

COVID-19 Exercise Programme

Drills for Vaccine Deployment



Photo credit: WHO / Blink Media – Nana Kofi Acquah

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How to use this guide

This guide sets out four common exercise drills that can be used in conjunction with your country COVID-19 vaccination programme. It consists of four elements which are placed sequentially and can be used either as stand-alone drills or as part of a system of testing the entire setup and delivery procedure. The drills programme consists of the following:

1. Select a site for the vaccination session
2. Setup the vaccination clinic/site
3. Operate the vaccination clinic/site and manage vaccine recipients
4. Close the vaccination clinic/site for the day

This drill package is part of a broader [COVID-19 simulation exercise package](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/training/simulation-exercise), including vaccine table top exercises (TTX). For exercises to be most effective, it is recommended they should be part of a comprehensive programme made up of progressively complex exercises, each exercise building on the previous one until they are as close to reality as possible. In this regard, before conducting these drills, it is advised to first conduct the COVID-19 vaccine table top exercises that can be found here: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/training/simulation-exercise>

Who is involved in this exercise drill programme?

Participants

These are the actual health care staff who will take part in the exercise and will be expected to practise and demonstrate their role, skills and knowledge during a COVID-19 vaccination session. These should include health care workers, support and logistics staff, administration personnel, cleaners and others, that would normally be involved in a vaccination session.

Facilitators

These are the people planning and managing the exercise drill from start to end. They will set-up and plan the drill (exercise) site before-hand and brief the participants so that they know what is expected from them and explain any exercise rules. During the drill, they may provide tips to the exercise participants or guide them to undertake corrective actions if the drill turns into an unexpected/unwanted direction that is not within the scope of the drill. Finally, they will also help coordinate key elements, such as supervising the actors if applicable, in order to ensure that the exercise runs smoothly and on time.

Evaluators

These people assess the performance of the participants and accomplishments of tasks performed during the exercise drill. They will usually be subject matter experts, in this case in the area of immunization. Their key role is to ensure that tasks are objectively evaluated and to provide constructive feedback to the participants during the debrief session. They may also help to identify any challenges that came out during the drill and propose recommendations to further enhance and strengthen the COVID-19 vaccination programme.

Actors/role players

Some parts of the exercise drill will involve the use of actors/role players. These are people `acting` to be recipients for the vaccination session. They will not actually receive vaccinations, but just pretend to be the ones coming for their vaccines. You can either use volunteers, (medical) students, actors, health care workers, community members or anybody else who wants to contribute to the drill. Whoever you choose, it is

important to clearly explain and brief them on the specific role they have (see actor notes).

Each drill has the following components:

Objective and expected outcomes

The specific objective and expected outcomes of each drill are stated under this heading. These are flexible and can/should be edited/adapted to suit your own needs/reasons for doing these vaccine drills.

Requirements for the exercise

These are the minimum requirements that need to be fulfilled before the exercise can take place. These vary between each of the 4 drills and should be prepared in advance. They range from simple requirements such as finding a suitable space, to complex preparation, such as preparing all of the equipment required to run a vaccine centre/site. For all 4 drills, it is key that all health workers involved in implementation of COVID-19 vaccination already have adequate knowledge and skills in order to ensure safe and efficient COVID-19 vaccine administration. Therefore, it is essential that the participants have successfully completed the [COVID-19 vaccination training for health workers](#) before actually participating in these drills.

Ensure that as much preparation is carried out before the exercise as this will save time.

Instructions to participants by facilitators

These are the instructions that you as the drill facilitator will give to the participants (i.e. vaccination site staff). Do not feel constrained by this as explaining what you want clearly and concisely will enable the participants to understand what is expected of them.

Always ensure that participants have been issued with a stop command so that the exercise can be suspended in case of a real incident on site (i.e. fire or real accident on site). Often, this is just the words **“STOP STOP STOP”** that are said by the lead exercise facilitator.

Facilitators' Instructions:

Facilitators' instructions are information/procedures to consider while you run and manage your exercise.

Evaluation Criteria:

These are the criteria which measure successful tasks of the participants. These criteria should be linked to the objective and expected outcomes. By having an evaluation list prepared, the drill facilitator and evaluator can ensure that all tasks have been completed and it can form a basis for the debriefing after the exercise drill.

Actors' Notes (if applicable)

Some parts of the exercise will involve the use of actors/role players. These actors must be briefed before the exercise and their role is to be carefully explained to them. At no time should an actor deviate excessively from the script given in the notes. The actors' notes allow them to understand their role and what is expected of them.

TIP

Preparing equipment before the exercise drill and ensuring that it is correctly labelled will save you time in both the setup and the conclusion of the exercise.

Drills for COVID-19 Vaccine Deployment - Overview

About this vaccine exercise programme	This programme has been developed as a set of four drills that can be undertaken to test and practice key elements of your COVID-19 vaccine deployment programme using real resources and staff.
What is a drill?	A drill is a coordinated, supervised exercise activity, normally used to test a single specific operation or function in a repeated fashion (WHO, 2009).
Why is it necessary to do a vaccine deployment drill?	<ul style="list-style-type: none"> • To verify your vaccination plan and to see if your plan or a part of your preparedness plan is complete and working as it should • To build the relationships you will use during the real vaccination • To practice the actions and procedures you will take during the real vaccination session • To give confidence in your plans and procedures
Who is expected to participate in the drills?	These drills are specifically designed for vaccinators, health care staff and cleaners that will be used to manage and administer the COVID-19 vaccines. These actual staff will be able to practise their role in the vaccine administration that is in line with the COVID-19 vaccination training for health workers .
Where is the drill expected to take place?	These activities are centred on setting-up a vaccination site at your local health facility or hospital (fixed post) and are designed to help you familiarise yourself with some of the basic elements you will need to have in place before actual vaccination sessions can commence.
Purpose, Scope and Objectives. Why are we doing these drills?	
Purpose:	To test the set up and management of a vaccination site with a minimum of four vaccination stations
Scope:	The four drills include the set-up of the vaccination clinic/site, practise vaccine administration and management of recipients, recording and registration procedures and communication skills.
Objectives:	<p>To verify and practise the management and procedures of vaccine administration including:</p> <ol style="list-style-type: none"> 1. Identify the vaccination clinic/site 2. Practise correct vaccination setup 3. Management of vaccine recipients 4. Identification and management of adverse events following immunization 5. Manage public expectations
Concluding the Drills	Always ensure that an informal debriefing session or “hot-wash” is conducted after each drill (after each of the 4 elements if conducted sequentially) and that a full debrief is conducted at the end of the drill programme. During this debrief session the best practises and challenges will be identified, and any recommendations proposed. The evaluation criteria will be useful in the full exercise debrief and aligned with the national immunization guidance.

