Guidance on operational microplanning for COVID-19 vaccination

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WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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Acronyms and abbreviations

AEFI     adverse event following immunization
ART     antiretroviral therapy
CBO     community-based organization
CSO     civil society organization
GIS     geographic information system
IPC     infection prevention and control
JSI     John Snow, Inc.
M-RITE    MOMENTUM Routine Immunization Transformation and Equity
NGO     nongovernmental organization
PFM     public financial management
PHC     primary health care
SAGE     Strategic Advisory Group of Experts on Immunization
SARS-CoV-2 severe acute respiratory syndrome coronavirus 2
SOPs    standard operating procedures
UNICEF United Nations Children’s Fund
WHO     World Health Organization
Introduction

PURPOSE OF THIS GUIDANCE

The purpose of this guidance is to strengthen the capacity of immunization staff in districts and health facilities to:

- update existing COVID-19 vaccination microplans;
- identify and target COVID-19 vaccine uptake in priority-use groups;
- regularly use data to monitor and take corrective action; and
- align with longer-term plans to integrate COVID-19 vaccination with primary health care (PHC) services, including essential immunization.

The trajectory of the COVID-19 pandemic remains unknown. At the time of this writing, the most likely future scenario, as described by WHO, suggests that SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) will continue to evolve, but will not become more virulent. Periodic surges in transmission may occur, which may require periodic boosting at the least for high-priority populations.

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1 High priority-use groups are older adults, older adults with multiple significant comorbidities, oldest adults, and younger adults with significant comorbidities or severe obesity. The following three additional high priority-use subgroups each have special considerations related to their designation as “high priority:” adults, adolescents, and children 6 months and older with moderate to severe immunocompromising conditions; pregnant adults and adolescents; and frontline health workers (WHO SAGE roadmap on uses of COVID-19 vaccines in the context of Omicron and substantial population immunity, March 2023).
Consequently, the revised WHO global goals for COVID-19 vaccination are (1):

- to sustain and enhance momentum to reduce mortality and morbidity, protect the health systems and resume socioeconomic activities with existing vaccines; and

- to accelerate development and access to improved vaccines to achieve durable, broadly protective immunity and reduce transmission

**AUDIENCE**

This guidance is intended for immunization programme staff in districts and health facilities who plan, implement and/or monitor COVID-19 vaccination operations, and/or staff and stakeholders who support related health programmes (such as childhood immunization, antenatal care, noncommunicable diseases and HIV services).

**SCOPE OF THIS DOCUMENT**

This guidance includes planning templates for use during COVID-19 vaccination microplanning. This document is a revised edition of the version released in November 2021 and contains updated information on the following (2):

- **WHO’s global COVID-19 vaccination strategy (July 2022 update) (1) and related monitoring metrics (3);**

- **WHO interim policy recommendations on:**
  - prioritizing use of COVID-19 vaccines (March 2023 update) (4);
  - an extended primary series with an additional vaccine dose for COVID-19 vaccination in immunocompromised persons (26 October 2021) (5);
  - heterologous COVID-19 vaccine schedules (December 2021) (6);
  - recommendations for primary series and boosters according to priority-use groups (March 2023) (4); and
  - decision-making considerations for the use of variant updated COVID-19 vaccines (June 2022) (7) and good practice for the use of variant-containing COVID-19 vaccines (February 2023) (8); and

- **WHO programmatic guidance on:**
  - considerations for integrating COVID-19 vaccination into immunization programmes and PHC for 2022 and beyond (February 2023) (9);
  - implementing vaccination of health workers (2022) (10) and vaccinating elderly adults (in press); and
  - geo-enabled microplanning (February 2023) (11).
MICROPLANNING FOR COVID-19 VACCINATION

Within health facilities, equitable distribution and uptake of COVID-19 vaccines, especially by high-risk and vulnerable priority-use groups, require service delivery strategies tailored to the local context, needs and challenges. COVID-19 vaccination calls for robust, integrated, continuously funded operational microplanning, including detailed roadmaps for vaccinating members of priority-use groups in a given catchment area with scheduled doses of COVID-19 vaccines (primary series and booster doses).

A COVID-19 vaccination microplan summarizes the human, financial and logistical resources needed for COVID-19 vaccination and the geographical, demographic and sociocultural attributes of the resident population and target priority-use groups.

This guidance describes microplanning for COVID-19 vaccination as an ongoing eight-step process with periodic re-evaluation and adjustments to address challenges and leverage resources and opportunities.
Guidance on operational microplanning for COVID-19 vaccination

**Box 1** summarizes seven tips for an effective COVID-19 vaccination microplan. A framework describing each microplanning step and associated activities appears in Annex 1; additional microplanning resources can be found in Annex 2.

Planning templates designed to facilitate COVID-19 vaccination microplanning appear immediately following Step 8 in this document.

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**Tips for an effective COVID-19 vaccination microplan**

✅ **clear**
Provide details on who will be vaccinated, when, where and how often, and the strategies, roles and responsibilities of the individuals, organizations and groups involved.

✅ **resourced**
Secure the necessary human and financial resources to plan, manage, implement, mobilize, supervise and monitor vaccination activities.

✅ **realistic**
Assign vaccination teams based on the local geographic and sociodemographic context, fiscal resources and services to be offered.

✅ **people-centred**
Engage community representatives through social and digital listening and establish an understanding of the behavioural and social drivers of vaccine uptake.

✅ **integrated**
Link COVID-19 vaccination microplans and strategies with existing immunization programmes and PHC services to leverage existing systems and expand access to services.

✅ **tested**
Ensure that field supervisors validate microplans before they are finalized and implemented rather than simply having plans endorsed by high-level administrators.

✅ **adaptable**
Microplans must have the flexibility to accommodate emerging and accumulated evidence and experience that lead to competing priorities and changes in vaccine supply/types, resources and service delivery modalities.

PHC: primary health care.
INTEGRATING COVID-19 VACCINATION WITH IMMUNIZATION AND PHC SERVICES

Achieving greater sustained COVID-19 vaccination uptake requires its partial or full integration into existing service delivery platforms (such as the national immunization programme, PHC or other relevant health services) or new entry points for vaccinating high-risk priority-use groups (9).

Delivering an integrated services package offers the following benefits (12):

- increased efficiency, sustainability and programme performance as a result of shared costs and resources, especially in settings with limited resources and/or that are facing competing health priorities;

- opportunities to strengthen adult immunization platforms by co-delivering the COVID-19 vaccine with other vaccines (e.g. influenza vaccines) and other health services (e.g. screening of noncommunicable diseases, deworming, family planning services, HIV services, health counselling, hygiene kit distribution);

- enhanced demand for and access to health services and improved user satisfaction; and

- achieving and maintaining satisfactory coverage, and addressing inequities.

COVID-19 vaccination service delivery can also be integrated with existing systems and initiatives such as data and monitoring systems; supply, cold chain and waste management; joint planning and financing; human resources and training; and demand-generation and community engagement activities.

Planners in health districts and facilities should follow national guidelines to align catchment area plans for COVID-19 vaccination with childhood and other health interventions that can be provided via multiple service delivery options (fixed-site, outreach or campaign mode). Annex 3 lists potential opportunities for integration that often surface during microplanning for COVID-19 vaccination.

More details on integration appear in Considerations for integrating COVID-19 vaccination into immunization programmes and primary health care for 2022 and beyond (9).
Coordinate with major stakeholders to identify and locate priority-use groups in the catchment area, estimate their size, and select an appropriate service delivery strategy for each.

Compare and triangulate national population estimates with local data sources and population estimates (for example, from previous vaccination activities).

Use paper-based or digital maps to delineate catchment area boundaries, identify missed or hard-to-reach settlements and update target population estimates.

Monitor targets and resource allocations and minimize double counting people who belong to more than one priority-use group. However, the risk of underestimating high-risk populations should outweigh the risk of double counting.
Operational microplanning for COVID-19 vaccination should comply with national guidelines for:

- estimating the overall target population in the catchment area;
- planning services for eligible target groups that are based on the catchment area’s epidemiological context, vaccine supply and COVID-19 vaccination coverage; and
- optimizing resources and strategies to reach and achieve high vaccination uptake among the highest and high priority-use groups for all vaccine doses for which they are eligible (including primary series and booster doses).

Annex 4 of this guidance summarizes the COVID-19 vaccination priority-use groups identified by WHO’s Strategic Advisory Group of Experts on Immunization (SAGE). The rationale for primary series vaccination and booster doses is primarily based on risk of severe disease, hospitalization and death, also taking into account cost–effectiveness, programmatic considerations and community acceptance (4).

**Implement the following actions to estimate COVID-19 vaccination targets.**

**1.1 Identify and estimate the population of priority-use groups in the catchment area**

In collaboration with other health workers, stakeholders and representatives from civil society organizations (CSOs) and community-based organizations (CBOs), identify and categorize the population of the catchment area into priority-use groups, in compliance with national guidance.

As appropriate, inform and seek guidance from district- and higher-level authorities, stakeholders and respected community members before including in the list of priority-use groups specific vulnerable groups.

To estimate the number of individuals in priority-use groups, use multiple sources of in-country and/or publicly available data internal and external to the immunization programme and the health department. **Box 2** lists suggested data sources.
Tool: Use Planning Template 1 (which appears following Step 8 in this document) to prepare a list of priority-use groups belonging to the catchment area and estimate their population. Planners can adapt the template by reordering, adding and removing priority-use groups or by making other need-based changes in accordance with national guidelines for COVID-19 vaccination.
1.2 Prepare line lists of individuals in priority-use groups

Prepare line lists of individuals who belong to high-risk priority-use subgroups, such as older and oldest adults; older adults with multiple significant comorbidities; younger adults with significant comorbidities or severe obesity; adults, adolescents, and children 6 months and older with moderate to severe immunocompromising conditions; pregnant adults and adolescents; and frontline health workers (10, 13).

Preparing such line lists can help to plan service delivery (e.g. when additional trained staff need to be engaged in vaccine administration and/or vaccination operations). The lists also enable vaccinators to track completion of the primary series and when to administer booster doses (e.g. line lists of older adults or adults with significant comorbidities in the catchment area who will be targeted for booster doses).

Line lists can be prepared either:

- **digitally**, using mobile applications (e.g. open-source data kits and applications to preregister individuals for vaccination scheduling and to issue certificates); or

- **manually**, when registering individuals at vaccination sites and from departmental records, registers of community health workers or informal surveys.

**Tool**: Use Planning Template 2 (which appears following Step 8 in this document) to prepare line lists of individuals in high-risk priority-use groups.

1.3 Estimate budgetary requirements for estimating targets

Adequate funding is required for aspects of COVID-19 vaccination operations, such as vaccines and logistics management, strengthening human resources via recruitment and training, vaccination service delivery, monitoring and supervision, demand generation and risk communications. Budgetary requirements may vary between health facility catchment areas due to geography and health system infrastructure, the size and reach of priority-use groups and planned vaccine delivery strategies.

When preparing a microplan, planners should develop realistic budget projections for activities and required resources. It is important to account for incremental costs specific to COVID-19 vaccination and to develop budget estimates for ongoing routine immunization and PHC service delivery (14). Such health facility-level projections should be developed for a relatively short time period, such as for the immediate 6 months, and should be aligned with annual and/or supplementary budget and planning timelines, with periodic review and revisions based on changes in vaccine supply, coverage rates and delivery strategies (15, 16).
To ensure the sustainability of COVID-19 vaccination, it is critical to integrate COVID-19 vaccination operational costs with those of other immunization and PHC services. Budget estimates developed during each microplanning step should be compiled and incorporated into district, provincial and national budget plans.

Estimate budgetary requirements and ensure that funding is allocated for activities such as:

- in-person meetings to review estimates of population size, as needed, depending on the stakeholders, travel involved, location (urban, peri-urban, rural) and allowances (where applicable);
- remuneration to local community members to enumerate individuals in specific target groups (such as younger adults with significant comorbidities or severe obesity);
- preparation of line lists, including remuneration and travel expenses for those who visit long-term care facilities, medical institutions and other settings; and
- developing digital maps of the catchment area.
When calculating COVID-19 vaccine requirements, consider vaccine product-specific schedules for the primary series and booster doses and vaccine shelf life and wastage rates.

When calculating ancillary products needed, leverage local data and use estimates from prior mass vaccination campaigns that targeted multiple age groups, such as annual influenza vaccination activities or multi-antigen vaccination operations such as measles-rubella.

To calculate related supplies needed and plan logistics, consult national guidelines and legislation on infection prevention and control (IPC) and immunization waste management.

Develop and implement plans for proper storage and handling of vaccines and ancillary products at cold chain stores and warehouses and during distribution.
Implement the following actions to calculate vaccines and ancillary products required.

