

Policy Brief

Covid-19 Vaccine Procurement Strategy

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Summary

- The UK, the US and Canada have recently administered first shots of the Covid-19 vaccine; Pakistan is expected to take a decision regarding direct procurement shortly to ensure timely availability of the vaccine, given limited supply in the near to medium term and timing uncertainty associated with the vaccine supply under the COVAX initiative.
- A national consensus is required on the vaccine procurement strategy that involves relevant stakeholders and establishes criteria against which procurement decisions are made.
- Prior to procurement, there is an urgent need to ensure pre and post-introduction preparedness that involves appraisal of capacities and capabilities in terms of storage, transport and distribution of the vaccine; training of healthcare workers, public education about the vaccine and set up of monitoring tools. Analysing system capacity and capability and addressing deficiencies is essential to ensure success of the Covid-19 immunization programme.
- In addition to the funding allocated for vaccine procurement, the ancillary costs associated with deployment must also be considered and budgeted.

Identifying the problem

The UK, Canada and the US recently administered the first shots of the Covid-19 vaccine after granting it Emergency Use Authorization (EUA). The research for a vaccine began almost immediately as the deadliness of the virus became apparent worldwide. Once vaccine research started showing promising results, developed countries started pre-ordering large volumes of the leading candidates through advance orders.

As of December 2020, Pakistan has not made any advance purchase orders. According to Special Assistant to Prime Minister on Health, Dr Faisal Sultan, the government is in touch with several countries and the vaccine is likely to be made available in Pakistan in April 2021. The Federal government has allocated \$150 million for vaccine purchase. As part of the procurement process, Pakistan has signed non-disclosure agreements with multiple multinational companies under which they will be able to share the data that verifies the efficacy of their vaccines. The government plans to sign a purchase agreement with more than one company based on the data and progress they will share. Sourcing from multiple companies will also ensure reliable flow of vaccine supply.

The NCOC has finalized its recommendations for the procurement of the vaccine and presented them to the cabinet¹. A group of experts working with the NCOC has recommended that the government enhances its engagement with the global vaccination alliance GAVI and China. As a Chinese vaccine CanSinoBio is already undergoing phase 3 trials in Pakistan, it opens opportunities for preferential supply and pricing for Pakistan².

Planning a Procurement Strategy

For Pakistan, planning a successful procurement strategy requires a multi-dimensional approach. Before the vaccine is officially introduced in the country, it requires pre-introduction and post-introduction preparation and readiness. Conducting this exercise is central to the procurement of the vaccine and the success of the immunization programme³.

Pre-Introduction: It is essential to assess ground realities, available resources and capacities, and infrastructure before selection and procurement of a vaccine. Following are the key elements required to be in place:

i. Capability and Capacity: The government must assess the public and private health systems' capacity to manage vaccination at a large scale. For instance, will the introduction of a new vaccine marginalize other critical immunization programmes? Is the healthcare system capable of conducting immunizations while continuing to manage the substantial disease burden?

Assessing system capacity is important to identify gaps and take corrective measures to ensure that the immunization program is successfully delivered, without compromising the overall healthcare agenda.

ii. Cold Chain, Transport and Storage: It is essential to assess existing capacity for storage and distribution of the vaccine before the vaccine is procured. Pakistan currently does not have the cold-chain or storage system in place to handle large quantities of a vaccine that requires extreme cold storage. The vaccines produced by Pfizer (-70°C) and Moderna (-20°C) both fit into this category. An evaluation of operational infrastructure can help prioritise a vaccine that can be easily maintained and stored under the current cold-chain infrastructure.

iii. Mapping the Population: In order to plan for and deploy immunization, the government has to be able to distribute vaccines on a large scale in an equitable fashion. The use of technology can support mapping of the population. GIS (Geographic Information Systems) and AI (Artificial Intelligence) can together inform the government's decision making in ensuring that the vaccination resources are distributed equitably⁴.

iv. Waste Management: The ambition for the Covid-19 vaccine is to immunize a large portion of the population. This means that it is essential to assess the additional waste management needs and to determine whether incinerators need to be repaired or expanded or additional ones built to handle the increased needs.

v. Training of Health Workers: A training program is planned for vaccine administration. The government must ensure that training includes information on the disease and vaccine, educating the patient regarding the vaccine, record keeping, storage, preparation and administration of the vaccine, and most importantly what to do in case of emergencies like side effects.

vi. Public Attitude: Addressing misinformation regarding the vaccine is important to ensure its success; recent polls show that 40% of Pakistanis are hesitant about the Covid-19 vaccine⁵. The government should focus on mechanisms which can increase public trust and acceptance towards the forthcoming vaccine.

Post-Introduction: It is also essential to ensure that appropriate monitoring mechanisms are in place for various aspects of the vaccination process. A National Immunization Management System is being rolled out by the government; it must have provision to capture data for the following areas:

i. Surveillance and Reporting System: It is important to put a surveillance and reporting system in place which can help address adverse events following immunization (AEFI). Its purpose will be to aid with responsiveness, timely decision making and problem-solving.

ii. Monitoring System: The Covid-19 vaccines currently available require 2 doses per person for immunization. A monitoring system will be required to make sure that the patient receives two doses of the same vaccine on time.

iii. Disease Surveillance: It has to be an integral component of the immunization programme to study the effectiveness of the vaccine in the population, which will drive future procurement decisions.

iv. Wastage Monitoring: The risk of wastage due to improper storage or mishandling exists with every vaccine. An effective vaccine wastage monitoring system will help minimize these losses. It is important to figure out what the acceptable levels of wastage will be, so the vaccine is procured in a way that does not compromise the coverage target.

