

Operational Considerations for Immunization Services during COVID-19 in Non-US Settings Focusing on Lower-Middle Income Countries

Accessible version: <https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/maintaining-immunization-services.html>

Background

Immunization services have been disrupted significantly during the COVID-19 pandemic, threatening the achievements in the eradication and elimination of major vaccine-preventable diseases (VPDs) like polio and measles. More than 80 million children under the age of one are estimated to have been affected by disruptions in routine immunization services in more than 68 countries and are at risk of polio, measles, diphtheria, pertussis, tetanus, hepatitis B, *Hemophilus influenzae* type b, pneumococcus, and rotavirus infections (1). As of June 1, 2020, approximately 125 mass vaccination campaigns against polio, measles, meningitis A, yellow fever, typhoid, cholera, and tetanus had been postponed.

In many countries, immunization services have been disrupted as a result of:

- Unavailability of healthcare workers as a result of their deployment to the COVID-19 response.
- Lack of personal protective equipment (PPE) to conduct immunization activities during COVID-19.
- Healthcare workers' fear about contracting COVID-19.
- Lack of vaccines due to closure of country borders as a result of COVID-19.
- Reduced demand for immunization services due to unwillingness or inability of parents to leave their homes due to fear of COVID-19.

Purpose

The purpose of this document is to provide operational considerations for the implementation of immunization services during the COVID-19 pandemic in non-US settings. Its intended users are CDC country offices, immunization program managers, and staff from partner immunization programs. These considerations are meant to supplement—not replace—any local health and safety laws, rules, and regulations.

This document provides a summary of global guidance on immunization services during COVID-19. It complements and provides reference to more detailed technical guidance from the World Health Organization, UNICEF, and the Global Polio Eradication Initiative including the [Guiding principles for immunization activities during the COVID-19 pandemic: Interim guidance](#), [the Frequently Asked Questions: Immunization in the context of COVID-19 pandemic](#), [Framework for decision-making: implementation of mass vaccination campaigns in the context of COVID-19: Interim guidance](#), [Catch-up Vaccination Resources](#), and [the Polio eradication programme continuity: implementation in the context of the COVID-19 pandemic](#).

Implementation of vaccination sessions during COVID-19

- Immunization services are essential and should be maintained as possible during the COVID-19 pandemic to prevent outbreaks of VPDs and protect children (2,3).
- Immunization delivery strategies need to be adapted depending on the VPD risk and COVID-19 situation in each country (see Table) (3–6).
- National Immunization Technical Advisory Groups (NITAGs) should be involved in decision making with regards to scheduling and implementation of routine immunization services and mass vaccination campaigns.
- Healthcare workers should regularly inform communities about the status and availability of routine immunization services and mass campaigns. Regular communication will help to reduce confusion about availability and purpose of immunization services, increase awareness of the necessary precautions in place at the immunization session site to prevent SARS-CoV-2 transmission and prepare community members who need to attend the vaccination session.
- It is likely that measures to reduce SARS-CoV-2 transmission and ensure the health and safety of both health workers and clients will remain in place for some time. Special considerations for setting up the vaccination site and maintaining good infection prevention and control (IPC) practices should be followed (4) (see Annex in [Framework for decision-making: implementation of mass vaccination campaigns in the context of COVID-19: Interim guidance](#) for detailed IPC and PPE recommendations)
 - Recommendations for vaccination site:
 - Conduct vaccination in a well-aerated area and implement frequent disinfection focusing on high-touch surfaces, [using products effective against SARS-CoV-2](#).
 - Reconfigure waiting rooms to allow for at least 2 meters (6 feet) distance between people and limit entry to only one companion per vaccination recipient. In situations where people will form lines, encourage people to stay at least 2 meters (6 feet) apart by providing signs or other visual cues such as tape or chalk marks.



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- Consider increasing the duration of the vaccination session and/or number of vaccination sites so that people can maintain physical distancing of at least 2 meters (6 feet).
- People with pre-existing medical conditions should have separate vaccination sessions.
- Separate vaccination sites from curative services by using different locations or allocating different hours.
- Alcohol-based hand sanitizer with a minimum of 60% alcohol or a hand washing station with soap and water, paper towels, and trash can (hands-free) need to be available and should be used by every person entering the vaccination site and by healthcare workers to perform hand hygiene after every client.
- Prior to entry into the vaccination site, screen vaccination recipients and companions for [COVID-19 symptoms and exposure risk](#). Those who screen positive should be offered a mask then referred to the relevant part of the health system for further COVID-19 evaluation. If feasible offer vaccination at the COVID-19 evaluation site or, if not feasible, postpone vaccination until the end of the isolation period.
- Recommendations for vaccinators
 - Vaccinators should not come to the vaccination session if they have symptoms suggestive of COVID-19 or have been exposed to a person infected with SARS-CoV-2. Please see [return to work guidance for healthcare professionals](#) for further details on when vaccinators can return to work.
 - Maintain hand hygiene after interaction with each client/vaccine recipient by washing hands with soap and water for at least 20 seconds or using hand sanitizer with a minimum of 60% alcohol.
 - Vaccinators should wear masks throughout the vaccination session, especially in areas with widespread community transmission of COVID-19.