### 2.1 Calculate the number of vaccines required and total vaccine volume

The number of COVID-19 vaccine doses required is determined by (1) the number of individuals in each priority-use group, (2) the number of doses required for the primary series and booster doses by type of vaccine product and (3) the estimated wastage rate for the vaccine products to be used.

Calculating total vaccine volume helps to clarify the cold chain equipment and storage space that will be needed. Total vaccine volume depends on the packed vaccine volume per dose, presentation and the dimensions of the vaccine packaging, which differ for each vaccine product (17). Refer to product-specific documentation for COVID-19 vaccines for these details (18).

**Tool:** Use Planning Template 3 (which appears following Step 8 in this document) to calculate the number of vaccine doses required and the associated total vaccine volume.

### 2.2 Determine the types and quantities of ancillary supplies required

The types and number of ancillary products (such as syringes, masks and hand sanitizer) and recording and reporting tools (such as vaccination cards and tally sheets) required are determined by: (1) the number of individuals to be vaccinated, (2) the dosage schedule for the available vaccine product, (3) the number of COVID-19 vaccination sites, (4) the number of vaccination and other staff available for vaccination sessions, (5) whether supply items need to be replaced on a regular basis (consumable vs nonconsumable) and (6) the wastage rate of each product.

To ensure the availability of sufficient ancillary products and related logistics, ancillary product estimates and stock available should be monitored and updated on a regular basis, in accordance with storage requirements. Use catchment-area experiences from prior vaccination activities, such as annual influenza and multi-antigen vaccination operations like measles-rubella vaccination, to identify the types and quantities of ancillary products required (Annex 5).

### 2.3 Estimate budgetary requirements for ancillary supplies

If ancillary products and recording/reporting tools are not provided through national/provincial stores, estimate their costs and ensure that funding is allocated for them.
KEY POINTS

Ensure the availability of updated information on cold chain infrastructure and COVID-19 vaccine product-specific requirements for timely response to vaccine storage emergencies.

Develop and communicate integrated standard operating procedures (SOPs) for storing and handling COVID-19 vaccine products with other vaccines to ensure vaccine effectiveness and safety at every point along the supply chain.

Ensure that staff are adequate in number and trained to manage the storage, handling and transportation of COVID-19 vaccines, other vaccines and medical supplies used to co-deliver PHC services and other vaccines.

To ensure timely use and prevent vaccine wastage, continuously monitor the shelf life of vaccine product(s) and comply with national guidance regarding the redistribution of excess vaccines to other health facilities or districts.
Implement the following actions to plan the management of COVID-19 vaccines and ancillary supplies.

3.1 Compile information on existing cold chain facilities and equipment

Compile/update the following information to plan vaccine management and ensure a timely response to any storage- or supply-related emergencies:

- availability of cold chain infrastructure and functional power-operated equipment (such as cold rooms, refrigerators and freezers) at government and nongovernment facilities and establishments in the catchment area (e.g. in hospitals, drugstores, pharmacies, blood banks, and medical and nursing teaching institutions);

- access to equipment and facilities with the recommended storage temperature ranges in accordance with COVID-19 vaccine product-specific guidance;

- space available in cold chain equipment and storage facilities for storing COVID-19 vaccines after subtracting the maximum space required to store other essential vaccines and temperature-sensitive pharmaceuticals;

- an inventory of passive cold chain equipment (vaccine carriers, cold boxes and coolant packs) needed for vaccine storage at vaccination sites, during vaccine transportation and for storage backup in emergency situations, such as equipment or power failure;

- existing supplies and processes for replenishing coolant packs (in frozen, conditioned or cool form);

- name and location of staff who have received formal training/certification in vaccine and logistics management;

- distribution schedule and replenishment processes for COVID-19 and other vaccines; and

- cost of leasing or hiring nongovernment storage space and/or cold chain equipment.

Ensure compliance with manufacturers’ COVID-19 vaccine product-specific requirements for storing and handling vaccines throughout the supply chain (19).

Assess the overall upkeep of each facility identified for storing vaccines and ancillary products, the availability of sufficient trained staff to manage supplies, monitoring systems to ensure compliance with required storage conditions and security systems to prevent entry of unauthorized persons.

Tool: Use Planning Template 4 (which appears following Step 8 in this document) to compile and update information about the catchment area’s cold chain infrastructure in government and nongovernment sectors.
Vaccination microplans should contain handmade or digital maps of the catchment area showing the location of health facilities, cold chain storage sites, warehouses, waste management facilities (government and nongovernment), outreach vaccination sites and the network of roads connected to each facility. Maps facilitate planning, implementing and monitoring vaccine storage, transportation and service delivery. Maps also help in identifying vaccination sites that require additional resources, such as those located on the edge of a catchment area, in difficult terrain or in sparsely populated settlements and humanitarian settings. Annex 7 provides more information and additional resources on digital mapping and geo-enabled microplanning.

3.2 Develop plans for storing vaccines and ancillary supplies

When a supply of COVID-19 vaccines is received (or anticipated), determine the recommended storage temperature for the product, identify facilities with available space at the required temperature range and create a plan to store the vaccine doses in the facilities.

Planning for storage of COVID-19 vaccines should be based on an analysis of the following information:

- **required storage space**, which is calculated based on estimated vaccine requirements, taking into consideration the target population size, product-specific dose schedule, packed volume per dose and wastage factor (refer to Planning Template 3);

- **storage space available** at the recommended temperature range in government and nongovernment facilities and institutions (refer to Planning Template 4);

- factors such as the distance from storage facilities to vaccination sites; the connectivity of storage facilities (terrain and road conditions); the status/reliability of the power supply at storage sites; the presence of a system to continuously check and track temperature excursions, such as remote temperature monitoring devices; the availability of trained staff to oversee the handling of vaccines during transportation and storage; the cost of leasing/hiring nongovernment storage space/equipment; and the resupply cycle/schedule.

**Tool:** Use Planning Template 5 (which appears following Step 8 in this document) to analyse space, availability and other relevant factors mentioned here and to plan vaccine storage.

When managing multiple COVID-19 vaccine products with different storage and handling requirements, update the vaccine storage plan periodically. Consider developing an integrated vaccine storage plan for COVID-19 vaccines, childhood and other vaccines, and supplies for primary and essential health care services.

Refer to Annex 6 for details regarding possible scenarios related to the availability of storage space at government and nongovernment facilities and factors to be considered when developing a storage plan.

Monitor the usable shelf life or period before expiry of available COVID-19 vaccines to adhere to the first expiry first out policy (20).

For storing ancillary supplies, identify, engage and map government and nongovernment warehouses in the catchment area and adjoining areas that have dry storage facilities. For each facility, document how to reach one or more points of contact, the contracting procedures and the cost of leasing.
When an excess supply of ancillary products is anticipated and in areas where government warehouses have insufficient capacity or are not available, determine whether it is more practical to adjust the vaccine delivery schedule (e.g. schedule more frequent deliveries with smaller quantities per delivery) or hire nongovernment facilities.

To prevent damage and theft to COVID-19 vaccination ancillary products (e.g. syringes, safety boxes and temperature- and humidity-sensitive equipment and supplies), store them under the conditions recommended by the manufacturer.

Reinforce adherence to national guidelines for cold chain operations and ensure the quality and integrity of vaccines and ancillary products at every stage of the supply chain. Every health centre and storage facility should have contingency protocols and SOPs to be followed during equipment failures, power outages, severe weather conditions, natural disasters, conflict or other disruptive events.

### 3.3

**Estimate the number of vaccines and ancillary supplies needed for vaccination sites**

The estimated number of vaccines needed depends on the number of eligible individuals expected to be vaccinated during vaccination sessions. These estimates can be developed based on the following information:

- the population of each priority-use group residing in the catchment area (for fixed and mass vaccination sites);
- paper-based or electronic registries of patients in long-term care facilities and individuals residing in specialized health care settings, prisons, dormitories and other residential facilities; frontline health worker employment records; and school, university and nursery records (for outreach sites and mobile teams);
- health workers’, local mobilizers’ and volunteers’ line lists of priority-use subgroups, such as older adults and pregnant adults and adolescents; and
- preregistration data (for developing near-realistic estimates of the number of people expected to visit a site on specific days and times).

Consider the following factors when estimating ancillary supplies required:

- number of staff, such as vaccinators, supervisors, stakeholders and influencers, present during each vaccination session (for IPC supplies);
- type and quantity of vaccine product available;
- population size (to estimate syringes and safety boxes); and
- willingness of priority-use group members to be vaccinated (measured via social listening sessions or surveys), which may vary depending on the vaccine product available.

Follow national guidelines when creating these estimates. Historical data on past vaccination operations can help to refine such estimates.
3.4 Develop plans to transport vaccines, other supplies and immunization waste

Transportation plans should include details such as the location and hours of operation of each vaccination site and outreach/mobile team, quantities of vaccine products and ancillary supplies to be delivered to each site and team, means of transportation and contact information for staff who will distribute and collect supplies and waste generated at each site.

Depending on the context, transportation plans may also include the following provisions:

- cold chain requirements during transportation of vaccine products and supplies, including temperature tracking and documentation at each point along the supply chain;
- transport of vaccinators and support staff to and from outreach sites and of mobile teams, especially transporting special teams to areas with poor connectivity and/or challenging field conditions, such as mountainous land barriers or dense urban neighbourhoods where vehicle access is limited;
- return of unused, partially used and empty vaccine vials for appropriate storage and disposal to prevent misuse and for tracking in case of adverse events; and
- removal/transfer of immunization waste from sites to facilities for storage and terminal disposal in accordance with established procedures (reverse logistics).

Experiences from routine immunization, other vaccination activities and relevant health programmes should be used to identify transportation needs up to last-mile delivery, including reaching priority-use groups in inaccessible areas.

Implement the following actions to prepare a transportation plan:

- **Identify and prepare a list of vehicles available** from the health and other government departments, including four-wheelers, two-wheelers and other modes of transportation used in the area. For each vehicle, document its characteristics (such as functional status, fuel usage and mileage). Update this inventory regularly.

- **Engage additional vehicles to respond to vehicle shortages** by coordinating with other stakeholders (such as private institutions, local governments, strategic partners in the private sector, faith-based institutions, NGOs and international agencies).

- **Designate vehicles and develop daily schedules for transporting vaccines and ancillary supplies,** considering the following criteria:
  - volume of vaccines (volume by doses packed by total doses)
  - number of passive cold chain equipment pieces, including coolant packs
  - volume and weight of vaccines, syringes and logistics to be transported
  - number of team members to be transported
  - types of vehicles, distances to be travelled and the terrain of each site
  - frequency of travel to vaccination sites.
Depending on the availability of resources, consider GPS tracking of transport vehicles to facilitate enacting backup plans when there is an excess or insufficient vaccine supply at a vaccination site.

**Tool: Use Planning Template 6 (which appears following Step 8 in this document) to list transport facilities and Planning Template 7 to prepare a transportation plan.**

To facilitate the development of an immunization waste transportation and management plan, gather updated information on: (1) designated waste management facilities in the catchment area and/or adjoining areas/districts, according to methods required for treating waste generated at vaccination sites, and (2) trained and designated staff to handle waste. Use the list of personnel compiled in Planning Template 8 to identify these workers.

Ensure compliance with all national legislation and guidelines on immunization waste handling, storage and environmentally friendly disposal. Implement the following actions to ensure the appropriate management of waste generated during COVID-19 vaccination operations:

- Ensure the availability of equipment to safely handle and store waste at vaccination sites (e.g. gloves, bags, boxes) and to collect and transport the expected volume of waste to the waste management facility.

- For the significant quantity of waste that is generated during mass vaccination activities, recruit additional staff or outsource waste management.

- Train all current and newly recruited staff on guidelines for handling and managing immunization waste.

- If a waste management facility is at capacity or is not functioning, assess options for collecting, transporting, storing, managing and disposing of waste. If feasible, consider outsourcing waste transportation and its management to an NGO.

### 3.5 Estimate budgetary requirements for vaccine management

Estimate budgetary requirements and ensure that adequate and consistent funding is allocated for activities such as:

- accessing power supply sources (main and alternative sources);

- maintaining cold chain equipment in good working order;

- renting or leasing nongovernment cold chain equipment, storage space and/or warehouses as needed;

- monitoring temperature and handling procedures for stored vaccines and ancillary products;

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iii For each facility, document its address, the contact details of the concerned authority, the sector (government or nongovernment, NGO), contracting procedure(s) and the cost to dispose of different types of immunization waste.
• hiring and training supplemental government and/or private-sector staff to maintain and monitor storage facilities, especially during intensified vaccination activities;

• regularly servicing and maintaining government vehicles; hiring vehicles from the nongovernment sector; and fuel costs (based on average consumption per vehicle and subnational variations in costs), daily distance travelled and road and field conditions;

• purchasing equipment for waste management as needed;

• training designated staff at each vaccination site on handling immunization waste; and

• contracting waste management facilities and additional waste collectors as needed, and transporting waste materials from vaccination sites and the waste disposal facility.
Before assigning existing health staff to vaccination teams, identify each staff member’s current responsibilities and workload and their availability for COVID-19 vaccination operations.