Drill One: Identification of vaccination clinic/site

Objective & expected outcomes:

The following drill is to describe the requirements for a vaccination clinic/site at a primary health care centre (facility based fixed post). At the end of the drill participants are expected to:

1. Demonstrate the identification of a vaccination site (fixed post) that is suitable for vaccination sessions for up to 30 patients per hour at four vaccination stations
2. Describe the various stations/steps needed for a successful vaccination session preparation, as per the immunization clinic flow.
3. Describe infection prevention and control (IPC) measures that should be used during vaccination sessions, including specific measures for COVID-19.

Requirements for the exercise

The facilitator can advise the participants to assemble equipment beforehand that they would normally use for a vaccination session.

1. Participants for the drill will be the actual public health staff involved in the COVID-19 vaccination such as health care workers, support and logistics staff, administration personnel and public health management staff.
2. Participants successfully completed the COVID-19 vaccination training for health workers
3. Room or space suitable for 10-30 people, ensure physical distance (i.e. at least 1 meter in all directions) and adequate ventilation. This may include an outside or semi-covered outdoor space.
4. Infection prevention and control (IPC) principles and procedures for COVID-19 vaccination activities, 15 January 2021. World Health Organization. <https://apps.who.int/iris/handle/10665/338715>.
5. One exercise facilitator managing the drill, from beginning to end
6. One or more evaluators/immunization experts, observing the vaccination site

Instructions to participants by facilitators:

1. Take the participants to the health facility/clinic where the drill will take place
2. Participants are asked by the facilitator to select a room/area in the clinic that will be suitable for your vaccination session (fixed post).
3. Verbally describe to the evaluator why they have selected this place and how the stages/stations (vaccination flow) works.
4. Verbally describe the various stations/steps that recipients will follow, from entry to exit, including:
 - How and where recipients enter and leave the site
 - How and where recipients are screened and briefed about the procedure when they enter
 - How and where they are registered and managed while on site
 - How and where the vaccine is administered safely
 - How/where is the recipient observed after the vaccination and when the recipient is exiting
5. Briefly describe the standard IPC measures for a safe and successful vaccination session, including:
 - What public health precautions are undertaken, including what PPE is worn by both staff and recipients (i.e. mask) and any hand hygiene stations, disinfection, etc.
 - Where recipients sit and how the signage explaining physical distancing is organized.

Facilitators' Instructions:

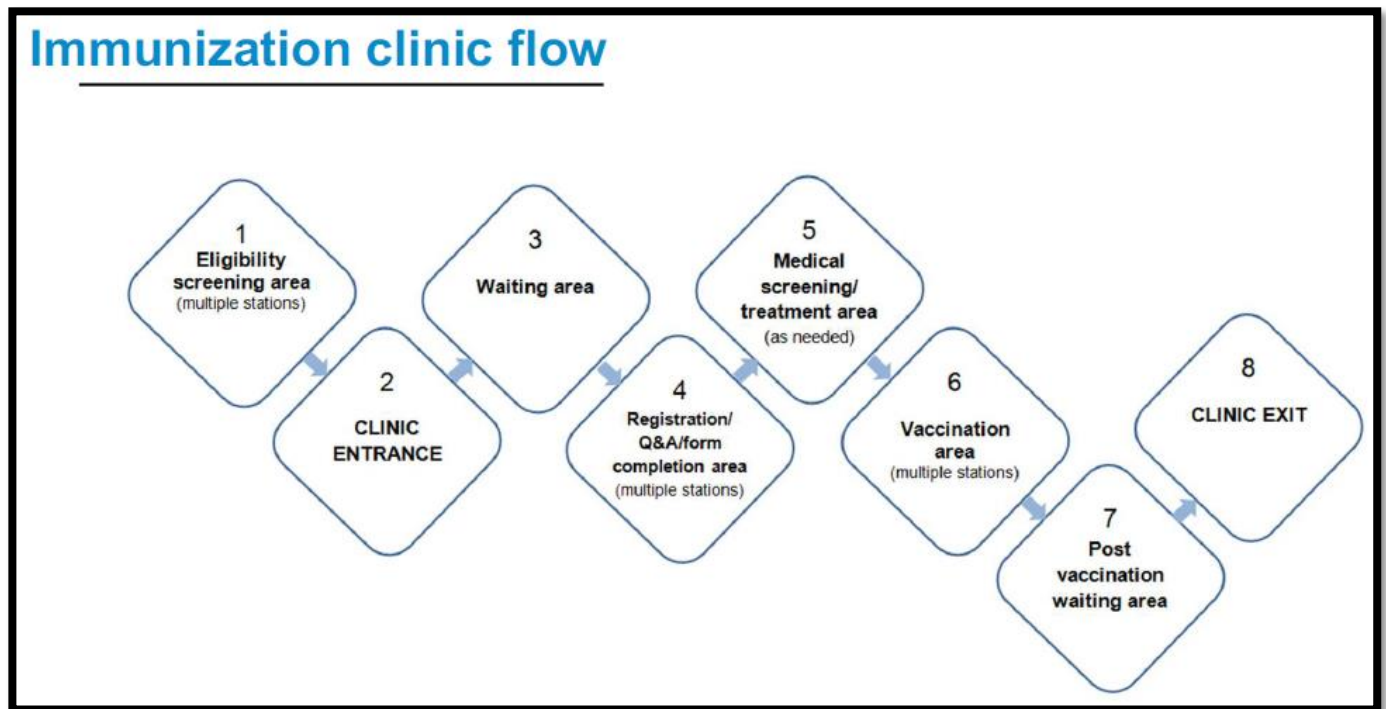
1. The participants are free to select any room or area in the clinic/site that they feel will be useful for a vaccination session and that meet the IPC requirements.
2. Ensure that normal and ongoing health services of the clinic are not overly disrupted
3. When they have settled on a space they feel comfortable with, engage them in a discussion about why this is suitable with the pro and cons compared to other options
4. End with a Q&A session

