

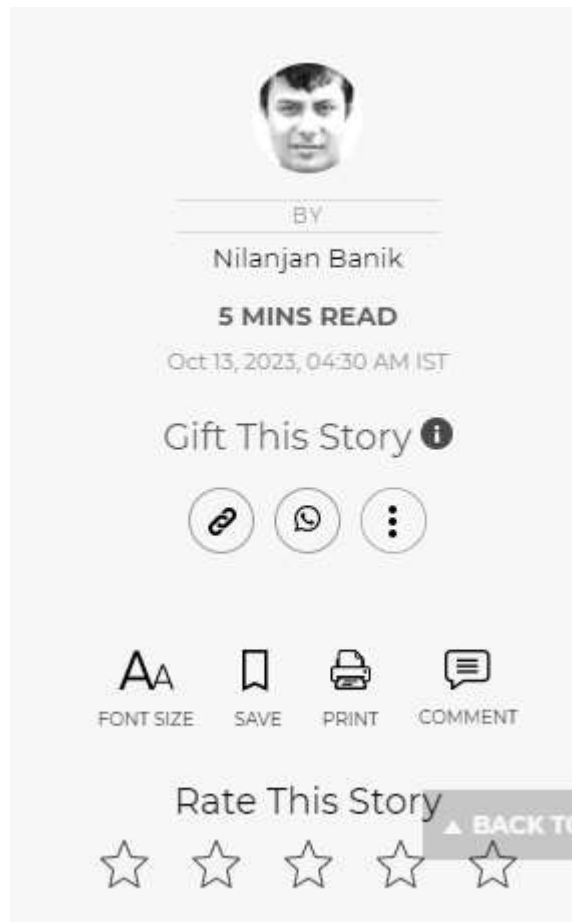
STRATEGY | ETPrime

Battling deadly Disease X: here's a checklist to prep India for logistics, operations, and finance



Synopsis

Analysing the factors that led to large-scale disruption during the second wave of the Covid-19 in 2021, a study has zeroed in on the issues that need to be prioritised to deal with a similar outbreak in the future.



Battling deadly Disease X: here's a checklist to prep India for logistics, operations, and finance

The World Health Organization (WHO) calls it Disease X. It does not exist now, but it is a concept floated by WHO to gauge the readiness of any country to fight a pandemic in the future. The model underscores the importance of vigilance, research, and preparedness in the face of emerging infectious diseases that may have a fatality rate of Ebola and is as infectious as measles.

The Covid-19 pandemic killed 6.9 million people, and for Disease X, the fatality rate can be much more. Presently, there are eight families of viruses on WHO's priority list, each one mutating in an unknown way and becoming more virulent because of climate change, which may lead to the occurrence of Disease X.

How prepared is India to deal with an outbreak of such a virus? In a counterfactual setting, we identified factors that led to a broken supply chain at the time when the second wave of Covid-19 hit India. Back then, Covid-19 was similar to Disease X, testing India's preparedness to fight the pandemic. There was a shortage of hospital beds and doctors. Disruption in the medical supply chain impacted the availability of medicines, oxygen cylinders, vaccines, PPE suits, and medical equipment such as ventilators.

In a paper titled, "Need for Policy Reforms in the Aftermath of COVID-19? An Analysis of Indian Pharmaceutical Sector", released in August, we took a detailed look at the factors that led to disruption in the supply chain at the time of Covid-19. Besides, through factor-loading analysis, we ranked these factors -- the higher the weight the more disruptive the factor impacting the vaccine supply chain. The results can serve as a policy toolkit next time there is a call for a mass vaccination drive and delivering the doses on time.

Contours of the study

The factors were categorised into operational, financial, and logistic issues. A stratified sampling approach was followed. The sample comprised medical doctors (300 in number) and pharmaceutical corporate executives (100 in number) selected from the National Capital Region (NCR) of Delhi.

