How to Make Use of Oversupply of COVID-19 Vaccine Doses to Close Gaps in Vaccination Coverage

Background

Since the last quarter of 2021, countries in the Region of the Americas have been receiving increasing amounts of vaccines against coronavirus disease 2019 (COVID-19), which is essential in order to quickly address gaps in vaccination coverage. In some cases, this has led to an oversupply of vaccine stocks. This makes it is necessary to implement strategies that ensure timely immunization practices and avoid the expiration and consequent discarding of these vaccines.

In addition to the difficulty of ensuring that all doses are used before the expiration date, the increased supply of COVID-19 vaccines also presents logistical and operational challenges. Countries face obstacles that include:

- limited storage capacity, especially at local levels.
- the logistics involved in ensuring the deployment of COVID-19 vaccination, considering that this involves vaccines with different characteristics (presentation, storage temperatures, dosage, handling procedures, shelf life, and target groups, among others).
- difficulties in providing vaccination at the first level of care, and in conducting mass vaccination campaigns in coordination with other essential health services.
- the infodemic and misinformation, which have caused controversy and affected the community's acceptance of vaccination.

Objectives

The objectives of this publication are to:

- provide Member States with recommendations for the review and adaptation of COVID-19 vaccination strategies in the context of the rapidly expanding supply of available vaccines, in order to ensure that vaccine doses are used optimally before reaching their expiration date.
- accelerate the use of COVID-19 vaccines in order to close gaps in vaccination coverage and mitigate the risks of hospitalization and death in the community.
- take advantage of the investments made in cold chain operations to deliver COVID-19 vaccines to the most remote areas and to populations in situations of vulnerability.
- help countries monitor the use of COVID-19 vaccines, thereby mitigating the risk of losing unopened vials of vaccine to expiration.

Strategies

The strategies to meet these objectives are:

- Identify priority municipalities.
- Identify priority populations.
- Increase vaccine demand.
- Facilitate co-administration with other vaccines.
- Decrease the percentage of available vaccines that are wasted.

- Social communication.

The characteristics of each of these strategies are described below:

Identify priority municipalities

Priority municipalities have:

- a large number of people who have not received any dose of COVID-19 vaccine (zero-dose population).
- Low vaccination coverage with completed primary series (i.e., first two doses).
- Dropout rates higher than 5-10% between the first dose and the second or third dose:
    - Low vaccination coverage with completed primary series and booster doses (these indicators should be disaggregated by priority populations: health workers, older people, and other priority groups in the country).
- Different types of vulnerabilities (e.g., indigenous population and migrants).
- Limited refrigerated storage capacity and ultra-cold-chain capacity.

Based on this information, bottlenecks can be identified, causes analyzed, and a work plan developed that includes action at all levels. It is suggested to review *Introducing COVID-19 vaccination: Guidance for determining priority groups and microplanning* (*1*).

The following aspects should be considered:

- Availability of necessary resources (supplies, human and financial resources) and possible reallocation to priority municipalities.
- Updating of microplans.
- Communication with residents in the areas scheduled for vaccination regarding the days and hours of operation and the strategies to be deployed (e.g., mass vaccination sites, mobile teams, and intramural vaccination).
- Timely recording and reporting in the country's information system (all vaccine doses administered, regardless of the vaccination strategy).
- Timely recording and reporting in the country's cold chain registries (all vials used during each vaccination session, regardless of the vaccination strategy).

Identify priority populations

This involves the following:

- Focus activities on high-risk groups (such as health personnel, older people, immunocompromised people, and pregnant women), including vulnerable populations (people living in informal settlements, prisons, and peri-urban areas, among others). This will help reduce deaths, hospitalizations, and serious illness, as well as keeping essential services running.
- Prioritize completion of the primary vaccination series and booster doses established by the country.
- Establish schedules for heterologous boosters, particularly for those who have received the Sinovac or Sinopharm vaccines and are in high-risk groups, in accordance with the recommendations of the Strategic Advisory Group of Experts (SAGE) (*2–4*).