Evaluation Criteria:

Description	Observations	Status: Yes/No/Partially
Vaccination site	✓ Solid reasoning for the location, including space suitable for 10-30 people where at least 1 meter distance in all directions can be maintained	
	✓ The location/site has adequate space for screening-, registration, waiting-, and vaccination	
	✓ Vaccination stations can be at least 1-2 meter apart in all directions	

	<ul style="list-style-type: none"> ✓ Adequate space for vaccine storage and preparation at each vaccination station 	
	<ul style="list-style-type: none"> ✓ The space or room has adequate ventilation, either natural, mechanical or a combination of both. 	
Immunization clinic flow	<ul style="list-style-type: none"> ✓ Participants accurately describe the different stages/stations, including screening, crowd control, recording and ensuring a one-way flow through the vaccination site (see an example of an immunization flow in box 1 below) 	
IPC & Covid-19 measures	<ul style="list-style-type: none"> ✓ Participants describe the standard IPC precautions needed, including: <ul style="list-style-type: none"> • Hand hygiene: use alcohol-based hand rub or clean running water and soap. • Apply safe injection practices • Safe disposal of waste and sharps 	
	<ul style="list-style-type: none"> ✓ Additional IPC precautions are described to reduce the risk of SARS-CoV-2 transmission (e.g. minimum a medical mask) 	
	<ul style="list-style-type: none"> ✓ Environment cleaning and disinfection is mentioned, especially high touch surfaces (e.g. chairs, tables, door handles). 	

Box 1: Example of an Immunization Clinic Flow



Source: [COVID-19 vaccination training for health workers](#) Adapted from Centers for Disease Control and Prevention training module: Planning Vaccination Clinics at Satellite, Temporary, or other Off-Site Locations during the COVID-19 pandemic

Drill Two: Vaccination Site Setup

Objective & expected outcomes:

The following drill is to test setup requirements for a vaccination site at your local health facility or hospital (facility based fixed post). At the end of the drill, participants are expected to:

1. Setup the vaccination site with all equipment needed to successfully operate a vaccination session from start to end (fixed post). At the end of the drill, the site will be fully operational.
2. Undertake basic vaccine consumable calculations based on the number of vials of vaccine available.

Requirements for the exercise

The facilitator can advise the participants to assemble equipment beforehand that they would normally use for a vaccination session.

1. Participants for the drill will be the actual public health staff involved in the COVID-19 vaccination such as health care workers, support and logistics staff, administration personnel and cleaners.
2. Participants successfully completed the [COVID-19 vaccination training for health workers](#)
3. Include all vaccination stages/stations for the actual set-up, including screening stations waiting areas, registration, vaccination area, etc.
4. All equipment required to operate the vaccination site, such as tables, chairs, PPE (masks), vaccine & injection equipment, cold chain equipment, hand hygiene stations, safety boxes, communication & reporting tools etc. It is expected that the drill participants will bring the required equipment themselves and that is available, so that gaps in equipment availability will be identified.
NOTE: It is not recommended to have a third party providing equipment just for the drill, as this brings in an artificiality that could mean that equipment deficits are overlooked.
5. Include IPC measures and other useful items (i.e. physical distancing, floor marking, one-way flow, screens and other IPC measures).
6. DO NOT compromise sterile components at this stage (don't open sterile packaging but place sealed objects where they would be used).
7. One exercise facilitator managing the drill, from beginning to end.
8. One or more evaluators/immunization experts, observing the vaccination sites especially if there are multiple rooms.

Instructions to participants from facilitators:

1. Using the equipment on hand, setup the entire vaccination site (fixed post) as you would for a COVID-19 vaccination session (from beginning to end).
2. Organize and set-up the vaccination station(s) and equipment as you would need it for the vaccination sessions.
3. To avoid wastage for the sole purpose of exercising, DO NOT open any sterile packaging at this time
4. Use and install appropriate IPC measures in place, including use of PPE (at minimum a medical mask).
5. Explain to the exercise evaluators how vaccine calculations are made.
6. When you are ready and organized, you should lead the facilitator and evaluators through the setup as though you were a prospective recipient. You should be able to show and explain the following:
 - Presence of clear signage for directions and other IEC materials on vaccination process to inform recipients.
 - Where and how are recipients managed and show how the different waiting area(s) are organized (i.e. spatial separation for privacy concerns).
 - What public health precautions are undertaken, including what PPE equipment is available and what IPC measures in place (i.e. mask use, hand hygiene stations, cleaning and disinfection, etc.).
 - Other material and equipment that is used to ensure a safe and efficient vaccination session.
 - How and where are the sharps disposed of and other waste managed.

Facilitators Instructions:

1. Guide participants to set-up a vaccination site, using the equipment on hand but reinforce that there is no need to open sterile equipment at this time. At the end of this drill, they should be in a position to start vaccination sessions. Use real equipment wherever possible.
2. Encourage participants to put things in place with the appropriate IPC measures/kits.
3. When they are ready, have the participants on site to explain to the evaluators the reasoning of certain set-up, procedures and organization.

