

Mitigating the impact of COVID-19 on control of vaccine-preventable diseases: a health risk management approach focused on catch-up vaccination

This document is a supplement to the “[Guidance on routine immunization services during COVID-19 pandemic in the WHO European Region](#)” by the WHO Regional Office for Europe. It will be reviewed regularly and updated as further evidence becomes available.

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Introduction

The COVID-19 pandemic may cause disruptions in the provision of routine immunization services and may in addition reduce demand for such services (e.g. due to concern about virus transmission, inconvenience of rescheduled appointments or transportation barriers). These challenges may result in an accumulation of susceptible individuals and ultimately the resurgence of vaccine-preventable diseases.

This risk can be reduced if national immunization programmes take measures to minimize service interruptions, as well as plan for and implement catch-up vaccination. If provision of immunization services is negatively impacted by COVID-19, implementation of catch-up vaccination will require strategies to track and follow-up with individuals who missed vaccinations, to assess immunity gaps, and to re-establish community demand.

This document aims to support national decision-makers and immunization programmes in effectively integrating the necessary response measures into existing programmatic areas. As such, It supplements the WHO "[Guidance on routine immunization services during COVID-19 pandemic in the WHO European Region](#)", and draws from WHO guidance documents related to emergency response and to routine immunization service delivery.

Phases of health risk management

Health risk management follows three phases: preparation, impact mitigation and recovery.¹ With respect to preventing outbreaks of vaccine-preventable diseases during the COVID-19 pandemic, these phases can be described as below.



Effective governance, coordination and communication, through engagement with relevant stakeholders and across interlinked programmatic areas, are essential in each of these phases.¹

Immunization programmatic areas

Actions to minimize interruptions in immunization service delivery and to plan and implement catch-up vaccination will need to be integrated in all of the following routine immunization programmatic areas. These actions should be aligned with national and/or subnational strategies to maintain essential health services during COVID-19².

1. **Policy updates and prioritization:** reduce COVID-19 transmission risks by administering as many doses as possible during each visit and by prioritizing the most vulnerable (according to age, disadvantaged groups, risk of outbreaks).

¹ Health Emergency and Disaster Risk Management Framework. <https://www.who.int/hac/techguidance/preparedness/health-emergency-and-disaster-risk-management-framework-eng.pdf?ua=1>