Table 1. Framework for provision of various immunization services during the COVID-19 pandemic by degree of community transmission of COVID-19*

Immunization Delivery platform	None to minimal community transmission of COVID-19 <i>Evidence of isolated cases or limited community transmission, case investigations underway, no evidence of exposure in large communal setting</i>	Minimal to moderate Community transmission of COVID-19 <i>Sustained transmission with high likelihood or confirmed exposure within communal settings with potential for rapid increase in cases</i>	Substantial community transmission of COVID-19 <i>Large scale community transmission, multiple cases within communal settings (e.g. healthcare facilities, schools, workplaces, mass gatherings etc.)</i>
Routine immunization (RI) platform (fixed, outreach, school, mobile) (3,5)	<p>Fixed RI sessions and newborn (BCG, OPV, HepB) vaccination should continue.</p> <p>Outreach and mobile sessions can continue if there is no evidence of local transmission.</p> <p>School-based vaccination can continue if schools are open and are allowing such activities.</p> <p>Offering catch-up vaccination on an ongoing basis through the routine immunization system is a sustainable strategy for ensuring individuals are able to receive the recommended vaccine doses, especially if the interruption to immunization services is relatively short or in defined populations.</p>	<p>Fixed RI sessions and newborn (BCG, OPV, HepB) vaccinations should continue.</p> <p>Outreach, mobile and school-based vaccination might need to be suspended depending on local situation.</p>	<p>Fixed RI sessions and newborn (BCG, OPV, HepB) vaccinations should continue.</p> <p>Suspend outreach, mobile and school-based vaccination and re-evaluate the situation weekly by conducting a risk-benefit analysis. **</p>
Mass vaccination campaign (preventative supplementary immunization activity, outbreak response immunization, PIRI***)	<p>Mass campaigns can continue while maintaining standard IPC measures and using PPE.</p> <p>Catch-up vaccination following a prolonged period of interruption or reduction in immunization services may require additional large-scale intensified and specialized efforts to identify and seek out groups who have missed vaccination and close immunity gaps as quickly as possible.</p>	<p>Assess the risks and benefits** of the mass vaccination campaign based on local VPD morbidity. Consider modified approaches to vaccine delivery and If campaign is conducted provide appropriate PPE and implement standard IPC to prevent COVID-19 spread.</p>	<p>Mass vaccination campaigns should be temporarily suspended and re-evaluate the situation weekly by conducting a risk-benefit analysis ** assessing risk of delayed campaign on morbidity and mortality of the VPD and potential to increase COVID-19 transmission.</p>

(4,6,7)			
VPD surveillance (5)	VPD surveillance activities should continue as usual.	At a minimum surveillance for VPDs with eradication and elimination goals should continue. Identify critical VPD surveillance activities that need to continue. Active surveillance can be maintained if surveillance officers are provided with PPE.	Identify critical VPD surveillance activities that need to continue. Community-based surveillance should be suspended.

- * For all activities, standard IPC measures need to be followed irrespective of the degree of community transmission
- ** see Figure 1 in [Framework for decision-making: implementation of mass vaccination campaigns in the context of COVID-19: Interim guidance](#)
- *** PIRI: periodic intensification of routine immunization consists of an intensified “campaign style” immunization sessions and can be used for catch-up vaccination

Catch-up vaccination

To prevent large outbreaks of vaccine preventable diseases (VPDs), timely vaccination is essential to maintaining population immunity. Health system disruptions caused by acute emergencies, including pandemics, can interrupt routine immunization services and delay mass vaccination campaigns, leading to missed vaccinations. Though unavoidable, these interruptions can result in a significant accumulation of susceptible persons. Specially planned catch-up vaccination efforts may be needed to close these immunization gaps. A catch-up vaccination strategy is an essential part of a well-functioning national immunization program and should be implemented routinely.

Definition

Catch-up vaccination refers to the action of vaccinating an individual, who for any reason (e.g., delays, stockouts, limited access, hesitancy, service interruptions, etc.) has not received doses of vaccines for which they are eligible, according to the national immunization schedule (8).

Principles of catch-up vaccination

- Catch-up vaccination can be conducted through
 - regular routine immunization service delivery (fixed, outreach, mobile, school-based),
 - periodic intensification of routine immunization (PIRI) activities (7), or
 - national immunization days.
- If not already in place, catch-up vaccination practices can be integrated into routine immunization service delivery and continue as an essential component of the routine immunization program.