Evaluation Criteria:

Description	Observations	Status: Yes/No/Partially
Vaccination site Set-Up	✓ At least one vaccination site is setup and operational to receive recipients	
	✓ The setup includes all relevant equipment according to national immunization set-up checklist. If they do not have a specific checklist, ensure that this is recorded (see table 1 below requirements checklist)	
	✓ Clearly marked separate entry and exit points, and one way flow of patients	
	✓ Sufficient chairs are available in waiting areas where recipients can sit	
	✓ Sufficient hand hygiene stations available	
	✓ Signage including reminders about reporting COVID-19 signs and symptoms, mask wearing, hand and respiratory hygiene, physical distancing.	
Vaccine calculations	✓ Demonstrate how vaccine consumable calculations are made	
IPC & COVID-19 measures	✓ Hand hygiene measures are in place: Alcohol based hand rub or clean running water and soap	
	✓ Personal Protection Equipment (based on individual risk assessment) is in place including: <ul style="list-style-type: none"> • Product for hand hygiene (see above) • Medical masks • Eye protection (in case of need) • Gown (in case of need) • Gloves (in case of need) • When used, gown and gloves should be discarded after single use 	
	✓ Waste bag/containers are available	
	✓ Other items including: <ul style="list-style-type: none"> • Tissues • Thermo scans (for screening) • Cleaning equipment • Physical barriers (to aid privacy & spatial separation) 	

Table 1: Requirements Checklist

<p>Requirements for a vaccination session (fixed post)</p>	<ul style="list-style-type: none"> ✓ vaccine doses = Target number x adequate wastage factor (WF) ✓ vaccine vials = Vaccine doses ÷ number of doses per vial ✓ auto disable (AD) syringes = 1 per vaccine dose ✓ diluent vials (if applicable) = 1 per vaccine vial ✓ reconstitution syringes (if applicable) = 1 per vaccine vial ✓ safety boxes = Total number of AD and reconstitution syringes (if applicable) ÷ 100 ✓ Tally sheets (or other reporting forms depending on recommendation, including tracking for 2 doses) ✓ List with contact phone numbers (e.g. supervisor focal person for adverse events following immunization (AEFI), ambulance driver) ✓ AEFI kit & AEFI reporting forms (specific for COVID-19) ✓ IPC kit ✓ Waste bin/bag
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Drill Three A: Operations

To be run in conjunction with Part B

Objective & expected outcomes:

The following drill is to practise the management of vaccine recipients at a vaccination facility/site. This drill is most useful when drill 1 & 2 are successfully completed. At the end of the drill participants are expected to:

1. Manage the vaccine session of 10-30 people from start to end (entry-vaccine administration-exit). These recipients must be organized and managed appropriately, paperwork correctly completed, provided with a vaccine and managed to departure.

Important disclaimer - Some Member States have asked if real COVID-19 vaccines can be administered to recipient volunteers at this point. This should be left at the discretion of national medical authorities, however as this should involve skilled health workers, full compliance to injection safety and appropriate use sharps and vaccines, it would not be considered an exercise drill but a dry run instead. However, this specific COVID-19 vaccine drill guide does not include guidance on managing a dry-run and using real vaccine.

Requirements for the exercise

The facilitator can advise the participants to assemble equipment beforehand that they would normally use for a vaccination session.

1. Participants for the drill will be the actual public health staff involved in the COVID-19 vaccination such as health care workers, support and logistics staff, administration personnel and cleaners.
2. Participants successfully completed the [COVID-19 vaccination training for health workers](#)
3. Previously vaccine setup site successfully completed and operational (Drill 2)
4. 10-30 volunteers to act as vaccine recipients. The actor recipients just play themselves as they would in real life when they get vaccinated. They are welcome to ask questions to the vaccinators and engage in conversation (see actor instructions).
5. Required paperwork, including forms, tally sheets (or other reporting forms, depending on recommendation, including tracking for 2 doses).
6. Develop list with contact phone numbers (e.g. supervisor, focal person for adverse events following immunization (AEFI), ambulance driver).
7. One exercise facilitator managing the drill, from beginning to end
8. One or more evaluators/immunization experts, observing the vaccination sites especially if there are many rooms; this will help to evaluate the different stages/stations from entry to exit of recipients.

Instructions to participants from facilitators:

1. Manage recipient entry and screening
2. Complete registration paperwork to a required standard
3. Invite the recipient for vaccination and explain what will happen
4. **Describe** the correct and safe administration of intramuscular (IM) injection, please **DO NOT use any real injections, and do not administer/inject any vaccine** or other substance during this drill!
5. Demonstrate proper IPC measures, and describe injection safety and sharps disposal
6. Explain the vaccine recipient what comes next (i.e. 15 min. observation in the waiting area)
7. Prepare the workspace for the next recipient

Facilitators Instructions:

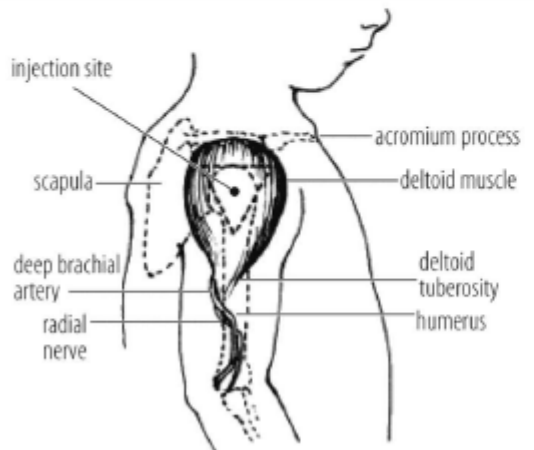
1. DO NOT use any sharps, just simply have the vaccinator participating in the drill, explain the process/steps for administering the intramuscular (IM) injection to each recipient
2. Keep in mind health and safety at all times
3. Each participant in role of a vaccinator should have at least two vaccine recipient actors to practise. After all the participant vaccinators have been through the process once, call and END to the drill.
4. Remember, this part of the exercise will be using actors/role players. The actors for this part will be playing the role of the recipient. They should receive instructions to act excited, curious and maybe nervous (no-one really loves getting a vaccine). Instruct the actors to talk to the participating health staff and ask the sort of questions recipient normally ask of vaccinators. All the actors will be compliant, friendly and helpful. (see actor instructions below)
5. Aim for a minimum of 10 actors. Try not to use more than you can manage easily. You can always use the same actors' multiple times so that all participant vaccinators can practise their role.