Consider recruiting additional qualified staff, including retired health workers, medical and nursing students, and experienced social mobilizers and volunteers, for COVID-19 vaccination operations and/or to temporarily replace vaccination staff on leave.

Provide supportive supervision to health and frontline workers and address their concerns about vaccines and vaccination operations.

Ensure that members of the vaccination team, including frontline workers, are equipped with the training and tools to deliver vaccination that meets the needs of the communities served, including key messages to use when responding to questions or concerns.
COVID-19 vaccination operations require a team approach. Plan and assemble multidisciplinary, multi-cadre trained and supported teams that include: (1) vaccinators (the number depends on the number of injections expected to be delivered each day); (2) recorders to tally the number of doses administered by vaccine product; (3) auxiliary personnel to organize vaccination sessions, manage supplies and ensure the use of IPC and crowd management measures; (4) personnel to manage advocacy, communications and community mobilization in each community in the catchment area; (5) supervisory staff to monitor, supervise and guide vaccination teams and validate microplans and reports (the number of which depends on the number of vaccination sessions by day/week and the number of vaccinators to be supervised during each shift); and (6) staff for security, transportation and related needs (21).

Implement the following actions to plan for the human resources needed to implement COVID-19 vaccination operations without interrupting routine immunization and PHC services.

4.1 Identify the existing and required workforce

**Determine** the number, current responsibilities, workload and capacity of health care staff in government health facilities in the catchment area and the hours and days of the week they can devote to COVID-19 vaccination activities. This exercise is especially important during intensified vaccination activities, when staff from other departments may be asked to complement the vaccination team.

**Assess** the number of fixed and outreach vaccination sessions and mobile teams and the number of days/ hours of vaccination services and related activities (such as communications, site monitoring, social mobilization and follow-up for missed persons) required to reach out to and vaccinate priority-use groups during the identified time frame.

**Evaluate** whether the number of government staff who have been engaged is sufficient to ensure the continuity of COVID-19 vaccination services during the hours/days of operation without disrupting essential immunization and PHC services. Identify any staffing shortfalls. When gaps appear or there is a risk of disrupting COVID-19 vaccination delivery, routine immunization and/or PHC services, secure funding for additional personnel (Box 3).

**Identify** trained vaccinators and other support staff in nongovernment institutions and facilities who are available and willing to be involved in COVID-19 vaccination. Redistributing staff responsibilities and simplifying accreditation criteria in accordance with national regulations can help to address gaps in human resources.

**Categorize** workers according to their education level, skills and training and compile information about their current position and existing workload, the number of days and hours they are available and the estimated cost/financial remuneration for their services.

**Tools:** The list of health workers created in Step 1 (in Planning Template 2) will facilitate the compilation of this information. Use Planning Template 8 (which appears following Step 8 in this document) to compile information about the personnel identified from health facilities as well as nongovernment personnel who could potentially be engaged in COVID-19 vaccination operations.
4.2 Plan and organize training for identified personnel

Identify the type of training needed for each category of personnel. Include all personnel who: (1) have never been trained in handling and administering vaccines; (2) require training on storing, handling and administering COVID-19 vaccine products with different presentations and schedules; (3) require refresher training on handling and administering vaccines; and (4) have been selected to complement the existing workforce. Staff should receive initial or refresher training on maintaining IPC measures at vaccination sites.

Develop a training agenda. Specify the objectives of the training/orientation sessions, the type and number of participants, the topics to be covered, the time assigned to each topic, the methodology for each training activity and the expected outcomes of the training.

Select training materials. Ensure that the most up-to-date information is presented and that all recommendations can be implemented through the country’s health care system. Provide all participants with a paper or electronic copy of training materials and a list of additional resources. For some training participants and training topics, it may be necessary to adapt and/or translate training materials.

Identify a training focal person. Ideally, this should be an official from the health department or another participating department or institution who has experience organizing and conducting training on routine immunization, new vaccine introduction and/or vaccination campaigns. The focal person is responsible for: (1) developing/adapting training materials, including for refresher training in new recommendations or vaccine requirements; (2) identifying the training methodology; (3) selecting trainers and facilitators; (4) serving as a trainer in all sessions; (5) coordinating, tracking and monitoring training activities; and (6) coordinating post-training follow-up, mentorship and supervision.

BOX 3

Potential sources of additional workforce

- Retired staff and personnel with diverse skills from institutions such as private health care facilities, pharmacies, medical colleges, nursing institutions, professional associations, NGOs and health centres managed by civil society and faith-based organizations.
- Volunteers from youth groups, such as scouts, CBOs and self-help groups, for crowd control, site monitoring and community engagement.
- Non-health-sector government personnel to support the implementation of vaccination activities (e.g. engaging security forces to transport vaccine doses from a central storage facility to vaccination sites)

CBOs: community-based organizations; NGOs: nongovernmental organizations.
Select a training methodology. Depending on the context, any of the following training methodologies can be used: (1) in-person training using training modules, structured presentations, discussion sessions and group activities; (2) online training using digital content such as OpenWHO courses (22), structured presentations and/or discussion groups; and (3) hybrid training, which features a mix of online and in-person training activities.

Identify trainers/facilitators. For in-person and hybrid training sessions, select trainers who have strong communication skills and experience facilitating training for routine immunization and/or vaccination campaigns. Trainers from nongovernment health care institutions, NGOs, CSOs and other partners can co-facilitate training sessions with government trainers.

Identify the venue for in-person training. The venue should be selected based on the training methodology and the availability of features such as internet connectivity, adequate audiovisual equipment and adaptive seating.

**Tools:** Use Planning Template 9 (which appears following Step 8 in this document) to compile information about the training venue(s) and trainers. Information compiled in Planning Template 8 can be used to identify training participants.

### 4.3 Provide supportive supervision to vaccination teams

Programme managers and supervisory staff from the health and other government departments and organizations should make regular visits to vaccination sites to mentor vaccinators and other team members on vaccination operations and enhance team members’ morale and motivation. Supervision should focus on joint problem solving and learning, not simply identifying staff shortcomings. More information about monitoring and supervision appears in Step 7 of this guidance.

### 4.4 Estimate budgetary requirements for human resources

Estimate budgetary requirements and ensure that adequate and consistent funding is allocated for activities such as:

- hiring/contracting staff from the nongovernment sector to implement training sessions;
- adapting and translating training materials;
- printing training materials, if necessary;
- expenses related to the training venue, audiovisual system and refreshments; and
- travel and other allowances for supervisors, trainers and participants.
KEY POINTS

Tailor service delivery to each target group. When possible, include community-based locations, peripheral health centres and workplaces as vaccination sites since they are often more accessible than permanent vaccination sites (such as large health facilities), especially for individuals who live in vulnerable situations.

Consider deploying outreach or mobile teams to camps and resettlements for refugees and migrants. As needed, expand the days and hours of operation of vaccination sites so that individuals in priority-use groups can be vaccinated in the evening or on weekends.

Plan repeat sessions using the same service delivery strategy and teams to vaccinate individuals in high-risk priority-use groups with the subsequent dose of a vaccination series or booster doses.

Report vaccines administrated at all vaccination sites in a timely, accurate manner. Be sure to share this information with a higher administrative level.
Routine immunization and other vaccination services are delivered at vaccination sites (such as health facilities, schools, government buildings and community-based locations) using a combination of delivery strategies (fixed site, outreach, mobile teams and campaigns) (23). These strategies can also be used to deliver COVID-19 vaccination, although not for some priority-use groups and individuals who have limited access to regular health care services. For these groups, maximizing vaccination access and utilization requires adaptation and innovative strategies. Implementing vaccination services at strategic locations using tailored approaches helps to foster trust in vaccines and the vaccination process.

Depending on context and feasibility, programme planners should plan for integrated delivery of COVID-19 vaccination with age-appropriate immunization and primary and other essential health care services (such as antenatal and postnatal care, treatment of malaria and other endemic diseases and health education). When planning for integration, consider the target populations, logistics, operational costs, community acceptance and local epidemiology. This is especially important if the catchment area includes large settlements and/or remote dwellings where vaccination and other essential health services are not readily available.

Implement the following actions to plan COVID-19 vaccination service delivery.

5.1 Plan vaccination strategies for specific priority-use groups

When planning COVID-19 vaccination strategies, consider the following issues:

- number of eligible people to be vaccinated, by priority-use group;
- catchment area terrain and geographic distribution of targeted groups;
- funding available to implement outreach vaccination sessions;
- number of qualified health workers available to carry out outreach vaccination activities;
- number of vaccination sites and the target population’s ease of access to the sites (e.g. dedicated sites for older adults);
- number of hours/days needed for teams to carry out outreach vaccination sessions to increase attendance and shorten waiting times;
- availability and characteristics of vaccine products in use (such as cold chain requirements, vaccination schedule and handling requirements);
- vaccination load at outreach sites;
- number of supervisors available to monitor vaccination teams’ work and provide supportive supervision;
- logistics and resources required to implement vaccination sessions (including for providing additional health care services); and
- level of acceptance or hesitancy towards COVID-19 vaccination and the attributes and intentions of each priority-use group.
Annex 8 provides information about service delivery strategies (fixed site, outreach, mobile teams, clinics and mass campaigns), potential vaccination sites and considerations for maximizing access for high-risk priority-use groups and vulnerable individuals.

Increasing vaccination access and acceptance among subgroups that have never been approached for vaccination (e.g. older adults, people of all ages with moderate to severe immunocompromising conditions) requires collaboration across health system programmes (such as PHC, health communications and communicable and noncommunicable diseases) and with sectors outside the health system (e.g. social welfare, education, pensions, transport). WHO recommends collaborating with relevant programmes and sectors to leverage existing service delivery structures and to scale up other platforms to deliver integrated health services throughout the life course (24).

5.2 Identify and map vaccination sites

Outreach vaccination sites should meet the following criteria:

- **Accessibility** as determined by characteristics such as the terrain, location (e.g. remote or hard-to-reach vs easily accessible during service hours) and target populations (e.g. migrants, nomadic populations). The sites should be accessible to the target populations without too much effort (especially for priority-use groups with significant mobility issues, such as older adults and those with significant comorbidities), and the presence of vaccinators should not constitute a safety risk (e.g. in conflict-affected areas and fragile contexts).

- **Acceptability** as determined by local customs, religious and cultural norms, trust in public services, the reach of community engagement messages, the site’s days and hours of operation, the location, the target population’s preferences and the experiences of previous immunization services. Acceptance may vary depending on the vaccine product in use, the person/agency offering vaccination (e.g. the government, an NGO or CSO) and the population group/individual to be vaccinated.

- **Approachability** as determined by the behaviour of vaccinators and frontline workers, their socioreligious characteristics, their gender, their willingness to work in areas with poor health services (such as urban slums and new and informal settlements) and their willingness to serve minority groups (e.g. ethnic minorities, migrants, tribal groups, refugees, internally displaced persons). Approachable vaccination services feature ease of interaction between vaccinators and the populations they serve and engender the target population’s confidence and trust.

Identify service delivery strategies for priority-use groups, identify and map outreach vaccination sites (including mobile teams) so that the entire catchment area is covered, and determine the resources needed for vaccination operations. These steps should be carried out using a bottom-up approach based on social listening and community feedback mechanisms; surveys; focus groups; guidance from staff members, influencers and stakeholders; and community meetings.

Create updated paper-based or digital maps indicating the location of all vaccination sites, including mobile teams, the geographic terrain and site connectivity by road or other modes of transportation. Incorporate in the maps the location of cold chain storage facilities, warehouses and waste disposal facilities. Maps are useful in preparing plans for transporting vaccines and ancillary supplies, waste management and monitoring and supervision.

**Tool:** Use Planning Template 10 (which appears following Step 8 in this document) to plan vaccination activities at fixed and outreach sites and via mobile teams.
5.3 Estimate budgetary requirements for service delivery

Estimate budgetary requirements and ensure that adequate and consistent funding is allocated for activities such as:

- arranging logistics for mass vaccination sites, outreach sites and mobile teams; and

- remunerating vaccination team members if they are responsible for vaccination tasks off-site (at outreach sites) and/or outside regular service hours.
Align demand-generation activities with the national COVID-19 vaccination communications strategy and guidelines and ensure that insights and outcomes from microplanning are incorporated into the national strategy.

Involves stakeholders, such as local CSOs and CBOs, in communications and engagement strategies for priority-use groups, including to connect communities to vaccination services.

Use trusted channels to inform communities about who is eligible to be vaccinated and when and where vaccination will be provided and to mitigate misinformation. Depending on the context, use social media, radio and announcements to communicate with those eligible to be vaccinated.