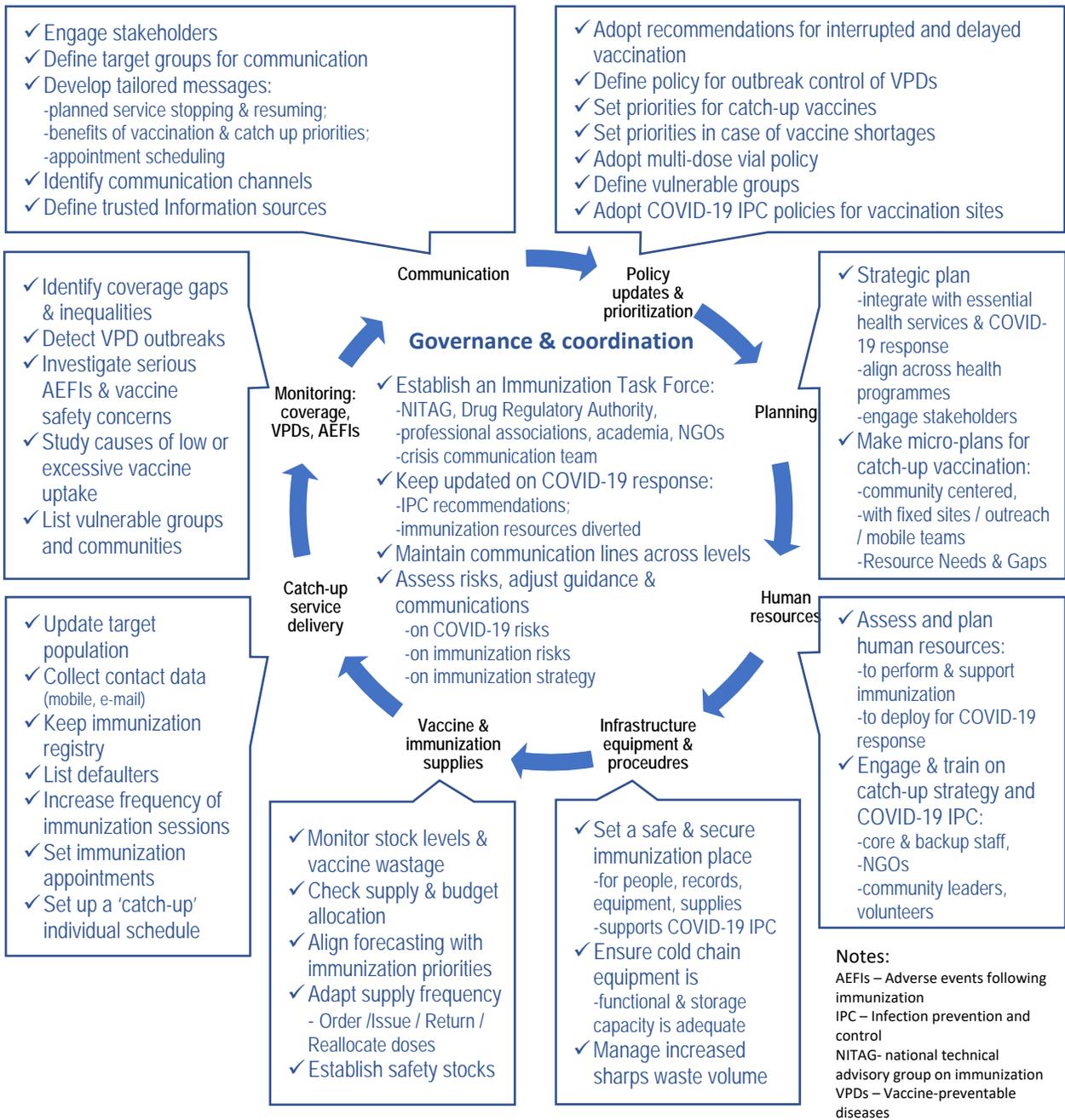
² COVID-19: Operational guidance for maintaining essential health services during an outbreak <https://apps.who.int/iris/handle/10665/332240>

2. **Planning:** plan strategically to ensure integration of immunization with essential health services and COVID-19 response; engage stakeholders; micro-plan to address specific community needs.
3. **Human resources:** assess, plan, train and involve staff within the health system and beyond it to support immunization, while staying engaged in COVID-19 response.
4. **Infrastructure, equipment and procedures:** ensure safe service delivery and a safe workplace for vaccinators; secure integrity of vaccine products and supplies.
5. **Vaccine and immunization supplies:** align supply forecasting, planning and delivery with vaccination catch-up priorities.
6. **Catch-up vaccination sessions:** prepare in advance; trace defaulters; communicate to eligible individuals; plan sessions and appointments and set up individual catch up vaccination schedules. (See more detail on this programmatic area below.)
7. **Monitoring:** monitor vaccination coverage, vaccine-preventable disease outbreaks, safety concerns among the public and uptake to identify reasons for any increase or decrease in uptake, inequalities and vulnerable groups.
8. **Communication:** inform all stakeholders through regular communication about the chosen immunization strategy, priorities and service delivery arrangements; tailor communications to reach target audiences (i.e. caretakers, communities, health professionals, organizational partners).

Progress and developments in each of the programmatic areas should be reviewed systematically by governance and coordination structures to continually inform and tailor immunization strategies and actions in all of the other programmatic areas. Actions related to the COVID-19 pandemic, including catch-up vaccination, should be an integral part of the routine immunization system, rather than be seen as parallel or add-on activities. Figure 1 provides a more detailed, though not exhaustive, list of key areas to consider and potentially adjust per programmatic area. Further information on each of the actions is available in WHO guidance related to routine immunization.³

³ Immunization service delivery and accelerated disease control documents:
<https://www.who.int/immunization/documents/control/en/>

Figure 1: Critical actions per programmatic area



Key considerations for catch-up vaccination

Timely vaccination is key to protecting young children from serious life-threatening infectious diseases and to avoid potential loss of community (herd) immunity. Any interrupted immunization services should therefore be resumed, and carefully planned catch-up vaccinations offered, as quickly as possible.⁴

Vaccination providers should administer vaccines as close to the recommended schedule and intervals as possible. Whenever a person is behind schedule on vaccinations, giving required vaccines at minimum age and with minimum intervals would ensure rapid protection against vaccine-preventable diseases.⁵

Minimizing risk of COVID-19 transmission during routine and catch-up vaccination sessions

Most people with COVID-19 develop mild or uncomplicated illness, and in some cases, infected persons show no symptoms at all (asymptomatic cases). Therefore, it may not be possible to know whether a child or adult attending an immunization session has been infected with COVID-19, even if they appear healthy.