Evaluation Criteria:

Description	Observations	Status: Yes/No/Partially
Recipient Entry & Registration	✓ Recipient is screened for respiratory symptoms before entering the vaccination site	
	✓ Registration forms are used to collect contact information	
Waiting area	✓ Limited number of individuals in the waiting area to avoid crowding and long waiting times	
Communication & reporting	✓ Adequate information is provided to recipients about the vaccination process and different steps	
	✓ Vaccination register, tally sheets or other record/reporting forms are correctly used (i.e. electronic immunization registry, medical record system, monthly/periodic reports)	
	✓ Sufficient information is provided before leaving the vaccination site (i.e. on their 2 nd injection if applicable)	
	✓ Recipient receive an individual vaccination card/certificate at the end	
Vaccination administration	✓ Sideways positioning (avoid face-to-face with recipient)	
	✓ Describe the 6 steps for administration of intramuscular (IM) injection (see box 1 below)	
	✓ Recipient is observed for minimum 15 minutes in a designated waiting area	
IPC Measures	✓ Workplace is clean	
	✓ Hand hygiene is performed	
	✓ PPE use is correct (at the minimum a medical mask is used)	
	✓ Minimising clutter	
	✓ Cleaning and disinfecting the workplace for next recipient	

Box 1: Administration of intramuscular (IM) injection

Administration of intramuscular (IM) injection



1. Perform hand hygiene between each vaccine administration.
2. Hold the AD syringe barrel with fingers and thumb on the sides of the barrel and with the bevel of the needle facing upwards.
3. Gently stretch and support the skin with the other hand and quickly push the needle at a 90° angle down through the skin into the muscle.
4. Depress the plunger smoothly, do not move the needle under the skin.
5. Pull the needle out quickly and smoothly at the same angle as it went in.
6. Discard the needle and syringe straight into the safety box.

Actors/role players notes - Print this card and give this to the actors for Drill Three, Part A

Instructions to Actors

Who are you?

You are a person who has come to get their COVID-19 vaccination. This is a great day and you should feel excited. Get into your role by thinking about going to get your real vaccination. Ask yourself how you feel and act accordingly.

What do you want?

My vaccine. I'm not in a great hurry and I will happily fill out all the paperwork needed, and I will follow all instructions (regardless of how unusual or strange they may seem). I will take instructions literally - if someone asks me to sit and wait on a chair, I will stay there until someone tells me otherwise. If I wait too long, I will ask health staff participants for information/help. If instructions are unclear, I will ask for more clarification.

What will you do?

You will ask questions about the vaccination session. You are welcome to ask any question you like but as a guide here are some common ones that you can ask during any stage of the vaccination session:

1. Will it hurt? Can you give me some medication against the pain?
2. My privacy is important to me so why do I need to give my personal contact details?
3. Do I need to get another vaccine and how long will I need to wait?
4. How long until the vaccine gives me some protection? And how long will the protection last?
5. Can I take home my syringe as a souvenir?
6. Can you sign a piece of paper to let my employer know that I have had the vaccine?
7. Can I have the rest of my family, including my children come to get the vaccine?
8. Which vaccine am I getting? Why this one and can I get another vaccine instead?
9. I have another appointment and need to leave directly after the session. Why do I have to wait for 15 min after the injection?
10. What do I need to do if I feel unwell after the injection when I am back home?
11. Now that I am vaccinated, can I pick up my normal life/behaviour as before COVID-19? Why not?

Important - I will never put myself in danger and I will always alert others to danger. This means in this drill, you should never actually receive an intramuscular injection. Instead, all the vaccination steps should be done as in a real vaccination session but for the injection itself, the vaccinator should describe the 6 steps for administration of intramuscular injection.

Drill Three Part B: Managing Adverse Events Following Immunization (AEFI) and Clients Who Want Additional Provisions

Objective & expected outcomes:

The following drill is to identify adverse events following immunization (AEFI) and manage persons/clients with specific needs. At the end of the drill, participants are expected to:

1. Identify and manage adverse events following immunization (AEFI).
2. Identify and manage a pregnant woman who needs to be assessed (risk/benefit assessment) for receiving the vaccination or not.
3. Manage recipients/clients who require additional privacy provisions in order to have the vaccine.

Requirements for the exercise

The facilitator can advise the participants to assemble equipment beforehand that they would normally use for a vaccination session.

1. Participants for the drill will be the actual public health staff involved in the COVID-19 vaccination such as health care workers, support and logistics staff, administration personnel and cleaners.
2. Participants successfully completed the [COVID-19 vaccination training for health workers](#) including managing emergencies (e.g. anaphylaxis/ fainting).
3. Previously vaccine setup site successfully completed and operational (Drill 2).
4. 10-30 volunteers to act as vaccine recipients, of which 4 actors will present adverse effects or have specific medical conditions that impact the vaccination session as they require specific attention. The rest of the actor recipients just play themselves as they would in real life when they get vaccinated. (see actor instructions).
5. Vaccine product package and label information available for exercise purposes only.
6. Required paperwork, including forms, tally sheets, WHO standard AEFI reporting form (or other reporting forms, depending on recommendation, including tracking for 2 doses).
7. Microplan with address of the health facility to take patient in case of emergency/ necessary funds or authorisation for transport and hospital admission if needed.
8. Develop list with contact phone numbers (e.g. supervisor, focal person to contact for technical clarifications for adverse events following immunization (AEFI), ambulance & driver).
9. Separate place for resting and resuscitation (adjacent but away from the visibility of vaccination) is available.
10. One exercise facilitator managing the drill, from beginning to end.
11. One or more evaluators/immunization experts, observing the vaccination sites especially if there are many rooms; this will help to evaluate the different stages/stations from entry to exit of recipient.

Instructions to participants from facilitators:

1. A key task at any vaccination site is screening of vaccine recipients. Ensuring that anyone with pre-existing conditions or are in at-risk groups are identified and managed. Some may need to be excluded from vaccination at this time and it is important that the person understands why and what to do. As vaccinators, you will be presented with people for whom vaccination might not indicated, and you will need to communicate this accordingly.
2. Inspect the vaccine label and the diluent and verify that the correct ones are in use and not expired.
3. Carefully review the product package insert (verify that you are familiar with the contraindications and precautions).
4. Prior to vaccination inform the recipient what the vaccine is for and the anticipated adverse events and how to respond if they occur.
5. In some cases, recipients might develop mild reactions to vaccines such as pain or fever within 24-48 hours after vaccination. Most reactions are mild and resolve after a short period of time. However, it is important to manage and document any event that appears severe and/or serious and for the purpose of this drill describe the treatment that you would normally perform if applicable.
6. If you detect any reactions or adverse events following immunization (AEFI), please act and respond as you would normally do and are trained for. However, **please remember no actual treatment should be done, only describe the treatment, this is just an exercise drill!**
7. Ensure proper documentation including brand name, manufacturer, batch number and expiry date for all recipients.