Listen online and offline to community concerns and perceptions about COVID-19 vaccines and vaccination to inform locally tailored communications strategies to achieve high vaccine uptake, especially for hard-to-reach communities and subgroups with limited access to vaccination sites.
Continuously implementing activities to generate demand helps to increase community awareness of and trust in the safety and benefits of COVID-19 vaccines. For demand-generation activities to succeed, they should be informed by local behavioural and social data and inputs from community representatives and should be integrated into broader technical plans, including needs assessments and microplanning. Demand generation should also address vaccine-related myths, rumours and public concerns that are disseminated through social and traditional media.

At the district and health facility level, demand-generation activities should be led by district or local authorities and partners and should align with the country’s overall demand-generation strategy. As a first step, demand-related barriers and drivers should be assessed to inform the design and evaluation of activities. From the outset, these activities should be community centred, participatory and focused on the local context and priority-use groups.

**Implement the following actions to generate demand for COVID-19 vaccines and vaccination.**

### 6.1 Plan and engage

Engage well-known, respected stakeholders to identify and connect to priority-use groups, plan communications activities to promote vaccine uptake and address operational challenges and barriers (Box 4).

Organize small meetings at health facilities and/or in the community to raise the awareness of stakeholders, influencers and community representatives about COVID-19 vaccination and its importance for priority-use groups, vulnerable individuals and communities.

**BOX 4**

**Potential stakeholders to be engaged in generating demand**

- Political leaders, elected representatives and members of local administrative bodies
- Officials from other government and social sector departments, such as community development and education officials, including teachers
- Traditional, religious and community leaders
- Faith leaders and faith-based institutions and networks
- Professional associations and private health care providers
- CSOs and community-based organizations
- Local influencers/representatives of traditional/tribal areas and migrant/refugee groups
- Local celebrities, such as artists and athletes
- NGOs, livelihood alliances and self-help groups
- Journalists working in print, electronic and/or social media
- Frontline workers and youth and women’s networks
- Other nontraditional strategic partners

CSOs: civil society organizations; NGOs: nongovernmental organizations.
6.2 Diagnose

- **Gather** behavioural and social data and community feedback on local concerns and perceptions related to COVID-19 vaccination (particularly from women and vulnerable groups and individuals) to explore reasons for low/inequitable vaccine uptake, using sources such as surveys, informant interviews, community feedback and social media platforms.

- **Understand** and address health workers’ and frontline workers’ questions and concerns about COVID-19 vaccination and engage them so they can help to mobilize and vaccinate priority-use groups. Consider gathering data on the perspectives of health workers to inform interventions to boost their confidence in and ability to recommend vaccination.

- **Create and convene** a COVID-19 vaccination demand-generation team to review findings gathered using the Behavioural and Social Drivers of Vaccination framework (Fig. 2) \(^{(25, 26)}\). Compile additional data to build a comprehensive understanding of drivers and barriers to vaccination.

- **Identify** context-specific, targeted demand-generation interventions based on analysis of data from the sources mentioned in this section. Consider the design and implementation of the interventions and processes for monitoring and evaluating them to guide continued improvements to address gaps in vaccination uptake.

**FIG. 2**

**Behavioural and Social Drivers of Vaccination Framework**

**Thinking and Feeling**
- Perceived disease risk
- Vaccine confidence (includes perceived benefits, safety and trust)

**Social Processes**
- Social norms (includes support of family and religious leaders)
- Health worker recommendation
- Gender equity

**Motivation**
- Intention to get recommended vaccines

**Practical Issues**
- Availability
- Affordability
- Ease of access
- Service quality
- Respect from health workers

**Vaccination**
- Uptake of recommended vaccines

Source: World Health Organization (2022) \(^{(27)}\).
6.3 Design

- **Engage** with relevant stakeholders to develop key messages in official and local languages and culturally appropriate formats, along with community-based interventions, especially those focused on disadvantaged and vulnerable population groups.

- **Coordinate** with community representatives to develop messaging and activities to address vaccination barriers identified through data collection and analysis.

- **Identify** action-oriented demand-generation interventions for priority-use groups, such as information campaigns, dialogue-based interventions, positive social norm messages, engaging vaccine champions, recommendations from health workers and improvements in service quality (such as the times and locations of vaccination sessions) and SMS reminders/callbacks for each dose of the vaccine.

- **Integrate** COVID-19 vaccination demand-generation activities into interventions focused on improving service quality to enhance beneficiaries’ and their companions’ experiences at the point of vaccination service delivery and increase their willingness to return.

6.4 Implement and evaluate

Establish a team for demand generation

- **Engage** officials/representatives from health and other government departments, development partners and key stakeholders in a demand-generation team that focuses on developing culturally and linguistically appropriate COVID-19 vaccination messages and materials for priority-use groups.

- **Identify and prepare** a trusted spokesperson, such as a staff member from the health or other government department or a respected health professional, to serve as the team’s primary contact for the media and the public, especially in response to any adverse events following immunization (AEFIs) and vaccine-related concerns and rumours.

- **Establish** two-way communication channels and feedback mechanisms with local stakeholders, influencers and leaders of religious and community groups, youth groups and CBOs to gauge reactions to and refine demand-generation activities.

Train health workers and frontline workers

- **Address** health care and frontline workers’ capacity-building needs in skills such as interpersonal communication and the rapid collection and use of behavioural and social data.

- **Prepare** health workers and frontline workers to prioritize vaccine recipients in accordance with national guidelines, tailor messages and approaches to diverse community contexts, practice effective interpersonal communication, engage in dialogue to respond to questions about vaccination and build community members’ confidence and motivation.

- **Strengthen** the capacity of health care professionals to have empathetic conversations with community members about vaccination, effectively address myths and common questions about vaccine safety and efficacy, provide tailored vaccine information to patients and use motivational interviewing techniques as needed.
Engage the community and address community concerns

- **Plan** activities, such as community gatherings, information sessions and media campaigns to reach priority-use groups and vulnerable individuals. As a first step, the vaccination team, a supervisor and trusted community members should meet and plan activities focused on: (1) enhancing vaccine trust, acceptance and demand; (2) responding to questions and concerns; (3) connecting community members to vaccination services; and (4) preparing for the arrival of mobile vaccination teams.

- **Implement** mechanisms for social listening, feedback and accountability to capture and address misinformation, concerns, rumours and barriers to vaccination and elicit community members’ perceptions, experiences and opinions about COVID-19 vaccination.

**Tool:** Use *Planning Template 11* (which appears following Step 8 in this document) to plan activities for demand generation.

### 6.5

**Estimate budgetary requirements for demand-generation activities**

Estimate budgetary requirements and ensure that adequate and consistent funding is allocated for activities such as:

- building the capacity of health workers, frontline workers and local influencers to engage in demand generation;
- allowances for engaging volunteers and influencers to support demand generation, especially in resource-constrained areas;
- community outreach by local leaders through house-to-house visits; and
- rapid surveys to understand public perceptions.
Monitor implementation

KEY POINTS

Monitor the availability, uptake, efficacy and safety of COVID-19 vaccines, especially in areas where new COVID-19 vaccines are introduced or multiple vaccine products are used simultaneously.

Actively engage relevant stakeholders in field monitoring, especially for activities related to supply chain, vaccination demand, social mobilization and generating awareness.

Triangulate implementation-monitoring findings with coverage reports, observations, voices from the community and vaccine supply and safety data (such as AEFI reporting) to guide corrective actions.

Collect and apply learnings from integrating COVID-19 vaccination into the national immunization programme and PHC services for dissemination and scale-up.
Monitoring COVID-19 vaccination operations incorporates the two following types of monitoring:

- **Monitoring vaccination sessions to assess:**
  - preparedness (availability of vaccines, supplies, staff and other resources);
  - vaccine use (number of doses available, doses used, doses discarded);
  - quality of service delivery (immunization safety, safe handling of waste); and
  - beneficiary satisfaction (experience of waiting time, staff attitudes, counselling).

- **Monitoring microplan implementation** to gain insights about:
  - completeness, accuracy and relevance of the microplan, such as population estimates, resource estimates, delineation of catchment area boundaries, location of vaccination sites, vaccination session times and selection of influencers and other stakeholders; and
  - level of implementation of planned activities, such as proportion of planned sessions held; achievement of community engagement and social mobilization indicators; proportion of targeted individuals vaccinated and defaulter/dropout rates stratified by priority-use groups, gender, geography and vaccine product; open- and closed-vial wastage rates; and indicators for waste disposal.

**Implement the following actions to plan for monitoring implementation of COVID-19 vaccination.**

### 7.1 Identify monitoring supervisors

Supervisory staff should include planners and programme managers involved in microplanning. Additionally, identify and engage other staff from the health department, relevant government departments (such as education and administration) and stakeholders (such as NGO staff).

Local leaders, influencers and representatives from communities who have the required qualifications and skills can also supervise activities, such as community engagement, mobilization and risk communication.

Recruiting indigenous supervisors, especially in resource-constrained settings, can bring the following advantages:

- reduce the financial and logistical challenges of travel;
- ensure more culturally appropriate supportive supervision because of indigenous supervisors’ understanding of the local culture, traditions and environment;
- foster community ownership; and
- increase access to hard-to-reach and security-compromised areas.

Orient supervisors to their role, COVID-19 vaccine products, vaccination strategies and operational guidelines, and how to use monitoring tools. Familiarize supervisors with the catchment area, team members, community leaders and stakeholders to enable them to resolve questions or issues that emerge.
The key responsibilities of supervisory staff are as follows:

- validating operational microplans and catchment area maps;
- scheduling vaccination sessions and timely delivery, accessibility and utilization of vaccines and supporting logistics;
- providing training, guidance and on-site support to team members;
- assessing the quality of the vaccination process and completeness of records and reports;
- responding to COVID-19 vaccination questions from team members and the target population;
- interacting with community influencers and local leaders to understand their vaccine-related concerns and perspectives; and
- periodically reviewing microplan implementation and recommending corrective actions.

7.2 Prepare a field visit plan

Work with field supervisors to develop a visit roster that delineates a daily schedule of visits to observe vaccination sites and supervise staff, especially for visits to hard-to-reach areas with significant numbers of priority-use group members and other vulnerable populations. The roster should specify the frequency of field visits.

When possible, develop field visit plans that address both COVID-19 vaccination and other services provided in the catchment area to the same priority-use groups (such as routine immunization, family planning services, growth monitoring, distribution of bed nets and deworming). Monitoring two or more health services during one visit can result in more efficient use of staff time and resources.

To facilitate development of route plans, develop maps (hand drawn or digital) indicating which supervisors are assigned to each vaccination site.

Tool: Use Planning Template 12 (which appears following Step 8 in this document) to develop a supervisory visit plan.

7.3 Employ standard monitoring tools and techniques

Monitoring can be carried out through multiple strategies, such as observations at service delivery sites, interactions with individuals from priority-use groups and communities and supportive supervision of vaccination staff.

Ensure compliance with national guidelines, tools, indicators and SOPs for monitoring COVID-19 vaccination, including data collection and reporting (28). WHO recommends using a standard supportive supervision checklist for capturing observations of COVID-19 vaccination during field visits (29).
Triangulate monitoring findings with the following data sources to generate insights related to vaccination inputs, processes, outputs and outcomes:

- home-based vaccination records: paper-based or digital vaccination cards for beneficiaries (used for their personal records and as a reminder for subsequent doses);
- facility-based records: provider records, vaccination registers, consultation registers, medical records and electronic immunization registries;
- daily reports: tally sheets used at vaccination sites;
- periodic reports: weekly or monthly administrative reports and surveillance reports; and
- data from surveys, informant interviews, community feedback and social listening.

Feedback from monitoring, including findings from social listening/social data and community feedback, should be reviewed and discussed among programme managers and vaccination staff/team members at the end of each day (or as feasible) to diagnose issues and plan next steps.

7.4 Estimate budgetary requirements for monitoring implementation

Estimate budgetary requirements and ensure that adequate and consistent funding is allocated for activities such as:

- developing on-the-job training and communication tools and checklists for supervisors to use during monitoring visits;
- training personnel, supervisory staff and other stakeholders on monitoring tools and procedures;
- supervisors’ transportation and communication costs; and
- remuneration for stakeholders and community members who serve as supervisors, as well as allowances for food and accommodations when working in remote areas.
Periodically re-evaluate and revise microplans to maintain their medium- and long-term relevance, such as when implementing new (or a mix of different) COVID-19 vaccines, periodic booster doses for high-risk population groups using the same or new vaccine products (homologous/heterologous vaccination schedules) or introducing new COVID-19 vaccine-specific recommendations.

Consider microplan revision when there is a significant change in vaccination resources, poor vaccine uptake, considerable variation in vaccine acceptance or confidence, inequitable access to or distribution of services and/or release of new COVID-19 vaccination guidelines.