Increase demand

This strategy consists of the following activities:

- Offer vaccines in all public and private sector health facilities to all eligible individuals.

- Determine the vaccination status of people who come to health services for any reason, in order to avoid missed opportunities for vaccination and motivate these people to ask for the vaccine.
- Extend the hours of operation of immunization services on evenings and/or weekends in order to facilitate spontaneous demand and keep up with pre-established appointments, according to the needs of the population.
- Increase mass vaccination campaigns in strategic high-traffic public places such as banks, churches, playgrounds, squares, gas stations, and supermarkets.
- Vaccinate children 5 years and older with the approved vaccine for their age group, provided that the supply of vaccine doses is sufficiently large and once vaccination of priority groups is ensured.
- Make vaccination posts more accessible to the population and increase extramural actions.
- Offer doses to "captive" populations (e.g., people deprived of liberty, students in schools and universities, migrants living in camps, and people living in dormitories) in order to quickly vaccinate more people.
- Train staff in the notification and investigation of serious adverse events allegedly attributable to vaccination or immunization (ESAVI) in order to properly manage them and determine their final classification, thereby alleviating public concern.

Facilitate co-administration with other vaccines

The following should be considered with regard to this strategy:

- The available evidence supports the recommendation to co-administer any type of COVID-19 vaccine and influenza (flu) vaccine, regardless of the age of the individual (*5*):
    - Based on several studies on the co-administration of COVID-19 vaccines, SAGE established that the COVID-19 vaccines produced by Sinovac (*2*), Sinopharm (*3*), Bharat (*6*), AstraZeneca (*7*) and Janssen (*8*) can be administered together with (or at any time before or after) other adult vaccines, including live attenuated vaccines, inactivated vaccines, and adjuvanted and non-adjuvanted vaccines. When administered concomitantly, vaccines should be injected at separate sites, preferably in different extremities. For children and adolescents, evidence from studies is still insufficient to make a recommendation for concomitant administration of COVID-19 and other vaccines.
- Updated recommendations for the COVID-19 vaccines produced by Pfizer-BioNTech, Moderna, and Novavax have not yet been published. At this time, an interval of at least 14 days is recommended between COVID-19 vaccination and any other vaccine (except for influenza).

Reduce the percentage of available vaccines that are wasted

To carry out this strategy, the following activities are necessary:

- Review procurement mechanisms and keep available inventories up to date at all levels of responsibility. Avoid requesting additional doses if there are sufficient stocks to serve the population still eligible for vaccination.
- Start with the vaccine doses whose expiration date is closest. This is in line with the recommended principle of using resources according to their order of arrival and expiration date and complies with good vaccine management practices.
- Ensure that health personnel in charge of vaccination receive training on the conditions of use of vaccines in multidose containers, without preservatives. Most COVID-19 vaccines included in the World Health Organization's Emergency Use Listing (*9*) do not contain preservatives, so manufacturers indicate that vials should be discarded within six hours after opening or dilution.
- Offer doses to any eligible person, even if a bottle needs to be opened to vaccinate only one or two people. The benefits of timely contact with a person always outweighs the cost of the vaccine.

Therefore, it is always recommended to open a vial for a small number of people or even a single person (*10, 11*). This recommendation applies particularly to hard-to-reach rural communities and requires close monitoring of national vaccination deployment plans.

- At the national level, vaccine stocks and vaccine use should be reviewed at least once a week. When necessary, vaccine doses may be redistributed within the country to optimize their use.
- Evaluate the possibility of establishing an updated electronic inventory management system for vaccines and supplies in order to document the traceability of each vaccine and supplies at each level.