Facilitators Instructions:

1. You need to have trained the actors using the scripts below on their roles and how to play. These actors need to be properly briefed and provided with a specific script for their role. Ensure that a facilitator is always nearby to ensure that people don't run off the script too far (see actor

instructions below).

There are two actors here who will exhibit adverse reactions, one mild case (stress related response) and one severe case (anaphylaxis). You can add more as required, however, ensure that you consult the relevant documentation on the vaccines in order to keep symptoms consistent. Do not overblow symptoms. Most are very mild. Severe symptoms are very rare and usually implicated in pre-existing health conditions and this will be too complex for this drill.

2. In addition, there will be 1 actor requesting to be vaccinated by a female staff and demanding absolute privacy due to her religious background, while 1 other actor is a pregnant woman that will need to be assessed for vaccination
3. NOTE: Although none of the current vaccines are licensed for vaccinating pregnant or lactating women it might still be administered (based on a risk/benefit assessment) to provide the vaccine for the pregnant women (i.e. if the benefit of vaccination outweighs the potential vaccine risks, if the woman is a health care worker or is to receive one of the non-replicating vaccines, etc.). If the assessment is to vaccinate the pregnant women, there needs to be justifiable reason that is based on an assessment result. As there is no clear guidance at this moment; national guidance should be consulted if such exists.

Evaluation Criteria:

Description	Observations	Status: Yes/No/Partially
Prior to Vaccination	✓ Inspect the vaccine label and the diluent and verify that the correct ones are in use and not outside expiry.	
	✓ Review the product package insert	
	✓ Site/ bed/ couch for emergency case management is free and accessible.	
Recipient Entry & Screening	✓ Recipients are screened and checked for eligibility criteria	
	✓ Registration forms are used to collect contact information	
	✓ Pregnant woman is detected and the indication of her vaccination in pregnancy is assessed (risk/benefit) according to specific COVID-19 vaccine, by supervisor for vaccination or not	
AEFI Detection & Notification	✓ All cases (minor and severe) have been detected and notified	
AEFI reporting	✓ COVID-19 AEFI reporting forms were used and sent to the supervisor	
	✓ The information on the reporting form was accurate including brand name, manufacturer, expiry date and complete	
	✓ In case of serious AEFI, the supervisor and/or AEFI focal person was informed immediately (over telephone) and the reporting form was completed within 24 hours.	
Communication	✓ Pregnant woman is informed and provided with clear communication and explanation on the decision if she gets vaccinated or not in line with the communication flow chart .	
	✓ Vaccine recipients are informed of potential side effects and what to do in case of AEFI	
	✓ Other recipients that have witnessed the AEFI (both minor and severe) have been informed and been assured that all is ok.	
	✓ Clear communication is provided to recipient who wants additional provisions/privileges	
AEFI Treatment	✓ Diagnose anaphylaxis by doing RAPD assessment by examining for symptoms and signs involving the following body systems: <ul style="list-style-type: none"> ○ Rash and mucosa ○ Airway and respiratory ○ Pulse and cardiovascular ○ Diarrhoea and gastrointestinal 	

✓ Urgent treatment was described to the evaluator of anaphylaxis, based on WHO recommendation, see below box 1. (please remember no actual treatment should be done, only describe the treatment, this is just a drill!)	
✓ AEFI emergency/treatment kits are available with adrenaline – expiry date verified (see box 2 below).	

Box 1: Treatment of Anaphylaxis

Drug, site and route of administration	Age	Dose*	Frequency of administration
Adrenaline ampoule 1:1000 Dose of 0.01 ml/kg up to a maximum of 0.5 ml injected intramuscularly. If the weight of the vaccine recipient is unknown, an approximate guide as per the table next can be used.	12 months	0.10	Assess response and treat if ongoing respiratory and/or cardiovascular symptoms or signs If needed, repeat same dose of adrenaline IM every 5-10 minutes up to TWO additional doses, give high flow oxygen, if available.
	18 months–4 years	0.15	
	5 years	0.20	
	6–9 years	0.30	
	10–13 years	0.40	
	14 years and older	0.50	

* The dose for children is based on 0.01 ml/kg per dose up to 0.5 ml, repeated every 5-10 minutes, as indicated, for up to maximum of 3 doses.

Box 2: AEFI treatment kit

Contents of an AEFI treatment kit	
<ul style="list-style-type: none"> • Injection adrenalin (1:1000) solution – 2 ampoules • Disposable syringe (insulin type) having 0.1 ml graduations and IM needle (gauges and length adjusted to targeted recipients) – 2 sets • Scalp vein set – 2 sets with medium bore needles. (gauges and length to be adjusted to targeted recipients) • IV canula (various sizes, adjusted to targeted recipients) • Paracetamol (500 mg) – 10 tabs • IV fluids (Ringer lactate or normal saline): 1 unit in plastic bottle 	<ul style="list-style-type: none"> • IV fluid therapy: 1 unit in plastic bottle • IV drip set: 1 set • Cotton wool + adhesive tape: 1 each • AEFI reporting forms • Label showing: Date of inspection, expiry date of injectable adrenaline and shortest expiry date of any of the components • Drug dosage tables for injecting adrenaline • At hospital, oxygen support and airway intubation facility should be available.

Sources:

<https://watch.immunizationacademy.com/en/videos/760>

<https://www.who.int/tools/covid-19-vaccine-introduction-toolkit>

<https://www.who.int/immunization/diseases/measles/SIA-Field-Guide.pdf>

<https://www.who.int/publications/m/item/health-worker-communication-for-covid-19-vaccination-flow-diagram>

Brief overview of anaphylaxis as an Adverse Event Following Immunization (AEFI) and practical guidance on its identification, case management and response in a primary care setting: WHO final draft

Actors/role players notes - Print this card and give this to the actors for Drill Three, Part B

Instructions to Actors

10-30 volunteers to act as vaccine recipients, of which 4 actors will present adverse effects or have specific medical conditions that impact the vaccination session as they require specific attention. The rest of the actor recipients just play themselves as they would in real life when they get vaccinated (see also actor instructions 3A)

The four specific actors will act as recipient with either;

1. Recipient with a stress related response.
2. Pregnant women that will need to be assessed for vaccination.
3. Recipient with an acute allergic reaction (anaphylaxis).
4. A person/client that wants additional privacy provisions in order to have the vaccine.