To facilitate microplan revision, regularly update information about resource availability in the catchment area (cold chain infrastructure, trained and skilled human resources, financial allocations) and vaccination uptake by priority-use groups.

Where feasible, consider integrating the delivery of COVID-19 vaccination with national immunization programme and PHC services in alignment with the resources available for enhancing the health system’s efficiency and sustainability.
It is crucial to periodically re-evaluate and revise COVID-19 vaccination microplans to address situations such as: (1) important changes in national guidance, ongoing or anticipated vaccination realities, the epidemiological context or the schedule or characteristics of available vaccine products; (2) insufficient uptake or demand among high-risk groups and vulnerable individuals; (3) preparation for scaling up the capability, efficiency and sustainability of the country’s health system; and (4) to prioritize and safeguard the sustainability of immunization and PHC services during times of severe disruption to service delivery or utilization (30).

Implement the following actions to re-evaluate and revise catchment area microplans.

### 8.1 Assess the need to revise the microplan

**Triangulate information.** Use diverse information sources to assess the status of COVID-19 vaccination in the catchment area and the need for microplan revision.

Information sources may include updates and guidelines from the national level, COVID-19 vaccination uptake and coverage reports, data from the national health management information system, the status of vaccine supply and consumption, findings from surveillance and/or monitoring and supervisory visits and findings related to barriers and challenges to increasing uptake gathered from interviews or discussions with staff members, health workers, stakeholders and community representatives.

Consider the evolving evidence on vaccination processes and outcomes and experiences from routine immunization and other vaccination initiatives.

**Analyse** the following factors to identify potential microplan changes:

- the COVID-19 vaccination landscape, including information about the available stock and allocation of various vaccine products, vaccination coverage and uptake by priority-use groups, the number of defaulters/dropouts and the COVID-19 disease burden;

- characteristics of available vaccine products and operational readiness in the catchment area to handle, store and deliver them (e.g. cold chain requirements, trained staff, mechanisms to monitor vaccine wastage and utilization within the product’s recommended shelf life or before expiry);

- recommendations for vaccination scheduling for priority-use groups (such as administering booster doses to high-risk priority-use groups, using homologous and heterologous vaccination schedules);

- the location and movement of vulnerable priority-use groups in humanitarian settings (such as migrants, refugees and internally displaced populations);

- community demand for and acceptance of COVID-19 vaccine products, especially related to vaccine reluctance or hesitance that arises from misconceptions about vaccine safety or cultural or political beliefs; and

- the status of routine immunization and PHC service delivery and allocations and longer-term plans for health system strengthening.

Refer to *Considerations to inform country COVID-19 vaccine decision-making* (31) for updated information about COVID-19 vaccine products available under emergency use authorization and their cold chain and storage attributes.
8.2
Revise the microplan to respond to identified needs

Consider the following scenarios, which are likely to necessitate microplan revision:

- Introduction in a catchment area of a new vaccine product with different characteristics and requirements for storage, handling and/or delivery. (Fig. 3 illustrates steps for microplan revision in this scenario.)

- A change in service delivery strategy, including recommendations for vaccinating priority-use groups and vulnerable individuals or a change in a vaccination schedule, such as in the use of the same or different vaccine products for the primary series and booster doses (homologous/heterologous schedules).

- A change in vaccine distribution and uptake by certain priority-use groups in the catchment area.

- Integration of COVID-19 vaccination into the national immunization programme and PHC services. In this situation, follow the guidelines and activities outlined in the national COVID-19 vaccination integration plan.

- A change in vaccine demand, acceptance or confidence/hesitancy.

- A change in human, logistical, financial or infrastructure resources for vaccination (e.g. cold chain storage space, financial allocations).

### FIG. 3
Actions to revise a COVID-19 microplan when a new vaccine is supplied

1. Compare the characteristics of the new vaccine with those currently in use
2. Identify actions needed to implement the new vaccine and the feasibility of implementing it
3. Identify the localities and priority-use subgroups to be offered the new vaccine
4. Estimate the number of new vaccine doses required, cold chain space, and associated logistics
5. Update vaccine storage plans to align with the new vaccine’s specifications
6. Revise the vaccine service delivery plan in accordance with the localities and priority use groups to be offered the new vaccine
7. Orient vaccinators, supervisors, and other team members to the new vaccine
8. Orient stakeholders and influencers to the new vaccine
9. Adapt communications messages for the new vaccine and convey them to the priority use groups
10. Rollout the new vaccine in the identified localities to the priority-use groups
11. Monitor implementation of the new vaccine

If after Step 2, introduction is deemed unfeasible, communicate why to the concerned authorities

Allocation of the new COVID-19 vaccine

Not feasible
Planning Templates
**Planning Template 1**

**List of priority-use subgroups and their population by scheduled dose**

<table>
<thead>
<tr>
<th>HIGH Priority-Use Groups</th>
<th>TARGET POPULATION</th>
<th>PRIMARY SERIES + 1ST BOOSTER</th>
<th>ADDITIONAL BOOSTER DOSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups with the highest risk of death from COVID-19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older adults</td>
<td>Recommended</td>
<td>Recommended (12 months after previous dose)</td>
<td></td>
</tr>
<tr>
<td>Younger adults with significant comorbidities or severe obesity</td>
<td>Recommended</td>
<td>Recommended (12 months after previous dose)</td>
<td></td>
</tr>
<tr>
<td>Subgroup of older adults:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oldest adults</td>
<td>Recommended</td>
<td>Recommended (6 months after previous dose)</td>
<td></td>
</tr>
<tr>
<td>Older adults with multiple significant comorbidities</td>
<td>Recommended</td>
<td>Recommended (6 months after previous dose)</td>
<td></td>
</tr>
<tr>
<td>Groups with special consideration for vaccination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults, adolescents, and children 6 months and older with moderate to severe immunocompromising conditions</td>
<td>Recommended as extended primary series</td>
<td>Recommended (Approximately 6 months after previous dose; optimal interval should be discussed with treating physician)</td>
<td></td>
</tr>
<tr>
<td>Pregnant adults and adolescents</td>
<td>Recommended</td>
<td>Recommended once during a pregnancy (If previous dose was more than 6 months earlier)</td>
<td></td>
</tr>
<tr>
<td>Frontline health workers</td>
<td>Recommended</td>
<td>Recommended (12 months after previous dose)</td>
<td></td>
</tr>
</tbody>
</table>

**HOW TO USE THIS PLANNING TEMPLATE**

Identify priority-use groups and vulnerable individuals in the catchment area in accordance with national guidelines and list their estimated population in the boxes above. According to WHO SAGE recommendations (March 2023), the highest public health priority is protecting those at high risk of severe disease outcomes. Thus, vaccinating those in high priority-use groups who are at highest risk of severe disease, hospitalization, and death with the primary series and booster doses will have the most significant public health impact.


- These recommendations are time-limited and apply only to the current situation and may need to be revisited when new variants of concern emerge or the epidemiology changes. WHO currently does not recommend regular annual boosters on a long-term basis until more evidence becomes available. First booster is recommended 6-12 months after the completion of the primary series. Age cut-off to be decided by countries: often it is 50 or 60 years. Age cut-off to be decided by countries; often it is 75 or 80 years. Extended primary series means one additional dose to the two-dose series, given about 3-6 months after the second dose. Regulatory approvals or WHO EUL for the use in pregnancy may differ by vaccine product.
### MEDIUM Priority-Use Groups

<table>
<thead>
<tr>
<th>TARGET POPULATION</th>
<th>PRIMARY SERIES + 1ST BOOSTER</th>
<th>ADDITIONAL BOOSTER DOSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy younger adults&lt;sup&gt;g&lt;/sup&gt;</td>
<td>Recommended</td>
<td>Not routinely recommended&lt;sup&gt;h&lt;/sup&gt;</td>
</tr>
<tr>
<td>Children + adolescents 6 months to 17 years with severe obesity or comorbidities that put them at higher risk of severe COVID</td>
<td>Recommended</td>
<td>Not routinely recommended&lt;sup&gt;h&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

### LOW Priority-Use Groups

<table>
<thead>
<tr>
<th>TARGET POPULATION</th>
<th>PRIMARY SERIES + 1ST BOOSTER</th>
<th>ADDITIONAL BOOSTER DOSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy children and adolescents aged 6 months to 17 years&lt;sup&gt;i&lt;/sup&gt;</td>
<td>Countries could consider based on disease burden, cost effectiveness, + other health or programmatic priorities + opportunity costs.</td>
<td>Not routinely recommended&lt;sup&gt;h&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

---

<sup>g</sup> Age cut-off to be decided by countries; often it is 18 to 49 or 18 to 59 years.  
<sup>h</sup> “Not routinely recommended” means that such vaccines are not recommended for inclusion in routine programmes because of minimal public health impact and low cost-effectiveness in most settings. However, vaccination may be offered in individual circumstances where added benefit is expected to be more substantial as there are no known additional safety issues associated with additional boosters. This recommendation acknowledges that some countries may elect to offer such doses in the routine programme based on population risks, disease epidemiology, or health priorities.  
<sup>i</sup> Regulatory approvals or WHO EUL for the age indication differ by vaccine product; refer to the product-specific vaccine recommendations.
### Planning Template 2

**Line list of individuals who belong to specific priority-use groups**

<table>
<thead>
<tr>
<th>#</th>
<th>NAME</th>
<th>DESIGNATION, CADRE OR TYPE OF PRIORITY-USE SUBGROUP</th>
<th>DEPARTMENT/SECTOR (PUBLIC/PRIVATE)</th>
<th>PRIORITY-USE CATEGORY</th>
<th>AGE</th>
<th>SEX</th>
<th>ADDRESS AND CONTACT DETAILS</th>
<th>HISTORY OF COVID-19</th>
<th>COMORBIDITIES (IF ANY)</th>
<th>COVID-19 VACCINE DOSES RECEIVED</th>
<th>PRIMARY SERIES AND 1ST BOOSTER</th>
<th>ADDITIONAL BOOSTERS</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

#### HOW TO USE THIS PLANNING TEMPLATE

Line lists should be prepared for specific priority-use groups, such as oldest adults, older adults with multiple significant comorbidities, and pregnant adults and adolescents. Follow these steps for using the template:

- In **column A**, list each individual’s serial number (or employee ID or any other identification number), followed by the person’s name in **column B**.
- In **column C**, specify whether the individual is a nurse, medical doctor, lab technician, person with comorbidity or pregnant.
- If the individual is from the government sector, specify in **column D** the department (e.g. health, education). Otherwise, indicate the sector the individual belongs to (e.g. private, nongovernmental organization (NGO)). If not applicable for the individual (e.g. pregnant adults and adolescents), leave this column blank.
- In **column E**, specify the individual’s priority-use category (high, medium or low).
- In **columns F, G and H**, enter the individual’s age (in years), sex and address (residence or office, as applicable) with contact details.
- In **column I**, specify whether the individual has had COVID-19. Note here the month and year he or she was diagnosed.
- In **column J**, specify whether the individual has significant comorbidities that increase the risk of severe disease. The information in column J may be helpful for prioritizing vaccination in accordance with national recommendations.
- In **columns K to N**, list details about the vaccine administered, including the type of vaccine and date of administration. This information is important for monitoring complete vaccination.
## Planning Template 3

### Number of vaccine doses required and estimated vaccine volume*

<table>
<thead>
<tr>
<th>RECOMMENDED DOSES</th>
<th>TARGET POPULATION</th>
<th>DOSES REQUIRED</th>
<th>VACCINE VIALS REQUIRED</th>
<th>TOTAL VACCINE VIALS REQUIRED, INCLUDING WASTAGE</th>
<th>TOTAL VACCINE VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<tr>
<td>Primary series and first booster</td>
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<td>Additional booster doses</td>
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<td>Primary series and first booster</td>
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<tr>
<td>Additional booster doses</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

### HOW TO USE THIS PLANNING TEMPLATE

- In column **B**, specify the population of all priority-use groups in the catchment area who require the primary series and booster doses of the vaccine product used.
- In column **C**, calculate and list the number of doses required by multiplying the target population by the number of doses required to fully vaccinate one individual. Keep in mind additional booster doses for specific priority-use groups, in accordance with national guidelines.  
  \[ \text{Total vaccine doses required} = \text{Targeted population} \times \text{Number of doses required} \]
- In column **D**, calculate and list the number of vaccine vials required by dividing the total number of doses required by the number of doses per vial. The number of doses per vial may vary by vaccine product. When completing this template, keep in mind the vaccine product(s) available and/or in supply.  
  \[ \text{Required number of vials} = \frac{\text{Total number of vaccine doses required}}{\text{Number of doses in a vial}} \]
- In column **E**, calculate and list the total number of vials required by multiplying the number of vials in the previous column by the vaccine wastage factor. Vaccine wastage factors may vary by vaccine product. Refer to the vaccine manufacturer’s specifications for the product’s wastage factor.  
  \[ \text{Total vials required including wastage} = \frac{\text{Required vaccine vials}}{(100 - \text{minus} \text{ the wastage rate})} \times 100 \]
- In column **F**, calculate and list the total volume of vaccines by multiplying the total number of vaccine vials required including wastage by the number of doses per vial, and multiplying that number by the packed vaccine volume per dose.  
  \[ \text{Total vaccine volume} = (\text{Total vials required, including wastage} \times \text{Number of doses per vial}) \times \text{Packed vaccine volume per dose} \]