Furthermore, all persons who have missed routine vaccinations, including contacts of COVID-19 patients and clinically recovered COVID-19 patients, should be vaccinated as soon as possible, in particular during outbreaks of vaccine-preventable diseases.

To minimize the risk of COVID-19 transmission during vaccination sessions, the following actions to be taken by immunization programmes should supplement the standard infection prevention and control precautions and measures outlined in Annex 1 of WHO recommendations for routine immunization⁶ and national COVID-19 infection prevention and control recommendations:

- Keep updated on the status of COVID-19 and vaccine-preventable diseases transmission in the community (by cross-checking clinical and surveillance records and databases, COVID-19 updates and community sources) to support communication to attendees and assist with appointment scheduling.
- Defer vaccination of persons who have tested positive for COVID-19 until COVID-19 transmission-based precautions have been discontinued. For symptomatic persons this is 10 days after symptom onset, plus at least 3 days without fever and respiratory symptoms; for asymptomatic individuals this is 10 days after they test positive⁷.

⁴ Guiding principles for immunization activities during the COVID-19 pandemic. Interim guidance. 26 March 2020.

<https://apps.who.int/iris/handle/10665/331590>

⁵ WHO recommendations for routine immunization - summary tables. Table 3: Recommendations* for Interrupted or Delayed Routine Immunization - Summary of WHO Position Papers.

https://www.who.int/immunization/policy/immunization_routine_table3.pdf

⁶ "Guidance on routine immunization services during COVID-19 pandemic in the WHO European Region". Annex 1 Programmatic considerations in conducting vaccination during COVID-19 pandemic and limiting risk of SARS-CoV-2 transmission during vaccination sessions. <http://www.euro.who.int/en/health-topics/communicable-diseases/hepatitis/publications/2020/guidance-on-routine-immunization-services-during-covid-19-pandemic-in-the-who-european-region-2020>

⁷ World Health Organization. (2020). Clinical management of COVID-19: interim guidance, 27 May 2020. World Health Organization. <https://apps.who.int/iris/handle/10665/332196>

- Advise persons presenting symptoms of mild acute respiratory infection (ARI)⁸, as well as contacts of COVID-19 cases or clinically recovered COVID-19 cases, to wear a mask during the vaccination visit to the health facility.
- Conduct screening and triage for early recognition and source control of individuals with any ARI, who may qualify as a suspected COVID-19 case. Such patients should be given a mask and be prioritized for care or directed to a separate waiting area.⁹
- Ensure separate flows of patients with well visits and sick visits, either temporally (e.g. scheduling well visits in the morning and sick visits in the afternoon) or spatially (e.g. using different areas or locations).
- Establish dedicated vaccination sessions for people at high risk of severe COVID-19 disease, namely older adults and people with pre-existing medical conditions (such as high blood pressure, heart disease, respiratory disease, or diabetes).
- Limit the number of caretakers accompanying the person to be vaccinated to the absolute minimum required for care and support.
- Ensure the availability of hand sanitizer or a hand-washing facility for attendees at the entrance of the health facility.
- Provide respiratory hygiene guidance, advising attendees to cover their nose and mouth with a tissue or elbow when coughing or sneezing and to perform hand hygiene after potential contact with respiratory secretions.

Assessing vaccination status

Immunization providers should actively review an attendee's vaccination history and verify that all previous doses were administered after the minimum age and in accordance with minimum intervals⁵.

Written, dated records on received vaccinations, history of natural disease or presence of Bacillus Calmette–Guérin (BCG) vaccine scar should be accepted as evidence of vaccination or immunity. If evidence of vaccination or natural immunity against a particular vaccine-preventable disease cannot be identified, a person should be considered susceptible to that disease and provided with the age-appropriate vaccinations.

