



PRASTAAV

THE POLICY HUB



PROPOSED POLICY MODEL FOR VACCINE DISTRIBUTION IN INDIA

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ABSTRACT

Corona virus pandemic has taken about 1.5 Lacs. Life only in India. Starting from endemic to pandemic, the race for vaccine has been neck to neck. About 145 potential candidates are at different stages of vaccine trial and 3 candidates have already published all its report and got emergency nod with respective state authorities. India, being one of the worst affected countries has been relying upon indigenously produced COVAXIN and Oxford Astra-Zeneca which may get nod by January 2021. Through this news sounds good, the distribution and viability of vaccine to all is a challenging task. This policy proposal discusses the challenges and way out for distributing Covid vaccines in India post its approval by regulatory authorities.

HIGHLIGHTS OF COVID CASES

1. CASES AROUND THE GLOBE (REPORTED)

- i. Total Cases: 80,550,000 (Approx.)
- ii. Active Cases: 22,010,000 (Approx.) [99.5% Mild & 0.5% Critical]
- iii. Deaths: 1,765,00 (Approx.)
- iv. Unreported/ Without Symptoms/ With Symptoms but not Tested: + 5%

2. CASES IN INDIA (REPORTED)

- i. Total Cases: 1.15 Cr (Approx.)
- ii. Active Cases: 3 Lacs (Approx.)
- iii. Deaths: 1,48,000 (Approx.)
- iv. Top 5 States: Maharastra, Kerela, Karnataka, Delhi. West Bengal
- v. Un Reported Stats: +10 – 15%
- vi. Without Symptoms/ With Symptoms but not Tested: +10 – 15%

CURRENT STATUS OF VACCINE

There are more than about 145 potential vaccine candidates across the world out of which about 45 have reached the critical stages.

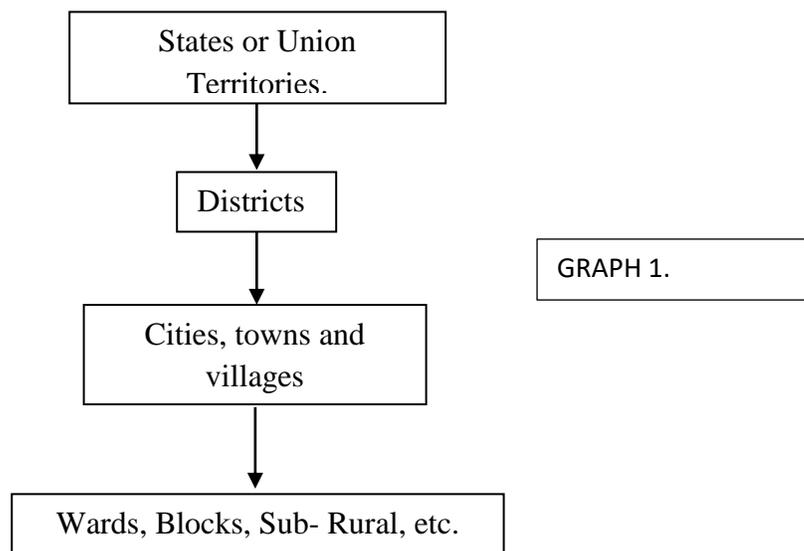
- a. **Oxford-AstraZeneca Vaccine:** 90% (After First Dose) - 70% (After 2nd Dose) Successful, (Nominal Cold Storage required) and as per report SSI (Serum



Institute of India) has approached the DCGI for emergency approval and might be available within India by end of Jan. 2021.

- b. Moderna Vaccine:** 90 -95% Successful. (2°C to 8°C Storage Required) and as per reports it has applied for emergency authorization in US and made similar deals with Canada, Japan Qatar, etc.
- c. Pfizer Inc with partner BioNTech SE:** 90 -95% Successful, (-70°C Storage required) and as per report Pfizer has approached the DCGI for emergency approval as it has already been approved in UK & Bahrain. {Severe Operational Challenges due to -70°C Storage}
- d. Bharat BioTech’s Covaxin:** Phase 3 of Trial Started in India and being an indigenous vaccine, it would have nominal cost and least operational challenges. If everything goes well, by April 2021, the vaccine can be rolled out.
- e. Spunk V:** Russia has started injecting the vaccine within their population. In India, the Phase 3 trials have started last week.