# Planning Template 4

## List of cold chain storage facilities in government and nongovernment sectors

<table>
<thead>
<tr>
<th>NAME OF INSTITUTION WITH COLD CHAIN FACILITY</th>
<th>SECTOR (GOVERNMENT OR NONGOVERNMENT)</th>
<th>ADDRESS AND CONTACT INFORMATION</th>
<th>TOTAL STORAGE CAPACITY BY TEMPERATURE (CM3)*</th>
<th>SPACE USED FOR STORING ROUTINE VACCINES AND MEDICAL SUPPLIES (CM3)*</th>
<th>SPACE AVAILABLE FOR STORING COVID-19 VACCINES (CM3)*</th>
<th>COST OF LEASING COLD CHAIN STORES (PER CUBIC METRE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>H</td>
</tr>
<tr>
<td>+2 TO +8 °C</td>
<td>-25 TO -15 °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+2 TO +8 °C</td>
<td>-25 TO -15 °C</td>
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<td></td>
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<tr>
<td>+2 TO +8 °C</td>
<td>-25 TO -15 °C</td>
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<tr>
<td>+2 TO +8 °C</td>
<td>-25 TO -15 °C</td>
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</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>H</td>
</tr>
</tbody>
</table>

*Based on available storage space (or vaccine specifications), insert additional columns for temperature ranges, such as –80 °C to –60 °C.

**HOW TO USE THIS PLANNING TEMPLATE**

- In **column A**, list the cold chain storage facilities in the catchment area.
- In **columns B and C**, specify whether each facility belongs to the government or nongovernment sector and list the facility’s address and contact information.
- In **columns D and E**, add together and note the storage capacity of all available, functioning equipment by temperature range at each facility (including ice-lined refrigerators, deep freezers, walk-in coolers, walk-in freezers and ultra-low-temperature freezers).
- In **columns F and G**, specify the total space required for storing routine immunization vaccines and other temperature-sensitive pharmaceuticals at the required temperature range for each vaccine/pharmaceutical.
- In **columns H and I**, calculate and list the remaining space available for storing COVID-19 vaccines by temperature range.
- In **column J**, ascertain and note the cost of leasing cold chain facilities (per cubic metre of storage space) from the nongovernment sector, as needed.
Planning Template 5
COVID-19 vaccine storage plan

<table>
<thead>
<tr>
<th>NAME OF INSTITUTION WITH COLD CHAIN FACILITY</th>
<th>SECTOR (GOVERNMENT OR NONGOVERNMENT)</th>
<th>SPACE AVAILABLE FOR STORING COVID-19 VACCINES*</th>
<th>IS THE SPACE CURRENTLY STORING COVID-19 VACCINES?</th>
<th>IF YES, INDICATE THE NAME(S) OF THE VACCINE PRODUCT</th>
<th>COVID-19 VACCINE DOSES PLANNED FOR STORAGE</th>
<th>COST OF LEASING COLD CHAIN STORES (US$/CUBIC METRE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C跳舞</td>
<td>D跳舞</td>
<td>E跳舞</td>
<td>F跳舞</td>
<td>G跳舞</td>
</tr>
</tbody>
</table>

**HOW TO USE THIS PLANNING TEMPLATE**

- In column A, list the cold chain facilities in the catchment area that have storage space available for COVID-19 vaccines.
- In column B, specify whether each facility belongs to the government or nongovernment sector.
- In columns C and D, for each facility, specify the storage space (in cubic centimetres) available for COVID-19 vaccines by temperature range. As appropriate, insert columns for additional temperature ranges, such as –80 °C to –60 °C.
- In column E, write “Yes” or “No” to indicate whether the facility already stores any type of COVID-19 vaccine. If yes, note in column F the type of vaccine stored.
- In columns G and H, note the number of doses that can be stored at the facility, if needed. The number of doses is based on the vaccine volume per dose of the specific vaccine type.
- In column I, specify the cost of leasing cold chain stores. These costs will be determined by how the facility calculates leasing fees (e.g. in cubic metres).
## Planning Template 6

### List of vehicles available for vaccine transportation

<table>
<thead>
<tr>
<th>VEHICLE SERIAL NUMBER</th>
<th>TYPE OF VEHICLE</th>
<th>REGISTRATION NUMBER (AS NEEDED)</th>
<th>CONDITION</th>
<th>SECTOR</th>
<th>CARRYING CAPACITY</th>
<th>FUEL USED</th>
<th>FUEL/GAS MILEAGE</th>
<th>PRIVATE SECTOR HIRING COST (AS NEEDED)</th>
<th>NAME AND CONTACT DETAILS OF DRIVER</th>
<th>NAME AND CONTACT DETAILS OF SUPPORT STAFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
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<td>A</td>
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<td>I</td>
<td>J</td>
<td>K</td>
</tr>
</tbody>
</table>

### HOW TO USE THIS PLANNING TEMPLATE

- In **columns A and B**, specify the serial number of each transport vehicle followed by the type of vehicle it is (motorized, such as jeeps and motorbikes, or nonmotorized, such as bicycles, boats and camels).
- In **column C**, specify the registration number of each vehicle (as appropriate).
- In **column D**, specify the working condition of each vehicle, whether it is functional, requires servicing (specify major or minor) or is nonfunctional (in this case, provide a reason). The estimated cost of servicing needed can also be indicated in this column.
- In **column E**, specify the sector each vehicle comes from – government (provide the name of the department), private sector or NGO. There are budget implications for each vehicle’s condition and the sector it comes from.
- In **column F**, specify the number of vaccine carriers or cold boxes and/or persons each vehicle can carry.
- In **columns G and H**, specify the type of fuel each vehicle uses (petrol, diesel, gas, battery) followed by the vehicle’s fuel/gas mileage (kilometres/miles for every litre of fuel/gas).
- For vehicles from the private sector, specify the daily or periodic hiring cost in **column I**. The information in **columns G, H and I** will be used when planning the transport budget.
- In **columns J and K**, for each vehicle, list the name and contact information of the driver and support staff. If a driver or support staff position is vacant when completing this template, indicate that.
## Planning Template 7

### Plan for vaccine transportation

<table>
<thead>
<tr>
<th>VEHICLE TYPE AND NUMBER</th>
<th>DETAILS OF DRIVER OR CONTACT PERSON</th>
<th>SUPERVISOR RESPONSIBLE</th>
<th>ROUTE PLAN (CLOSEST SITE SHOULD BE FIRST ON THE ROUTE, FOLLOWED BY NEXT CLOSEST)</th>
<th>OTHER SITES TO BE VISITED</th>
<th>TOTAL ESTIMATED DISTANCE TO BE COVERED DAILY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>SITE 1</td>
<td>SITE 2</td>
<td>SITE 3</td>
<td>SITE 4</td>
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</tr>
</tbody>
</table>

**How to use this planning template**

- In **column A**, list the type of each vehicle and its registration number.
- In **columns B and C**, list the names and contact information of the driver (or a contact person for the vehicle) and the supervisor responsible for vaccine transport. The supervisor assigned to each vehicle/team can travel in the vehicle with the vaccination team.
- In **columns E to H**, specify the location of each vaccination site, the staff members who will deliver and receive vaccine supplies and the tentative time of delivery and return. Add rows for additional vehicles, as needed.
- In **column I**, specify other locations to be visited, such as a waste management facility or warehouse.
- In **column J**, indicate the estimated total daily distance to be covered by each vehicle. This information is needed to plan the fuel budget.
Personnel identified for COVID-19 vaccination activities

<table>
<thead>
<tr>
<th>INDIVIDUAL'S ID NUMBER</th>
<th>NAME</th>
<th>DESIGNATION/CADRE</th>
<th>CONTACT INFORMATION</th>
<th>DEPARTMENT/ORGANIZATION</th>
<th>SECTOR (government, private, CSO)</th>
<th>PRIVATE/CSO EMPLOYEES - Estimated cost of recruiting</th>
<th>GOVERNMENT EMPLOYEES - Availability in hours</th>
<th>POTENTIAL ROLE IN COVID-19 VACCINATION</th>
<th>COVID-19 VACCINATION STATUS (none/incomplete primary/complete primary/booster)</th>
<th>TRAINING ON COVID-19 VACCINATION RECEIVED (Yes/No)</th>
<th>MODE (online/in person)</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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</tbody>
</table>

**HOW TO USE THIS PLANNING TEMPLATE**

- In columns A to E, list each existing staff member’s ID number, name, designation/cadre, complete contact information (phone, email, etc.) and the name of the department or organization they belong to.
- In column F, indicate whether individuals from existing staff are employed by the government, private sector or a CSO.
- In column G, specify the estimated cost of recruiting or deploying the individuals employed in the private sector or in CSOs.
- In column H, specify the number of days or hours for which each government staff member is available for COVID-19 vaccination activities.
- In column I, specify each individual’s potential role in COVID-19 vaccination (e.g. vaccinator, recorder, mobilizer, supervisor).
- In columns J to L, indicate whether each individual is vaccinated (specify the number of doses they have received) and whether they have participated in COVID-19 vaccination training and the training mode.
- In column M, specify other relevant information about the person, such as any spoken language that may be helpful in a particular area or with a specific ethnic group. Planners may add column(s) to record additional relevant information.
Planning Template 9

Plan for training health workers on COVID-19 vaccination

<table>
<thead>
<tr>
<th>BATCH NUMBER</th>
<th>TRAINING DATE AND DAY OF THE WEEK</th>
<th>TRAINING TIME</th>
<th>MODE OF TRAINING (online, in person or hybrid)</th>
<th>TRAINING VENUE AND VENUE CONTACT PERSON (as needed)</th>
<th>NAMES AND CONTACT INFORMATION FOR TRAINERS</th>
<th>NUMBER OF PARTICIPANTS IN EACH TRAINING EVENT</th>
<th>TRAINING LOGISTICS (e.g. audiovisual needs, refreshments)</th>
<th>TRAINING BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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</table>

**HOW TO USE THIS PLANNING TEMPLATE**

- In columns A to C, specify the batch number of each training, its scheduled date, day of the week and time.
- In column D, specify the mode of training. This is important for planning training logistics.
- In column E, indicate the name of the training venue (for in-person training) and the contact person’s name, phone number and email.
- In column F, list the names and contact information for the trainers assigned to each training.
- In column G, specify the number of participants anticipated for each training event. This information will facilitate creating participant lists. When determining the number of participants per training, ensure that guidelines are met related to public health and social measures, such as social distancing and other COVID-19 prevention measures.
- In columns H and I, specify the logistics for each training (e.g. audiovisual needs, handouts, refreshments) and the budget for each training batch. The budget should be itemized, including the cost of hiring the venue, travel allowances for trainers and participants, training kits, food and refreshments, overnight stay (as needed) and the cost of hiring audiovisual equipment.
### Planning Template 10

**Plan for vaccination sites (fixed, outreach and mobile service delivery)**

<table>
<thead>
<tr>
<th>NAME AND ADDRESS OF VACCINATION SITE</th>
<th>TYPE OF SESSION PLANNED</th>
<th>TARGETED PRIORITY-USE GROUPS</th>
<th>ESTIMATED TARGET POPULATION OF PRIORITY-USE GROUP</th>
<th>NEAREST COLD CHAIN FACILITY</th>
<th>DAYS OF THE WEEK AND DATES FOR THE SESSIONS</th>
<th>VACCINATION TIME</th>
<th>MEMBERS OF VACCINATION TEAM</th>
<th>NAME OF SUPERVISOR</th>
<th>NAME OF MOBILIZER OR LOCAL INFLUENCER</th>
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<tbody>
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<td>NAME OF VACCINATOR</td>
<td>NAME OF RECORDER</td>
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<td>NAME OF VACCINATOR</td>
<td>NAME OF RECORDER</td>
<td>NAME OF OTHER</td>
</tr>
</tbody>
</table>