Catch-up Policy/Guideline and Vaccination Schedule

- A catch-up vaccination policy or guideline and a schedule for catch-up vaccinations are essential components of an immunization program.
- Catch-up policy or guidance should be developed or revised in collaboration with the National Immunization Technical Advisory Group (NITAG) and relevant immunization stakeholders. Where guidance is required sooner than the policy development or revision processes can be completed, interim guidance for catch-up vaccination should be issued (e.g., temporary removal of upper age limits to ensure those missed as a result of service interruption are able to receive the vaccines for which they were due). At the earliest available opportunity, a formal review should be conducted to decide if the interim guidance for catch-up vaccination should be adopted.
- National immunization schedules vary considerably across countries (and sometimes within), it is not possible to recommend a ‘generic’ catch-up vaccination schedule. Common elements in all catch-up vaccination schedules should include
 - Range of ages for which the catch-up vaccination schedule applies
 - Minimum and upper age limits for each vaccine doses, per national policy (may not be applicable for all vaccines)
 - Minimum intervals between doses of the same vaccine as outlined in the Summary of WHO Position Papers – Recommendations for Routine Immunization (Table 2).

The [WHO recommendations for interrupted or delayed immunization](#) and [WHO Guidance for Planning and Implementing Catch-up Vaccination](#) will help inform development of catch-up policy and vaccination schedule.

- Catch-up vaccination policy guidance, and the vaccination schedule should be officially disseminated to all healthcare staff involved in managing and delivering immunization services.
- Any interim guidance on catch-up vaccination developed as a result of a health emergency should be coordinated closely with other related emergency response activities and organizations (e.g., WHO Health Emergencies [WHE] program, other local or international NGOs, etc.) to ensure that it is reflected in any guidance specific to the health emergency.

Provision of missed vaccine doses

- Missed vaccine doses can be provided through a variety of immunization delivery strategies as outlined in Table 1. The choice of catch-up vaccination strategies will depend on many factors, as outlined in Box 6 of the [WHO Guidance for Planning and Implementing Catch-up Vaccination](#).
- Where multiple different vaccines need to be caught up, adhere to the WHO [guidelines](#) for interrupted or delayed routine immunization to safely space doses of live vaccines whilst also optimizing the number of different vaccines provided during a single catch-up vaccination encounter.
- Where multiple doses of the same vaccine are missing (i.e. two doses of polio vaccine), minimum intervals between doses of the same vaccine should be adhered to optimize the immune response and for safety reasons. Minimum intervals for all WHO-recommended vaccines can be found in Table 2 of the [Summary of WHO Position Papers – Recommendations for Routine Immunization](#).
- Missed vaccine doses that are provided to persons outside the recommended age range should still be recorded on the home-based record (HBR) of vaccination and reported through the usual immunization information system. Vaccine doses should always be recorded in accordance with the number of doses in sequence, regardless of age of the recipient.

Communication

- Engagement with communities and implementation of communication strategies are essential to re-establish community demand for vaccination and increase awareness that it is not too late to vaccinate. Key messaging should be on increasing awareness that individuals are still eligible to come for missed vaccinations, that late vaccination still provides a high level of protection against disease, continued high safety of late vaccinations, and ensuring that individuals know when and where immunization services are currently being provided as well as the safety precautions being taken for delivery of services.
- Catch-up vaccination when immunization services are disrupted in situations of acute or sustained interruption to immunization services, it is important to monitor the situation as closely as possible throughout the period of disruption. Using national immunization information systems to monitor individuals or cohorts missing routinely scheduled vaccines or the target groups for delayed mass vaccination campaigns will help inform catch-up vaccination strategies.
- Monitoring approaches can include:
 - Continuing to monitor vaccination coverage, VPD surveillance, adverse events following immunizations, and vaccine safety concerns to identify gaps, inequalities, and disproportionately affected groups.
 - At the service delivery level, identify and maintain a record of the population, including newborns and infants, with overdue vaccines during the period of disruption. These data should be part of a routinely implemented client recall and reminder system for missed vaccine doses, based on individual vaccination records, such as health facility-based paper immunization register.
 - Monthly monitoring by district/municipality of the impending buildup of persons susceptible to each VPD of interest.
- Triangulation across data sources (i.e., vaccination coverage and surveillance data) is needed for a comprehensive risk assessment that can inform the need for catch-up vaccination, particularly in deciding the scale and type of catch-up strategies (see [WHO Guidance for Planning and Implementing Catch up Vaccination – Section 2: Strategies for catch-up vaccination after a disruption of services](#))
- To close immunity gaps as quickly as possible following a significant period of interruption or reduction in immunization services, catch-up vaccination planning may require additional large-scale intensified and specialized efforts to identify and seek out groups who have missed vaccination. [Rapid coverage assessments](#) in areas known to be particularly affected by the disruption may be necessary to identify disproportionately affected communities to prioritize for catch-up vaccination. Known high-risk and low coverage communities (e.g., displaced populations, urban poor, remote/ rural, conflict-affected) should remain a high priority for catch-up, because of existing inequalities and higher risk for outbreaks (8).
- For detailed guidance see WHO Guidance for Planning and Implementing Catch up Vaccination – [Section 2: Strategies for catch-up vaccination after a disruption of services and Closing Immunization Gaps caused by COVID-19](#).

References:

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