We will be dealing with answering the first question which has been mentioned in the purpose of the policy. If the vaccine becomes available in India immediately, then, the following chart is to be followed while distributing the vaccine doses throughout the country.





Looking at the above structure, it is quite obvious for us to interpret that we need a priority based approach. We will firstly-

1. Arrange the States and the Union Territories in a descending order of their number of cases per square kilo meter. Thus, we are going to apply the ‘case density’ approach and not the ‘case volume’ approach while determining which areas are to be catered to first. The formula to be used while determining the case densities will be-

$$\frac{\text{Number of COVID – 19 Cases}}{\text{The amount area (in sq.km) under consideration}}$$

2. The next step that we will follow is to find out within the States (or as the case maybe, the Union Territories), the districts which have the highest number of Corona patients’ density on the basis of the previous guideline, i.e., finding out the cases per sq. kilo meter, or the lesser area, as the case may be.
3. The next step is to apply the same calculations to cities, towns and villages.
4. Finally, we will apply the same procedure to the wards, blocks and the other subordinate divisions. This means that now we will try to priorities on a neighborhood based level.

Above all, Since the vaccine (some like Pfizer) required extreme cold chain facilities {– 70* C}, there should be proper infrastructure setup (i.e. not available) for distributing vaccine needs to be setup as soon as possible. Proper logistics and transportation layout should also be prepared subject to aforementioned **graph 1 at respective levels separately.**

Basis of the Distribution Priority-

We are well aware of the fact that CORONA virus is a pathogen, which spreads faster if there are too many people confined in a smaller area.

That is why we have taken the CORONA patients’ density criterion to determine the priority of vaccine distribution, rather than taking the number of patients in a particular area.

The biggest mistake that people make under such situations of pressure is to attend to those areas which have a higher volume of people. On the contrary, in order to inhibit the spread of these viruses, we need to eliminate the virus from the densely infected regions within the country.



The Priority Cases:

- 1. Severe Cases.**
- 2. Healthcare Workers.**
- 3. People above 45 Years.**
- 4. People with other health risks/ Adults at risk.**

Post-Distribution Guidelines-

After the vaccine is distributed, the stages to be controlled are as follows:

1. Only trained medical staff should be employed to infuse the vaccine. No compromise on this part should be allowed or else the lifesaving vaccines which are said to be time and temperature-sensitive may become ineffective and the desired results may not be obtained.
2. Disposal of the syringes and empty vials of the vaccine should be done with adequate care, as taken in respect of bio-disposable wastes. If possible, they should be burnt under closed heat chambers.
3. Vaccines should not be a taxable commodity and should be sold at Government prescribed rates only.
4. A batch of vaccines should be kept separate for meeting any emergency eruption of COVID-19 cases in certain areas.
5. Vaccines should be preferentially given to the immediate family members of COVID-19 patients, then to the neighbours and thereafter to the people in the locality especially those who move out for their jobs and earnings. This process shall check the spread of the virus from person to the locality and thereafter, in the society.
6. Most important aspect of buying the vaccines should be the assessment by the Government of the distribution channels and the time taken to reach vaccines from one level to the other- depending on which the procurements of the vaccines should be done and no vaccine should be allowed to go as a waste due to the status expired.

Replication-



The first and foremost task, after the vaccines have been distributed in accordance with the guidelines, is to make sure that we replicate our own vaccines, using the samples which have been provided to us. In case we develop our own successful vaccine, then, that is altogether a different story. However, if a foreign nation is the supplier of the vaccine, then in that case, it would be replicated and produced domestically under the provisions of the Patents Act, 1970, Sections 82 to 94¹, to be precise.

Under this policy, it would be feasible for us to produce our own vaccines, which would be available for us at lower prices and then, it would be possible for us to cope-up with the virus, economically as well. We can't create 'public booths' (due to the social distancing norm), as in the case of polio. The vaccines should primarily be provided to the ailing people, so that we can at first bring down the count of the number of COVID-19 positive people. Once we see that India has zero number of patients, we will start providing the vaccines to everyone as in the case of other mass vaccination campaigns.