**HOW TO USE THIS PLANNING TEMPLATE**

- **In column A,** specify the name and address of the vaccination site, such as village, urban dwelling or site for mobile team (for sessions that will occur in health facilities, specify the name of the facility). If digital mapping has been done to indicate the location of session sites, those geospatial coordinates can be listed here to facilitate locating sites using smartphone-based geo-mapping applications.
- **In column B,** specify the type of vaccination session, whether it is fixed or at an outreach location or mobile site.
- **In columns C and D,** for each site, specify the priority-use group(s) targeted and estimate the population of each group that will be vaccinated during that session. For fixed sessions with no specific target group, write “all population groups”.
- **In columns E and F,** for each vaccination site, list the name of the nearest cold chain facility and its distance from the site. This information is important when planning for transportation, coordinating logistics and referring cases of adverse events.
- **In columns G and H,** determine with staff members/stakeholders and indicate here the days of the week and times when vaccination will be provided at each site.
- **In columns I, J and K,** list the names and contact information of the vaccinators, recorders and other staff who will be present at the vaccination site. (This information can be found in Planning Template 8.) The number and cadre of team members may vary depending on the estimated size of the population to be vaccinated at the site.
- **In columns L and M,** list the names (and contact information) of the health department supervisor who will provide on-site support at each vaccination site and of the mobilizer/influencer designated for the session.
## Planning Template 11
### Plan for demand-generation activities

<table>
<thead>
<tr>
<th>NAME OF LOCALITY OF DEMAND-GENERATION ACTIVITY</th>
<th>PRIORITY-USE GROUP(S)</th>
<th>ACTIVITY PLANNED</th>
<th>DATE AND TIME</th>
<th>RESPONSIBLE STAFF MEMBER</th>
<th>OTHER TEAM MEMBERS</th>
<th>NAME/S OF STAKEHOLDER</th>
<th>BUDGET REQUIRED</th>
</tr>
</thead>
</table>
| A                                             | B                      | C                | D             | E                        | F, G
date | H                      | I                        |

### HOW TO USE THIS PLANNING TEMPLATE

- In **column A**, list the name and address of the locality (e.g. village, community dwelling) or the organization where a demand-generation activity is planned for a priority-use subgroup.
- In **column B**, specify the priority-use group to be reached by the activity (e.g. residents of a prison or a refugee group). This information facilitates the planning and delivery of tailored messages to priority-use subgroups.
- In **column C**, describe the type of activity planned (e.g. community meeting, road show, street play, home visit, seminar).
- In **column D**, indicate the date and time that each activity will occur.
- In **columns E, F, and G**, list the name and contact information of the staff member who will organize the activity and the names and contact information of other staff members who will help to coordinate it.
- In **column H**, list the name(s) and/or roles of the stakeholders (such as health volunteers) who will participate in and/or support the activity.
- In **column I**, specify the estimated cost of organizing and implementing each activity. Funding may be required for securing resources, such as furniture, tents, transportation and remuneration to volunteers.
# Supervisory field visit plan

<table>
<thead>
<tr>
<th></th>
<th>DATE AND DAY OF FIELD VISIT</th>
<th>NAME OF SUPERVISOR</th>
<th>DESIGNATION</th>
<th>DEPARTMENT</th>
<th>CONTACT INFORMATION</th>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
<th>SITE 4</th>
<th>SITES TO BE VISITED</th>
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**HOW TO USE THIS PLANNING TEMPLATE**

- In **column A**, specify the date and day of supervisory field visit. The date should align with vaccination service delivery at fixed and/or outreach sites.
- In **columns B, C, D and E**, list the name of the supervisor for each field visit, followed by the individual’s designation, department and contact information.
- In **columns F to M**, list the names and locations of the sites to be visited and the time of each visit. Sites may be added or deleted as needed.
- In **column N**, indicate other important details related to each field visit (e.g. activities such as validation of the microplan, follow-up with local influencers or review of health worker skills).

**NOTE:** Supervisory field visit plans should allow time for supervisors to meet the vaccinator team before the beginning of the field visit to brief them and time after the field visit to debrief them about the visit and next steps.

WHO recommends using this [Supportive supervision for COVID-19 vaccination](https://www.who.int/publications/i/item/9789241561033) document to prepare for and conduct on-site and remote supervisory visits.
References
References


Annexes
Annex 1

Conceptual framework for COVID-19 vaccination microplanning

For sustainability, integrate COVID-19 vaccination microplan with plans for routine immunization and primary health care services.

1. Estimate targets
   - 1.1 Identify and estimate the population of priority-use groups in the catchment area
   - 1.2 Prepare line lists of individuals in priority-use groups
   - 1.4 Estimate budgetary requirements for estimating targets

2. Calculate requirements
   - 2.1 Calculate the number of vaccines required and total vaccine volume
   - 2.2 Determine the types and quantity of ancillary supplies required
   - 2.3 Estimate budgetary requirements for ancillary supplies

3. Plan vaccine management
   - 3.1 Compile information on existing cold chain facilities and equipment
   - 3.2 Develop plans for storing vaccines and ancillary supplies
   - 3.3 Estimate the number of vaccines and ancillary supplies needed for vaccination sites
   - 3.4 Develop plans to transport vaccines, other supplies, and immunization waste
   - 3.5 Estimate budgetary requirements needed for vaccine management

4. Identify and manage human resources
   - 4.1 Identify the existing and required workforce
   - 4.2 Plan and organize trainings for the identified personnel
   - 4.3 Provide supportive supervision to vaccination teams
   - 4.4 Estimate budgetary requirements for human resources

5. Plan service delivery
   - 5.1 Plan vaccination strategies for specific priority-use groups
   - 5.2 Identify and map vaccination sites
   - 5.3 Estimate budgetary requirements for service delivery

6. Generate demand
   - 6.1 Plan and engage
   - 6.2 Diagnose
   - 6.3 Design
   - 6.4 Implement and evaluate
   - 6.5 Estimate budgetary requirements for demand generation activities

7. Monitor implementation
   - 7.1 Identify monitoring supervisors
   - 7.2 Prepare a field visit plan.
   - 7.3 Employ standard monitoring tools and techniques
   - 7.4 Estimate budgetary requirements for monitoring

8. Re-evaluate the microplan
   - 8.1 Assess the need revise the microplan
   - 8.2 Revise the microplan to respond to identified needs

As needed, revise components of the plan to align with the characteristics of new vaccines.

Compile budgetary estimates and ensure they are integrated into district and national plans for immunization, primary health care and system strengthening.
Annex 2
Additional resources for planners

MICROPLANNING STEP 1: ESTIMATE TARGETS


MICROPLANNING STEP 2: CALCULATE REQUIREMENTS


MICROPLANNING STEP 3: PLAN VACCINE MANAGEMENT


MICROPLANNING STEP 4: IDENTIFY AND MANAGE HUMAN RESOURCES


MICROPLANNING STEP 5: PLAN SERVICE DELIVERY


MICROPLANNING STEP 6: GENERATE DEMAND


MICROPLANNING STEP 7: MONITOR IMPLEMENTATION


MICROPLANNING STEP 8: RE-EVALUATE THE MICROPLAN


### Annex 3

**Activities to facilitate integration with routine immunization and PHC services during COVID-19 vaccination microplanning**

<table>
<thead>
<tr>
<th>MICROPLANNING STEP</th>
<th>ACTIVITIES TO FACILITATE INTEGRATION WITH IMMUNIZATION AND PHC SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1:</strong> Estimate targets</td>
<td>Use digital mapping and other innovative solutions developed for COVID-19 vaccination (e.g. electronic individual immunization registries) to estimate the number of beneficiaries from high priority-use groups for other programmes and services, such as antenatal care, antiretroviral therapy (ART) and screening for noncommunicable diseases.</td>
</tr>
<tr>
<td><strong>Step 2:</strong> Calculate requirements</td>
<td>Estimate requirements and plan logistics for other vaccines based on Step 1 activities related to streamlining supply chains (e.g. bundling last-mile supply chain resources for COVID-19 and routine immunization vaccines and other essential PHC supplies) and facilitating the design of common platforms for service delivery.</td>
</tr>
<tr>
<td><strong>Step 3:</strong> Plan vaccine management</td>
<td>Strengthen and utilize existing COVID-19 vaccination cold chain infrastructure for other vaccines and other temperature-sensitive pharmaceuticals used in PHC services.</td>
</tr>
<tr>
<td><strong>Step 4:</strong> Identify and manage human resources</td>
<td>Leverage the workforce identified/deployed for other disease control activities (e.g. polio vaccination teams and supervisors) and other primary care interventions to support COVID-19 vaccination by engaging them in community mobilization and awareness generation and assisting at COVID-19 vaccination sites. Deploy newer modalities used in COVID-19 vaccination, such as virtual training, in other programmes.</td>
</tr>
<tr>
<td><strong>Step 5:</strong> Plan service delivery</td>
<td>Co-deliver COVID-19 vaccines with other health interventions (e.g. other vaccines targeting COVID-19 priority-use groups, using routine childhood vaccination to offer COVID-19 vaccination to caretakers, screening for malnutrition and noncommunicable diseases using existing delivery platforms such as antenatal clinics and subspecialty clinics). Additionally, consider new entry points for specific target populations and age groups. Based on the country context and the maturity of the health system, identify promising opportunities for integrating COVID-19 vaccination with the delivery of other health services.</td>
</tr>
<tr>
<td><strong>Step 6:</strong> Generate demand</td>
<td>Use social listening to assess the population’s hesitancy towards and acceptance of services other than COVID-19 vaccination. Develop and deliver combined messages for the delivery of integrated packages of services to target groups (e.g. integrated awareness-generating activities on the benefits of COVID-19 vaccines and other vaccines).</td>
</tr>
<tr>
<td><strong>Step 7:</strong> Monitor implementation</td>
<td>Plan for the integrated monitoring of supply chain and stock positions of COVID-19 vaccines, routine immunization vaccines and other essential health supplies using real-time electronic monitoring tools. Strengthen surveillance systems for vaccine-preventable diseases and AEFIs for COVID-19 and other vaccines (e.g. systems for causality assessment of AEFIs).</td>
</tr>
<tr>
<td><strong>Step 8:</strong> Re-evaluate the microplan</td>
<td>Assess gaps in service delivery approaches, such as inadequate access to or acceptance of COVID-19 vaccination, and plan integrated service delivery for specific priority-use groups and habitations/communities.</td>
</tr>
</tbody>
</table>

AEFIs: adverse events following immunization; PHC: primary health care.
Annex 4

**WHO interim recommendations for the optimal use of COVID-19 vaccination**

<table>
<thead>
<tr>
<th>HIGH Priority-Use Groups</th>
<th>TARGET POPULATION</th>
<th>PRIMARY SERIES + 1ST BOOSTER</th>
<th>ADDITIONAL BOOSTER DOES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Groups with the highest risk of death from COVID-19</strong></td>
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<tr>
<td>Older adults</td>
<td>Recommended</td>
<td>Recommended (12 months after previous dose)</td>
<td></td>
</tr>
<tr>
<td>Younger adults with significant comorbidities or severe obesity</td>
<td>Recommended</td>
<td>Recommended (12 months after previous dose)</td>
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<tr>
<td>Subgroup of older adults:</td>
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<tr>
<td>Oldest adults</td>
<td>Recommended</td>
<td>Recommended (6 months after previous dose)</td>
<td></td>
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<tr>
<td>Older adults with multiple significant comorbidities</td>
<td>Recommended</td>
<td>Recommended (6 months after previous dose)</td>
<td></td>
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<tr>
<td><strong>Groups with special consideration for vaccination</strong></td>
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<tr>
<td>Adults, adolescents, and children 6 months and older with moderate to severe immunocompromising conditions</td>
<td>Recommended as extended primary series</td>
<td>Recommended (Approximately 6 months after previous dose; optimal interval should be discussed with treating physician)</td>
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<tr>
<td>Pregnant adults and adolescents</td>
<td>Recommended</td>
<td>Recommended once during a pregnancy (If previous dose was more than 6 months earlier)</td>
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<tr>
<td>Frontline health workers</td>
<td>Recommended</td>
<td>Recommended (12 months after previous dose)</td>
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<td><strong>MEDIUM Priority-Use Groups</strong></td>
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<tr>
<td>TARGET POPULATION</td>
<td>PRIMARY SERIES + 1ST BOOSTER</td>
<td>ADDITIONAL BOOSTER DOES</td>
<td></td>
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<tr>
<td>Healthy younger adults</td>
<td>Recommended</td>
<td>Not routinely recommended</td>
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<tr>
<td>Children + adolescents 6 months to 17 years with severe obesity or comorbidities that put them at higher risk of severe COVID</td>
<td>Recommended</td>
<td>Not routinely recommended</td>
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<tr>
<td><strong>LOW Priority-Use Groups</strong></td>
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<tr>
<td>TARGET POPULATION</td>
<td>PRIMARY SERIES + 1ST BOOSTER</td>
<td>ADDITIONAL BOOSTER DOES</td>
<td></td>
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<tr>
<td>Healthy children and adolescents aged 6 months to 17 years</td>
<td>Countries could consider based on disease burden, cost effectiveness, + other health or programmatic priorities + opportunity costs.</td>
<td>Not routinely recommended</td>
<td></td>
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</tbody>
</table>

