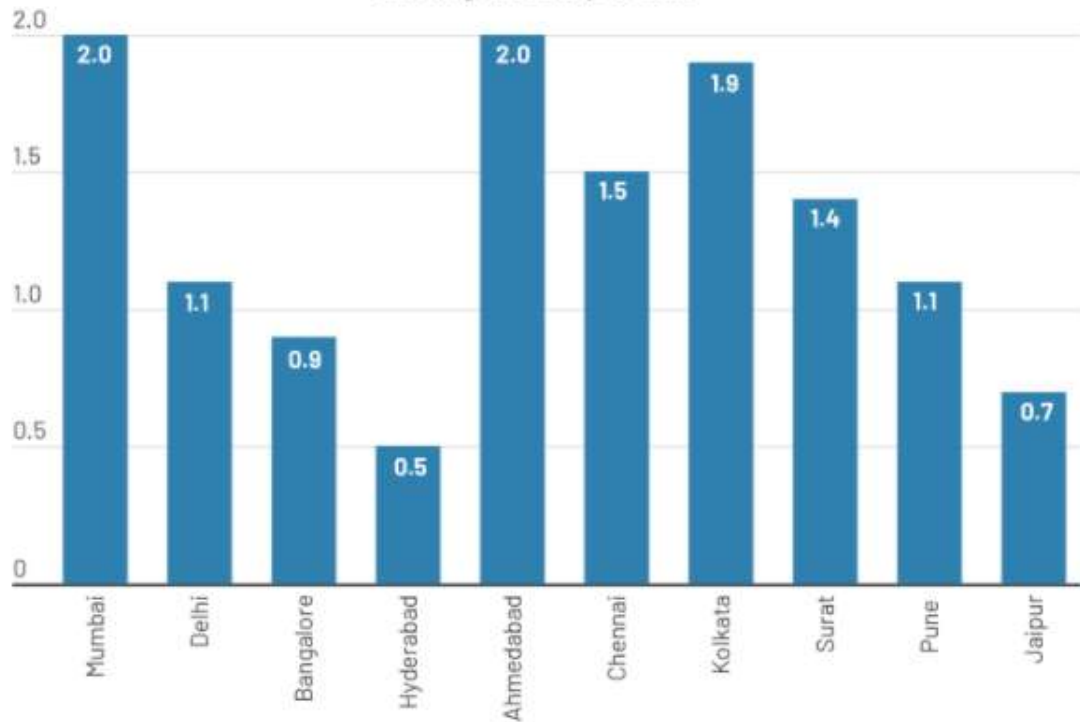Source: COVID19 India(https://www.covid19india.org/).

ETPrime

Recent evidence suggests India is deprived of oxygen. According to the World Health Organization, around 15% of Covid-19 patients suffer from breathlessness. However, at present, the daily supply of 7,500 metric tonnes of oxygen is proving to be too little for India.

This in a way reflects the need to improve India's health infrastructure. The country does not have enough doctors and hospital beds to provide treatment. According to data from the World Bank, India has 0.9 hospital beds and 0.7 doctors for every 1,000 people, against the WHO mandate of 1.9 hospital beds and one doctor per 1,000 population.

Among the large cities, Mumbai, Ahmedabad, and Kolkata have higher case fatality, indicating the need for upgrading health infrastructure on a priority basis. Interestingly, Delhi, which is hitting the headlines because of lack of oxygen, has a lower fatality rate. This may be because Delhi as a city is spread out, with a lower population density compared to Mumbai, Ahmedabad, and Kolkata.

How deadly this virus is

Fatality rate in percent

City	Fatality rate (%)
Mumbai	2.0
Delhi	1.1
Bangalore	0.9
Hyderabad	0.5
Ahmedabad	2.0
Chennai	1.5
Kolkata	1.9
Surat	1.4
Pune	1.1
Jaipur	0.7

Source: COVID19 India (https://www.covid19india.org/).   ▶ETPrime

Lessons from other nations

There is a need for our policymakers and politicians to learn from the best practices of other nations.

The current spread of Covid-19 is attributed to the UK variant. Before India suspended flights from the UK to India, government estimates show that around 33,000 passengers entered our country between November 25 and December 23, 2020. Two nations, New Zealand and South Korea, did extremely well in containing the spread. There is a scope to learn from their experience.

Once the first case was registered on February 28, 2020, New Zealand was quick to close its borders. Being an island nation helped. In fact, over the years, New Zealand has been successful in keeping biohazards away. After closing down its border on March 16, 2020 to foreigners, New Zealand implemented what it learned from the experience of some Asian countries such as China and South Korea. It religiously followed the

principle of finding the cases, isolating the cases, and tracing the close contacts.

In South Korea, apart from testing, the independent role of the bureaucracy and the previous experience of handling the MERS outbreak in 2015 and the SARS outbreak in 2003 helped contain the spread. For example, a new regulatory system was introduced in South Korea, where bureaucrats fast-track the approval for newly developed testing kits without obtaining permission from the political head. Such an independent role of the bureaucracy may not be possible for India, where politicians are powerful and at times guided by vested interests.

(*Nilanjan Banik is professor, School of Management, Bennett University, Greater Noida, Uttar Pradesh. Comments can be sent to nilbanik@gmail.com. The views expressed are personal*.)

(*Graphics by Sadhana Saxena*)