Pre and post-introduction preparations will entail additional costs. For instance, training of health workers, increase in personnel, expansion of cold chain storage and transport system, expansion of waste management system, establishing surveillance and reporting mechanisms and monitoring and evaluation programmes, will require funding. In the absence of this assessment and cost-analysis, procurement and distribution of a vaccine will lack effective realization.

Importance & Implications

Pre and Post-Introduction Preparedness

The analysis of the cold-chain system and waste management will give the government a much clearer sense of the kind of vaccine(s) it should procure. However, the focus on other above-mentioned areas will ensure the success and effectiveness of the immunization programme in the long-term.

Vaccine Availability through COVAX

Although COVAX has pledged to provide vaccines for 20% of the Pakistani population, there is uncertainty around its timely delivery and availability. Officials have said that they "hope" to acquire vaccine for 3% of the population by Q2 2021 through COVAX. Another factor is the availability of funding and resources to COVAX, which can impact the quantity supplied to LICs and LMICs⁶. The picture is grimmer in light of a recent report indicating that lack of funds and supply risks may hinder COVAX's goal, pushing the access to vaccine for developing countries to 2024⁷.

Pakistan's Vaccine Procurement Policy & Funding

Pakistan's national policy is to procure a vaccine that has WHO pre-qualification. However, given the urgency of the situation, the government looks to follow the same direction as other countries by procuring vaccines with Emergency Use Authorization. A vaccine that is registered in a developed country can also receive a EUA within Pakistan.

The government plans to acquire minimal quantities of around 100,000-150,000 for phase 1 of the immunization programme. The cold storage for this will be provided with the assistance of Pfizer⁸. Pakistan also plans to procure 100,000 to 500,000 doses of the Chinese vaccine by the end of February or early March on priority basis given that they are conducting phase 3 clinical trials in Pakistan.

The challenge with the Chinese vaccine is that it is neither pre-qualified by WHO nor is it registered by any other developed country. Hence, the vaccine would have to be licensed and registered with Drug Regulatory Authority of Pakistan (DRAP). An additional challenge with this vaccine is its financing. Pakistan has contacted World Bank for advance purchase of vaccines and requested funding of \$153 million. The Pakistan government will not be able to use these funds to procure vaccine from China since the World Bank has a condition that the vaccine would either have to be WHO pre-qualified or should have Stringent Regulatory Authority (SRA) approval i.e. FDA, EMA, etc. Given China's rising tensions with the US and its allies, it is unlikely its vaccines will receive an SRA approval in the foreseeable future.

Cost of Immunization Programme

The cost of the vaccine will not just be limited to the cost per dose. It includes costs related to introducing a specific product into the immunization programme. An important aspect to consider is the safety of the vaccine and selecting the one that is least likely to result in programmatic errors. In addition to this, administering a vaccine requires syringes, swabs, refrigerators, boxes, cold boxes, carriers and solar panels in areas where there is no electricity. All of these will bring additional costs.

Recommendations

1 The government must establish a national consensus on vaccine procurement criteria.

The government must establish a national level parliamentary committee that will deal with the selection, procurement, distribution, and storage of the vaccine. One of the most important decisions that this committee should take up is the criteria that will be used to make vaccine procurement decisions. This should be based on a robust, unanimous standard, and any vaccine procurement should be compliant with this process.

2 The government needs to ensure pre and post-introduction preparedness.

The government must conduct an appraisal of its capacities and capabilities in terms of storage, transport and distribution of the vaccine and plug-in gaps where identified, on a priority basis. For this purpose, an inter-provincial assessment/survey should be conducted to analyse the capability and capacity of each province, and megacities within each province. The training of healthcare workers is essential in addition to educating the public about the vaccine. Ensuring that the monitoring tools, as identified earlier, are up and running by the time vaccination starts is also extremely important to realize the desired results. Funding for the ancillary costs must also be ensured.

3 Two-pronged vaccine procurement strategy

The government must fast-track its decision-making process for direct procurement to ensure timely availability of the vaccine, given limited supply in the near to medium term with manufacturers and timing uncertainty associated with the vaccine supply under the COVAX initiative.

Endnotes

¹Ikram Junaidi, NCOC finalises vaccine procurement recommendations, DAWN, 1 December 2020. Available at: <<https://www.dawn.com/news/1593369/ncoc-finalises-vaccine-procurement-recommendations>>.

²Arab News, Pakistani experts finalize recommendations for speedy procurement of COVID-19 vaccine, 20 August 2020. Available at: <<https://www.arabnews.pk/node/1722226/pakistan>>

³WHO, Principles and considerations for adding a vaccine to a national immunization programme, 2014.

⁴<https://datasmart.ash.harvard.edu/news/article/how-ai-data-science-can-foster-more-equitable-distribution-health-resources-during>

⁵Shahbaz Rana, 40% Pakistanis wary of coronavirus vaccine, Tribune. Available at: <<https://tribune.com.pk/story/2275994/40-pakistanis-wary-of-coronavirus-vaccine>>.

⁶According to a statement from an interview with an anonymous source in the NIH.

⁷ Francesco Guarascio, EXCLUSIVE-WHO vaccine scheme risks failure, leaving poor countries no COVID shots until 2024, Reuters, 16 December 2020. Available at: < <https://www.reuters.com/article/health-coronavirus-who-vaccines/exclusive-who-vaccine-scheme-risks-failure-leaving-poor-countries-no-covid-shots-until-2024-idUSL8N2IV50J>>.

⁸According to a statement from an interview with an anonymous source in the NIH.



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