The facilitator will select four individuals - two male and two female persons will be handed these cards:

Actor One – Male (stress related response)

Who are you?

You have come for your COVID-19 vaccination. You are in apparently good health and are looking forward to receiving the vaccine. You are cooperative with staff and will fill out all of the paperwork provided or question asked.

What happens?

When your vaccination is completed/after receiving the vaccine (about 2-3 minutes) you will stand up quickly and have a fast, deep breathing and shortness of breath. Immediately find somewhere to sit and act like you are very dizzy and weak. If there is somewhere to lie down, even better, but always respond to questions from health care staff.

When health care staff approach you tell them that you don't feel very well and that you have had your vaccine about 2 minutes ago. You feel weak, dizzy and feel like you will fall over. Your skin is pale, sweaty and clammy.

You will not lose consciousness and your symptoms will not get worse. The symptoms will pass in about 20 minutes.

You will always respond and cooperate with staff but **DO NOT ALLOW THEM TO INJECT YOU OR INSERT A LINE** (remind them this is an exercise). Instead, for the purpose of this exercise, all the treatment steps should just be described. You will feel much better after 10 minutes

When you feel better ask to leave and fill out any paperwork they require

Actor Two – Female (pregnant women)

Who are you?

You have come to receive your COVID-19 vaccine. However, you are early into your second trimester of pregnancy and you are not a health care worker. You are not outwardly showing at the moment and it is not obvious that you are pregnant.

What happens?

You want to get the vaccine and you will fill out the required paperwork or answer any verbal screening questions. If there is a section/question that asks if you are pregnant answer that this is the case. Hand over any paperwork or if anyone asks if you are pregnant or questions your paperwork tell them that you are pregnant.

If you make it all the way to a vaccination, tell the vaccinator before being given the vaccine that you are pregnant. If you make it this far, also alert the exercise evaluator and the facilitator.

NOTE: Although none of the current vaccines are licensed for vaccinating pregnant or lactating women it might still be administered (based on a risk/benefit assessment) to provide the vaccine for the pregnant

women (i.e. if the woman is a health care worker or is to receive one of the non-replicating vaccines). If the assessment is to vaccinate the pregnant women, please ask for the assessment result or on what basis the decision was taken to vaccinate the pregnant women. This should not be the decision of the vaccinator but should be already be conducted at the screening/entry and the evaluation and decision should be done by the supervisor. As there is no clear guidance at this moment; national guidance should be consulted if such exists.

Actor Three – Male (acute allergic reaction i.e. anaphylaxis)

Who are you?

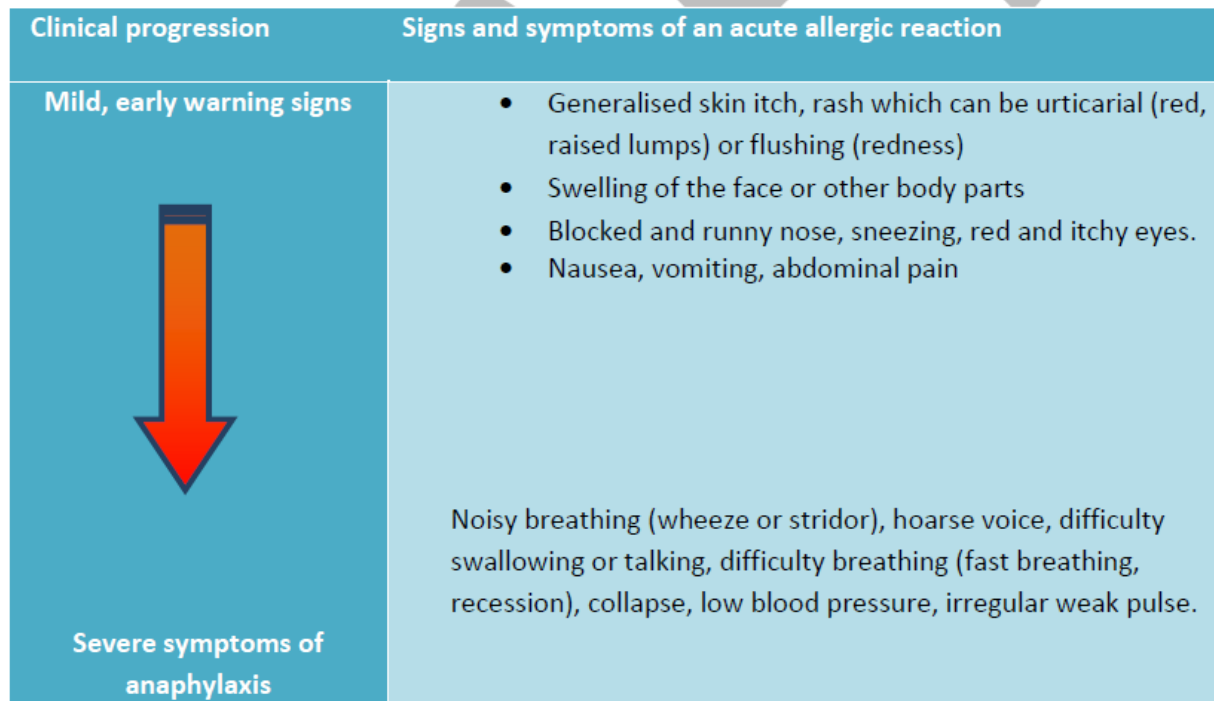
You have come for your COVID-19 vaccine. You are in apparently good health and are looking forward to the vaccination. You are cooperative with staff and will fill out all of the paperwork provided or questions asked.

What happens?