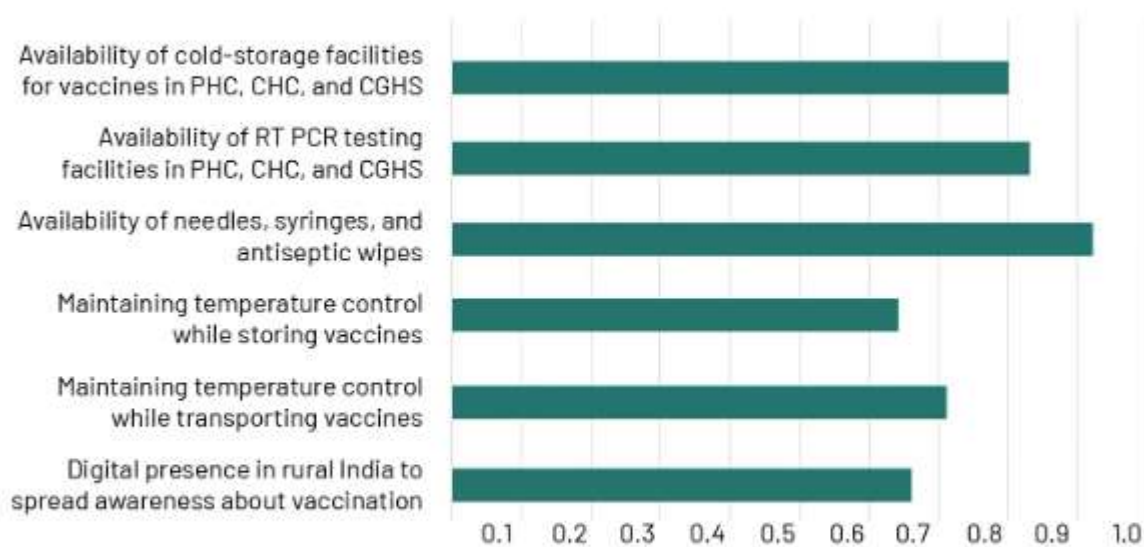
Given India's supply-chain exposure to China on active pharmaceutical ingredients (APIs), all the pharmaceutical companies selected in the survey either import APIs from China and use them to manufacture medicines and vaccines, or import medicinal equipment from China. Some firms are also dependent on imports from the US for certain critical inputs used in vaccine manufacturing. The stratified nature of the sample (random sampling without replacement) suggests that the results hold true across India.

The importance of logistics

The empirical results on supply-chain challenges in India reveal that logistical issues are quite important. For instance, people were unwilling to take vaccines due to fear emanating from a lack of trust, side effects, and concern regarding the efficacy of the vaccines. Interestingly, "religious belief" as a reason to opt out of

vaccines was not found to be significant. In addition to these demand-side factors, there were supply-side issues, too. For instance, RT-PCR testing facilities were seldom available in primary healthcare centres (PHCs), particularly in rural India. During the peak of the second wave of Covid-19 during the months of April, May, and June 2021, there were inadequate RT-PCR testing centres even in urban areas. This led to inconvenience for patients and delay in getting test results, and hesitancy in getting tests done.

Logistics issues



Figures refer to weightage

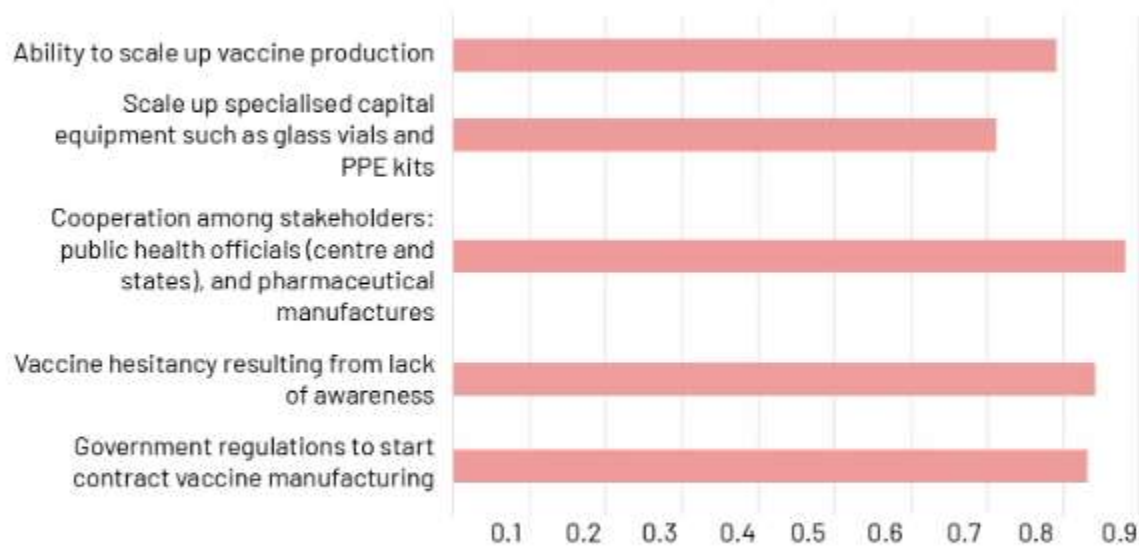
Source: Paper titled 'Need for Policy Reforms in the Aftermath of COVID-19? An Analysis of Indian Pharmaceutical Sector'



Gaps in operations

Among operational issues, lack of cooperation and collaboration among multiple stakeholders, including public-health officials, government agencies, pharmaceutical manufacturers, and distributors, gets a higher weight. Public health is a state subject in India. However, it is the central government that is responsible for drafting health policies and vaccine-delivery mechanisms. During the pandemic, there was a mismatch between the number of vaccines available for distribution and the demand for vaccines.