Besides the general public, we will also, as a compulsion, provide the vaccine to all the army personnel, Government servants (including all the types) and other appropriate people following the Order of Precedence.²

Restrictions on the People under the Policy-

1. No person, until the CORONA pandemic is officially declared to have been over, shall be allowed to buy vaccines in excess or even as a precautionary measure, to stack-up in their homes, godowns or any other place.
2. No other entity, other than the licensed ones, shall be allowed to trade in the vaccines. This means, that the Government should exercise partial to complete monopoly while dealing with the distribution of the vaccines.

General Guidelines-

1. No one shall be allowed to move about without wearing masks.

¹ The Patents' Act, 1970, India, *available at*: http://www.ipindia.nic.in/writereaddata/Portal/IPOAct/1_31_1_patent-act-1970-11march2015.pdf (last visited on October 21, 2020).

² Order of Precedence in India, *available at*: <https://byjus.com/free-ias-prep/table-of-precedence-of-republic-of-india/> (last visited on October 21, 2020).



2. Schools and colleges shall continue to function as per the online mode of education. The schools and colleges shall make a report of the number students who are unable to access the online modes of teaching due to the lack of technological aids. Those students, subject to the restrictions as prescribed by the Government, shall be provided with the appropriate means.
3. The stray animals shall also be taken care of, by providing them the appropriate means to survive, at least.

Miscellaneous-

1. The policy can be amended, subject to the conditions prevailing in the country.
2. All the unnecessary imports should be stopped till the conditions become better. What exactly is 'unnecessary' is upon the discretion of the Central Government, after consulting the State Governments of each and every State, or the Lieutenant Governors, in case of the Union Territories.

NEW STRAIN OF COVID 19 VIRUSES

Since November 2020, the United Kingdom (UK) has reported a rapid increase in COVID-19 cases in London and southeast England. This rapid increase in cases has been linked to a different version—or variant—of the virus that causes COVID-19 (SARS-CoV-2). Public health professionals in the UK are evaluating the characteristics of this new variant.

UPDATES

- Several State of India Have again imposed night curfew.
- Flights from UK and other countries have come under scanner.
- Government has started tracing people who travelled from UK/ other countries in regard to new strain of virus\
- The government has announced a contest inviting participation from innovative startups and emerging technology specialists to augment and scale the COVID Vaccine Intelligence Network (CoWIN) system. The platform is a digitalised platform which will be used to



effectively roll out and scale up the mechanism for COVID Vaccine Distribution System, nationally.³

- Covid toll falls below 300 as on 26/12/2020 for the first time after 6 months.
- According to industry sources, India has 225 Walk-In Coolers, 57 Walk-In Freezer, 44,000 Icelined Refrigerators, 38,000 Deep Freezers, 79,000 Cold Boxes, 1.4 million vaccine carriers and 700 vans. Around 520 million Universal Immunisation Programmes (UIP) and 1.32 billion non-UIP vaccinations are done annually.⁴

Oxford-AstraZeneca Vaccine is expected to get approved by next week. Approx. 30 Cr priority cases will be vaccinated during the first phase that might take around 10 to 12 months. This will start from vaccinating healthcare and frontline workers.⁵

AS PER CALCULATIONS OF PRASTAAV IT WILL TAKE 3.5 to 4 YEARS TO COVER 95% OF POPULATION IN INDIA POST VACCINE DRIVE IS LAUNCHED.

Therefore, though the vaccine has almost arrived and is expected to get nod soon, it will be a huge challenge for the government to smoothly manage the logistic as well as transportation taking into account the challenges discussed in this policy proposal. While the government has planned it well to cover the emergency and necessary cases in first phase, this time should also be utilized to create the missing logistic infrastructure in the rural and sub – rural areas of the country. Furthermore, the pros and cons of the vaccine should be analyzed before approving it. This is because of the severe allergic reaction being caused after dose of Pfizer Vaccine that has come into light.⁶ The government should also take into account the necessary health precautions side by side due to the mutation caused. Adding on to it, awareness and outreach programmes are must till India as sufficiently vaccinated all.

³ <https://economictimes.indiatimes.com/tech/startups/government-launches-contest-to-scale-covid-19-vaccine-distribution/articleshow/79935897.cms>

⁴ https://www.business-standard.com/article/economy-policy/covid-19-vaccine-to-help-cold-chain-market-jump-17-to-rs-1-7-trn-in-cy21-120121300370_1.html

⁵ <https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html>

⁶ <https://www.nytimes.com/2020/12/25/health/Covid-moderna-vaccine-allergies.html>