When your vaccination is complete you will wait about 5-10 minutes before you develop symptoms of an acute allergic reaction. You start with sneezing and coughing, itchy eyes and skin and some vomiting. Then you progress with noisy breathing before collapsing and loosing consciousness (see also table 1 below). Other symptoms you develop/show include:

Skin	Symptoms include generalised skin itch, redness of the skin and/or hives/urticaria (rash, which is red, raised and itchy) and/or swelling of the face/body/limbs (angioedema).
Mucosa	Symptoms include red and watery eyes and/or runny and blocked nose.
Respiratory	Symptoms include persistent cough, tightness in the throat, hoarse voice, noisy breathing (inspiratory stridor/expiratory wheeze) and/or increased work of breathing (fast breathing/recession/grunting).
Heart	Early symptom of low blood pressure is dizziness which can progress to loss of consciousness.
Gastro-intestinal	Symptoms include abdominal pain, nausea, vomiting, and diarrhoea.

Table 1: Recognition of the signs and symptoms of an acute allergic reaction



NOTE: You will be agitated but cooperative with staff but **DO NOT ALLOW THEM TO INJECT YOU OR INSERT A LINE** (remind them this is an exercise drill). The staff should explain the treatment that they would perform on you. After their description you will feel much better.

When you feel better ask to leave and fill out any paperwork they require.

Important - I will never put myself in danger and I will always alert others to danger. This means in this drill you should never actually receive an intramuscular or any other injection. Instead, for the purpose of this exercise, all the treatment steps should just be described.

Actor Four – Female (additional privacy provisions)

Who are you?

You have come to receive your COVID-19 vaccine. You are from a conservative religious community and find it difficult to interact with members of the opposite sex (men) or to be placed in a position where people may observe you in different states of undress.

At no time are you to be alone with a male person who is not your relative.

What happens?

You will be cooperative and will fill in all of the required forms and answer any questions from staff.

If you are directed towards a male vaccinator, quietly inform a female health staff (drill participant) that you will only accept the vaccine from a female member of staff.

When you are taken for vaccine, you will only remove clothes or expose your shoulders if you are completely hidden from other people and will strongly demand a closed, private cubicle.

If these additional requests are not provided, you will simply leave without receiving the vaccine.

NOTES: You want to receive the vaccine but only when your privacy requests are granted.

Drill Four – Closing the Vaccination Site for the Day & Managing Public Expectations

Objective & expected outcomes:

The following drill is to manage expectations of recipients that demand to be vaccinated but turned up late and could not receive their vaccine before closure of the vaccination site. At the end of the drill participants are expected to:

1. Undertake closing routine of the vaccination site for the day.
2. Managing safety and security at the vaccination site.
3. Demonstrate effective and individualised communications about COVID-19 vaccination.

Requirements

The facilitator can advise the participants to assemble equipment beforehand that they would normally use for a vaccination session.

1. At the conclusion of the drill, this is a final part.
2. Participants for the drill will be the actual public health staff involved in the COVID-19 vaccination such as health care workers, support and logistics staff, administration personnel and if applicable security personnel.
3. Participants successfully completed the [COVID-19 vaccination training for health workers](#).
4. Participants will pack up the vaccination site or place at the end of the day (depending on usage requirements).
5. Small crowd of 5-6 people/community members.

Instructions to participants from facilitators:

1. Vaccination exercise has concluded for the day. Pack up the vaccination site as you would normally at the end of the day.
2. Return equipment as required and dispose of all consumables including waste and PPE. Correctly dispose of open vials.
3. When packing up for the day, there are still recipients waiting to be vaccinated.

Facilitators Instructions:

1. Allow the participants to pack up the vaccination site at the end of the vaccination day.
2. Explain to the health care participants of the drill that there are still recipients waiting and that they will need to address them and explain the situation – there are no further vaccines available today, but more are being delivered tomorrow and over the next few weeks.
3. If the participants fail to meet with the waiting recipients outside and explain the situation, encourage the crowd of recipients that still need to get vaccinated to start making a noise and try to get into the site/clinic.
4. Ensure that the crowd does not become aggressive or overplay the part.
5. If the crowd is successfully managed by the health care participants, they will depart satisfied.

Evaluation Criteria:

Description	Observations	Status: Yes/No/Partially
Closure & wrap-up	✓ Safety box is not filled by more than ¾ of its capacity	
	✓ PPE is removed in a separate room/place from the vaccination area	
	✓ Discard in a separate waste bag/container any used COVID-19 vaccine vial	
	✓ Ensure that all waste bags/containers are properly labelled and sealed before transportation	
	✓ Count unopened COVID-19 vaccine vials and diluents if applicable, and write down the number on the tally sheet	
	✓ Calculate on the tally sheet the number of COVID-19 vaccines administered, number of vials received, opened, discarded and returned and submit the tally sheet to the supervisor.	
	✓ Environmental cleaning performed	

	✓ Participants either pack up the site (incl. equipment), or close and lock the site for the next day.	
Communication	✓ Staff listen and respond to the crowd's questions and concerns with empathy.	
	✓ Staff recognize and appreciate that recipients have come to the vaccination site.	
	✓ The staff are open and honest and clearly explain the situation that the recipients are expected to come at a designated time and that now the vaccination site is closed for the day.	
	✓ If available, provide information on when the recipient can come back to receive the vaccination.	
	✓ Contact details are recorded to ensure recipients will get the vaccine at a later time.	

Actors/role players notes - Print this card and give this to the actors for Drill Four

Instructions to Actors

Five-six (5-6) actors will turn up at the vaccination site late.

Who are you?

You have come for your COVID-19 vaccine. You have come late, and the vaccination site/centre is closing and wrapping up the day. You have been told there will be no further vaccination today and you will need to come back tomorrow. You are disappointed and insist that there is still time. You will make a noise and try to get into the centre.

If you are politely spoken with and if the situation is explained well, you will leave, happy to come back tomorrow.

If you are just told to go away, you will complain and make a lot of noise.

Important - DO NOT USE FORCE AT ANY TIME. DO NOT BREAK THINGS OR PHYSICALLY PUSH ANY PERSON. LIMIT YOUR INTERACTION TO MAKING NOISE AND CREATING A DISTURBANCE.

What happens?

You want the COVID-19 vaccine and are worried that you will miss out if you don't receive it today. You want the clinic staff to act to either give you the vaccine now or to have a system to ensure you get the vaccine as soon as possible. You have travelled a long way and don't want to wait or have to come back this far.

If your demands are listened to, you will remain cooperative and respectful. You will fill out paperwork given to you and you will slowly leave without causing problems. You might grumble and shout but will be largely satisfied.