Operational issues



Figures refer to weightage

Source: Paper titled 'Need for Policy Reforms in the Aftermath of COVID-19? An Analysis of Indian Pharmaceutical Sector'

ETPrime

India's pandemic response suffered because of a lack of policy clarity, transparency, and accountability between the central and state governments, and manufacturers of vaccines. Initially, there were problems with the online registration portal when the government opened up registration for vaccination to Indian citizens above 18 years of age group on April 28, 2021. Thereafter, there was difficulty in online booking for vaccination when the government portal started functioning from early May 2021.

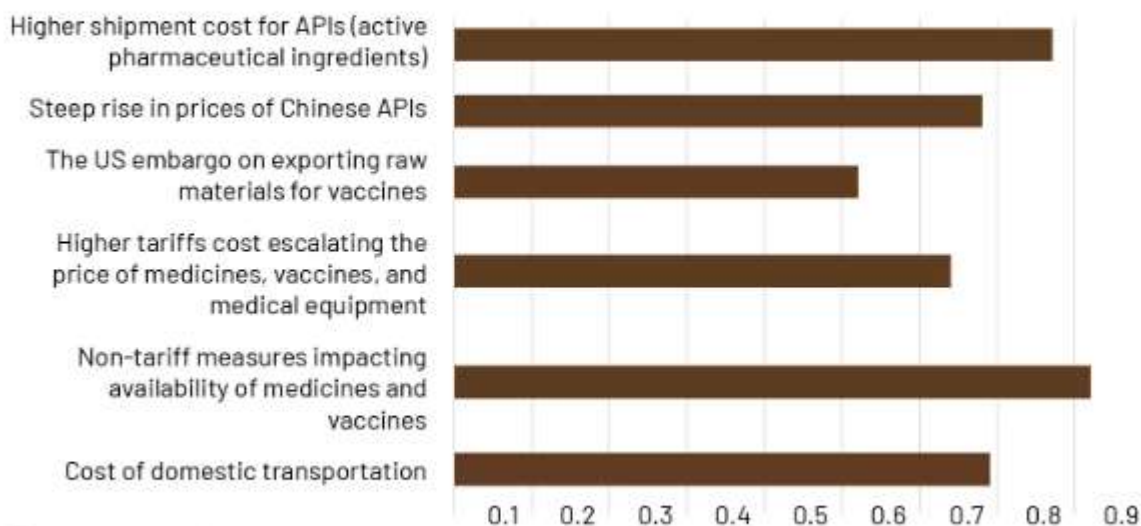
At a company level, there were problems in scaling up production, particularly with respect to getting access to skilled labour and inputs needed for vaccine production.

Price pains

Among the financial issues, although tariffs resulted in an increase in the price of medicines and vaccines, non-tariff measures (NTMs) got higher weights, implying that they played a bigger role in supply-chain disruption. Interestingly,

the US embargo on exporting Covid-19 raw materials for vaccines had a lower weight. Trade data shows that India's imports of Covid-19 raw materials from the US increased between October 2020 and March 2021. However, the higher price of Chinese APIs was negatively impacting the supply. The extent of price-led disruptions becomes clear from the fact that Chinese suppliers of APIs and para amino phenol (used to manufacture paracetamol) increased prices by 20% and 27% in comparison to the pre-Covid-19 days.

Financial issues



Figures refer to weightage

Source: Paper titled 'Need for Policy Reforms in the Aftermath of COVID-19? An Analysis of Indian Pharmaceutical Sector'

ETPrime

What needs to be done

In the light of these issues, the government took a right decision by launching the production-linked incentive (PLI) scheme for pharmaceutical products. India is dependent on APIs and is not yet as competitive as China with respect to many pharmaceutical products. There is a need to build domestic capability and competitiveness in the API segment.

Moreover, to ease supply-chain issues in the event of a pandemic, an independent task force comprising specialists such as doctors, economists, pharmaceutical corporate executives, and engineers has to be set up. This group can take inputs from the Integrated Health Information Platform, a Web-enabled information system tracking viral outbreaks.

All state governments should be made equal participants in such government initiatives, with their inputs considered for policymaking. Once in a while, this task force can engage in mock viral-outbreak scenarios to identify problems and ensure how to make the system work better.

(The author is a professor at the School of Management, Mahindra University.)

(Graphics by Sadhana Saxena)