Assessing contraindications

Vaccination providers should always screen patients for contraindications and take standard precautions before giving each dose of vaccine.¹⁰

Currently, there are no known medical contraindications to vaccinating persons who have (or may potentially have) COVID-19 or who have been in contact with COVID-19 cases. There is no

⁸ Advice on the use of masks in the context of COVID-19. 6 April 2020. [https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak)

⁹ Infection prevention and control during healthcare when COVID-19 is suspected. Interim guidance. 19 March 2020. [https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)

¹⁰ Vaccine safety and false contraindications to vaccination. Training manual. World Health Organization. 2017. http://www.euro.who.int/_data/assets/pdf_file/0009/351927/WHO-Vaccine-Manual.pdf

evidence that vaccination would increase the risk of a child becoming infected with COVID-19, nor that vaccination would affect the course of the disease.

As described above, to prevent spread of COVID-19 at the health facility, persons who have COVID-19 should be vaccinated according to the national immunization schedule upon clinical recovery.

A person who has been in contact with someone with confirmed or suspected COVID-19 can be vaccinated anytime and should be vaccinated as soon as possible if he or she is at acute risk of contracting a vaccine-preventable disease.

Intervals between vaccine doses

Vaccine doses administered earlier than the minimum age or at less than the minimum interval should not be counted as valid and should be repeated (as age-appropriate) by following the recommended minimum interval after the invalid dose.

Should a vaccine dose be delayed for any reason, it is not necessary to restart the course; the next dose in the series should be administered as soon as possible.

Simultaneous administration and multiple injections

Simultaneous administration of several vaccines during one visit should be encouraged whenever possible, to facilitate catch-up and reduce the number of visits needed. The following general rules apply:

- Any *inactivated* vaccine can be administered either simultaneously or at any time before or after a different inactivated vaccine or live vaccine.
- If more than one *live attenuated* vaccine is to be administered, they should be given either at the same time or separated by an interval of 4 weeks. An exception to this rule is oral poliovirus vaccine (OPV), which can be given at any time before, simultaneously with, or after other live vaccines.

Multiple vaccination injections are generally well tolerated and do not increase the reactogenicity as compared with vaccines injected in separate visits.

Separate syringes and needles must be used for each injection. Two injections (separated by 2.5 cm) can be administered at one site and other injections may be administered at a different site.¹¹ Immunization providers should be provided with training on vaccine co-administration practices and on pain management.^{12,13}

Combination vaccines

Use of combination vaccines should be prioritized to reduce the number of injections patients receive, alleviate injection-related concerns and provide more protection while saving time at a single visit.

¹¹ Safety and acceptability of multiple vaccine injections.

https://www.who.int/immunization/programmes_systems/policies_strategies/multiple_injections/en/

¹² Reducing pain at the time of vaccination: WHO position paper – September 2015.

<https://www.who.int/wer/2015/wer9039.pdf?ua=1>

¹³ https://www.who.int/immunization/programmes_systems/TrainingModule_PainManagement_final.pptx?ua=1

Interchangeability of vaccines

Interchangeability of formulations: combination vaccines may be used interchangeably with monovalent formulations and other combination products with similar component antigens produced by the same manufacturer to continue the vaccination series.

Interchangeability of combination vaccines from different manufacturers: vaccination should not be deferred because the brand used for previous dose(s) is not available or is unknown. If different brands of a vaccine require a different number of doses for series completion (e.g., *Haemophilus influenzae* B, rotavirus vaccines), the higher number of doses is recommended for series completion.

Spacing of vaccines and antibody-containing products

Inactivated vaccines can be administered either simultaneously with (using different syringes and sites) or at any interval before or after receipt of an antibody-containing product.

Live vaccines (with few exceptions⁵) should be delayed after an antibody-containing blood or blood product is received until the passive antibody has degraded (at least 3 months¹⁴).

If the interval between administration of measles-mumps-rubella (MMR) or varicella vaccines and subsequent administration of an antibody-containing product is <14 days, vaccination is repeated after the recommended interval.

Monoclonal antibody products linked to a specific disease, including COVID-19, do not interfere with the immune response to live or inactivated vaccines.

¹⁴ Weekly epidemiological record. No. 29, 2011, 86, 301–316. Rubella vaccines: WHO position paper. <https://www.who.int/wer/2011/wer8629.pdf?ua=1>

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