Social communication

All the above must be accompanied by information provided to the community regarding:

- Vaccine safety, including information about side effects:
    - Vaccine effectiveness in preventing severe illness, hospitalization, and death (*12*): A study published in the scientific journal *The Lancet* estimated that COVID-19 vaccines have prevented 14.4 million deaths worldwide, 4.4 million of them in the Americas.
- Increase communication activities in traditional and digital media (television, radio, print media, banners, brochures, text messages, and social media messages and announcements, among others), providing vaccination times, dates, and locations.
- Increase community communication activities (public announcements, megaphone advertising, and community health personnel).
- Increase social mobilization through coordination with community leaders (faith-based actors, youth leaders, local community leaders, grassroots organizations, and academic associations, among others).

References

1. Pan American Health Organization. Introducing COVID-19 vaccination: Guidance for determining priority groups and microplanning. Washington DC: PAHO; 2021. Available from: https://www.paho.org/en/documents/introducing-covid-19-vaccination-guidance-determining-priority-groups-and-microplanning.
2. World Health Organization. Interim recommendations for use of the inactivated COVID-19 vaccine, CoronaVac, developed by Sinovac: interim guidance, first issued 24 May 2021, updated 21 October 2021, updated 15 March 2022. Geneva: WHO; 2022. Available from: https://apps.who.int/iris/handle/10665/352472.
3. World Health Organization. Interim recommendations for use of the inactivated COVID-19 vaccine BIBP developed by China National Biotec Group (CNBG), Sinopharm: interim guidance, first issued 7 May 2021, updated 28 October 2021, updated 15 March 2022. Geneva: WHO; 2022. Available from: https://apps.who.int/iris/handle/10665/352470.
4. World Health Organization. Interim recommendations for an extended primary series with an additional vaccine dose for COVID-19 vaccination in immunocompromised persons. Geneva: WHO; 2021. Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE_recommendation-immunocompromised-persons.
5. World Health Organization. Coadministration of seasonal inactivated influenza and COVID-19 vaccines. Geneva: WHO; 2021. Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE_recommendation-coadministration-influenza-vaccines.

6. World Health Organization. Interim recommendations for use of the Bharat Biotech BBV152 COVAXIN® vaccine against COVID-19. Geneva: WHO; 2022. Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE-recommendation-bbv152-covaxin.

7. World Health Organization. Interim recommendations for use of the ChAdOx1-S [recombinant] vaccine against COVID-19 (AstraZeneca COVID-19 vaccine AZD1222 Vaxzevria™, SII COVISHIELD™) : interim guidance, first issued 10 February 2021, updated 21 April 2021, updated 30 July 2021, final update: 15 March 2022. Geneva: WHO; 2022. Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE_recommendation-AZD1222-2021.1.

8. World Health Organization. Interim recommendations for the use of the Janssen Ad26.COV2.S (COVID-19) vaccine: interim guidance, first issued 17 March 2021, updated 15 June 2021, updated 9 December 2021, updated 6 June 2022. Geneva: WHO; 2022. Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE-recommendation-Ad26.COV2.S-2021.1.

9. World Health Organization. COVID-19 vaccines with WHO emergency use listing | WHO - prequalification of medical products (IVDs, medicines, vaccines and immunization devices, vector control). Geneva: WHO. Available from: https://extranet.who.int/pqweb/vaccines/vaccinescovid-19-vaccine-eul-issued.

10. World Health Organization. Monitoring vaccine wastage at country levels: guidelines for programme managers. Geneva: WHO; 2005. Available from: https://apps.who.int/iris/bitstream/handle/10665/68463/WHO_VB_03.18.Rev.1_eng.pdf.

11. World Health Organization. Intervention guidebook for implementing and monitoring activities to reduce missed opportunities for vaccination. Geneva: WHO; 2019. Available from: https://www.who.int/publications/i/item/intervention-guidebook-for-implementing-and-monitoring-activities-to-reduce-missed-opportunities-for-vaccination.

12. Watson OJ, Barnsley G, Jaspreet T, Hogan AB, Winskill P, Ghani AC: Global impact of the first year of COVID-19 vaccination: a mathematical modelling study. Lancet Infect Dis. 2022. Available from: https://doi.org/10.1016/S1473-3099(22)00320-6.

PAHO/FPL/IM/COVID-19/22-0026