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**a.** These recommendations are time-limited and apply only to the current situation and may need to be revisited when new variants of concern emerge or the epidemiology changes. WHO currently does not recommend regular annual boosters on a long-term basis until more evidence becomes available. **b.** First booster is recommended 6-12 months after the completion of the primary series. **c.** Age cut-off to be decided by countries; often it is 75 or 80 years. **d.** Extended primary series means one additional dose to the two-dose series, given about 3-6 months after the second dose. **e.** Regulatory approvals or WHO EUL for the use in pregnancy may differ by vaccine product. **f.** Age cut-off to be decided by countries; often it is 18 to 49 or 18 to 59 years. **g.** “Not routinely recommended” means that such vaccines are not recommended for inclusion in routine programmes because of minimal public health impact and low cost-effectiveness in most settings. However, vaccination may be offered in individual circumstances where added benefit is expected to be more substantial as there are no known additional safety issues associated with additional boosters. This recommendation acknowledges that some countries may elect to offer such doses in the routine programme based on population risks, disease epidemiology, or health priorities. **h.** Regulatory approvals or WHO EUL for the age indication differ by vaccine product; refer to the product-specific vaccine recommendations.
### Annex 5

#### Ancillary supplies required for COVID-19 vaccination

<table>
<thead>
<tr>
<th>TYPE OF ITEM</th>
<th>BASIS FOR ESTIMATION</th>
</tr>
</thead>
</table>
| Syringes for vaccine administration or reconstitution | • Number of individuals to be vaccinated  
• Number of doses required (primary series and booster doses) for the available vaccine product  
• Presentation of the available vaccine product (e.g. single unit syringes or syringes and needles – when supplied separately) |
| Supplies for segregating, storing and transporting immunization waste, including safety boxes, bins, garbage and waste management bags* | • Number of vaccination sessions planned  
• Estimated injection load at each vaccination site |
| Supplies for IPC, including masks, soap (liquid or cake), hand sanitizer (gel or spray) and cotton swabs | • Number of vaccination sessions planned  
• Number of staff at vaccination sites, including social mobilizers and community health workers  

*NOTE: Supplies for IPC and waste management to be used at COVID-19 vaccination sites should comply with national guidelines. |
| Recording reporting tools, including registration and vaccination cards,† tally sheets, registers and reporting formats | • Number of vaccination sessions planned  
• Number of individuals to be vaccinated |
| Other supplies: • passive cold chain equipment (cold boxes, vaccine carriers and coolant packs, as per requirement) • medicine kits and formats for reporting AEFIs‡ • communications materials§ • manuals, guidelines and/or frequently asked questions about COVID-19 vaccine products and vaccination | • To be estimated on an as-needed basis and consistent with the number of vaccination sessions planned in the area |

AEFIs: adverse events following immunization; CBOs: community-based organizations; CSOs: civil society organizations; IPC: infection prevention and control.

* Supplies for IPC and waste management to be used at COVID-19 vaccination sites should comply with national guidelines.  
† One vaccination card (or a card with counterfoil) is required for each person vaccinated and can be used as the individual’s personal record. As appropriate, a registration card can be used for the provider’s record. Cards should be designed at the national level to ensure uniformity and should be disseminated in printed or electronic format, in accordance with national requirements.  
‡ Refer to national guidelines to obtain a complete list of the contents of the kit.  
§ Includes behaviourally informed messages and/or frequently asked questions disseminated through local channels to reach priority-use groups via radio, television, social media, loudspeakers, community-based media, CSOs and CBOs, other influencers, ongoing interpersonal communications, display banners and handouts.
## Annex 6

### Scenarios, actions and factors to consider in developing COVID-19 vaccine storage plans

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
<th>Factors to Consider (in Order)</th>
</tr>
</thead>
</table>
| Scenario 1: Adequate storage space is available at government facilities to store the entire stock of vaccines supplied (or anticipated) | Transfer the entire vaccine supply to the identified government facility. | • Storage space at the required temperature range  
• Storage location and connectivity (distance, terrain and road availability) to vaccination sites  
• Power supply and alternate power sources  
• Capacity to properly handle vaccines during storage and transportation (including temperature monitoring) |
| Scenario 2: Adequate storage space is available at nongovernment facilities to store the entire stock of vaccines supplied (or anticipated) | Inquire about space available in nongovernment facilities. Transfer the entire vaccine supply to the nongovernment stores, keeping in mind vaccine temperature requirements. | • Storage space at the required temperature range  
• Storage location and connectivity (distance, terrain and road availability) to vaccination sites  
• Cost of and funds available for leasing storage space  
• Power supply and alternate power sources  
• Capacity to properly handle vaccines during transportation and storage |
| Scenario 3: Adequate storage space is available if the stock of vaccines is split between government and nongovernment facilities. | Transfer the vaccine doses that can be accommodated at government facilities. Inquire about space available in nongovernment facilities. Transfer the remaining supply to the nongovernment stores. | • Storage space at the required temperature range  
• Storage location and connectivity (distance, terrain and road availability) to vaccination sites  
• The cost of and funds available for leasing storage space  
• Power supply and alternate power sources  
• Capacity to properly handle vaccines during transportation and storage |
| Scenario 4: Adequate space to store the entire vaccine supply is not available in either government or nongovernment stores. | Deploy the quantity that can be stored in the catchment area and transfer the remaining supply to a facility in an adjoining catchment area. Alternatively, hold a portion of the vaccine doses at the district store for deployment later. | • Availability of adequate storage space in a health facility in an adjacent catchment area  
• Space available at the district/regional store  
• Capacity to properly handle vaccines during transportation and storage |
Geo-enabled microplanning involves developing digital health system maps using geospatial data and geographic information system (GIS) applications (11, 33). These digital maps are based on layered satellite imagery that reports information such as geographic terrain, infrastructure, settlements, accessibility using motorable road networks (for motorized two- and four-wheelers and bicycles) and other transportation modes (e.g. walking, boat, working animals such as donkeys and camels) and the distance and travel times between storage facilities and vaccination sites (34).

Compared to manually drawn maps, digital maps are more accurate, robust and cost-effective. They integrate critical information from a range of sources and can be updated more frequently based on population distribution and geographic data from catchment areas (35, 36) (Fig. A7.1).

Evidence from several regions and countries, including low-resource settings, highlights the contributions of digital mapping to the effective, equitable and accountable delivery of community- and facility-based services (37) such as routine immunization (38, 39), vaccination campaigns (40), polio surveillance (41) and eradication activities (42, 43), emergency outbreak response and mass drug administration for malaria and neglected tropical diseases (44), distribution of bed nets and implementation of mother and child health weeks (45).

Geo-enabled microplanning (including digital mapping) fosters better use of information for data-driven decision-making, which enables programme planners to:

- identify the location of high-risk groups such as those who have missed COVID-19 vaccination, mobile and marginalized populations, and cross-border settlements by characterizing trends and seasonality in population movements;
- develop real-time estimates of such high-risk groups and settlements based on their risk level and access to services and prioritize reaching them with vaccines;
- map service delivery sites in relation to target populations and their access to vaccination, keeping in mind the terrain, natural barriers and transport options;
- optimize plans for outreach vaccination sessions based on the physical accessibility of and travel time to and from sites and formulate alternate options (e.g. using mobile vaccination teams to reach remote settlements);
- identify the location of facilities in the catchment area capable of storing and distributing vaccines and ancillary supplies;
- enhance accountability in vaccine management, equitable vaccine distribution (46) and inventory systems up to the last kilometre using real-time monitoring; and
- provide near real-time monitoring to identify service gaps and prioritize settlements and priority-use groups with suboptimal coverage rates and/or inequitable access to service delivery.

WHO, in collaboration with UNICEF and Gavi, the Vaccine Alliance, is developing global guidance to support countries’ COVID-19 vaccination efforts by identifying and improving access to “global good” data, strengthening platforms and services and conducting in-country GIS capacity building.
GIS applications combine multiple layers of data to create detailed digital maps

GIS: geographic information system.
Source: www.turfimage.com

Resources


## COVID-19 vaccination priority-use groups, service delivery strategies and key considerations

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>TARGET GROUP</th>
<th>VACCINATION SITE</th>
<th>KEY CONSIDERATIONS</th>
</tr>
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</table>
| Fixed sites     | • Frontline health workers  
• Older and oldest adults  
• Pregnant adults and adolescents  
• Adults with significant comorbidities or severe obesity  
• Children, adolescents and adults with moderate to severe immunocompromising conditions | • PHC facilities  
• Outpatient clinics in government and private hospitals  
• Fixed mass vaccination sites  
• Private clinics  
• Long-term care facilities  
• Daycare centres | • This is a centralized delivery approach that facilitates vaccinating masses, especially in urban areas.  
• Health centres and hospitals (both government and private) should serve as primary fixed-site venues because they are typically open outside of normal work hours on weekdays and sometimes during weekends. Engagement of private sector institutions should comply with country-specific regulations and guidelines.  
• This approach should be deployed in strategically selected locations to facilitate logistical arrangements and immediate management of adverse events.  
• Delivery via fixed sites can be integrated with other disease-focused interventions, such as antenatal care and promoting the vaccination of people living with HIV/AIDS by building the capacity of facility staff to provide ART. |
| Outreach sites  | • Older and oldest adults  
• Pregnant adults and adolescents  
• Adults with significant comorbidities or severe obesity  
• Children, adolescents and adults with moderate to severe immunocompromising conditions | • Community care centres  
• Village-designated health outreach sites and habitations  
• Urban settlements | • This decentralized strategy involves reaching out to and vaccinating priority-use subgroups in the catchment area.  
• Outreach sites are suitable for settlements located at a distance from a health facility and those that have become inaccessible due to climate change.  
• Outreach sites should be located at prominent, convenient places with space for beneficiaries to wait before and after vaccination.  
• The location, date and time of vaccination sessions at outreach sites should be finalized in discussion with community leaders and elders. The number of vaccinator teams and session days can be decided based on the number of beneficiaries.  
• Every outreach site must be paired with a health facility and a means of transport in case of adverse events.  
• As appropriate, explore co-delivering COVID-19 vaccination at outreach sites with other interventions such as immunization and PHC services. |
## Annex 8  (CONTINUED)

### COVID-19 vaccination priority-use groups, service delivery strategies and key considerations

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>TARGET GROUP</th>
<th>VACCINATION SITE</th>
<th>KEY CONSIDERATIONS</th>
</tr>
</thead>
</table>
| Mobile teams and clinics  | • Older and oldest adults  
• Adults with significant comorbidities or severe obesity  
• Children, adolescents and adults with moderate to severe immunocompromising conditions | • Pharmacies and private health facilities  
• Home visits  
• Workplaces  
• Marketplaces  
• Parks and drive-throughs  
• Dormitories  
• NGO offices  
• Special strategies for insecure areas | • Mobile teams and clinics are a decentralized strategy that deploys temporary vaccination sites to reach out to and vaccinate populations or communities facing challenges and who require additional access to vaccination.  
• This strategy is important in communities and subgroups with:  
  – high social vulnerability (e.g. in rural or resource-scarce communities)  
  – a sizable population with low literacy  
  – an inability to travel due to lack of public transportation  
  – mobility issues or disabilities, such as among residents in care homes  
  – limited access to medical providers or COVID-19 vaccination clinics  
  – racial/ethnic disparities in health services and health outcomes  
  – located at a significant distance from critical infrastructure or health staff  
  – a lack of vaccine confidence or the presence of vaccine hesitancy  
  – little or no affordable internet access for vaccination preregistration.  
• A thorough needs assessment should be conducted to identify barriers to vaccination before planning mobile teams.  
• Teams should be deployed in strategically selected locations to ensure immediate management of adverse events.  
• When mobile teams are travelling to remote, sparsely populated areas with a small number of beneficiaries, it is important to minimize vaccine wastage. In such cases, two or more sessions in fairly close proximity can be scheduled for the same day.                                                                                                                                                                                                                       |
| Mass campaigns            | • Healthy younger adults  
• Healthy children and adolescents  
• Older adults  
• Children and adolescents 6 months to 17 years with severe obesity or comorbidities that put them at higher risk of severe COVID | • Large settlements  
• Public and private establishments  
• Education institutions  
• Marketplaces | • For mass campaigns, more than one vaccinator team and a support staff team should be deployed to manage the significant number of people approaching, entering and leaving the vaccination site.  
• A team of medical professionals should be deputized to manage adverse events and provide other health promotion services.  
• Banners and posters announcing the vaccination site, date and time should be strategically displayed throughout the community. Local volunteers, social mobilizers, frontline workers from different departments and local groups should be engaged in mobilizing beneficiaries to come to the site.                                                                                                                                                                                                                     |