



Vaccine and Cold Chain Management

Specifications of COVID Vaccine

- Liquid vaccine
- Route – IM
- Dosage per beneficiary – 0.5 ml
- Multi dose vial
- Temperature sensitivity - Heat sensitive and freeze sensitive
- Cold chain space volume per dose - 4.6 ml
- No VVM, expiry date on the vial
- Open Vial Policy not applicable
- Must discard vaccine after 6 hours of opening



Passive Equipment requirement- Cold Boxes

Number of cold boxes required for COVID vaccine =

$$\frac{\text{Estimated cold chain space (litres) requirement for transportation (as per vaccine doses estimation)}}{\text{Net cold chain storage volume of one cold box (litres)}}$$

[A large cold box has an average net vaccine storage capacity of 20 liters and a small cold box has a net storage capacity of around 5 liters.]



Net requirement for cold boxes is to be calculated based on vaccine distribution plan and currently available cold boxes

Passive Equipment requirement–Vaccine Carriers

Vaccine carrier can hold up to 20 vials

Number of vaccine carriers required for campaign sessions =

Number of COVID vaccine vials required per day as per microplan \div 20 vials



Plan for repair and maintenance of existing vaccine carriers like thorough cleaning, repair of torn or damaged straps, etc,

Vaccine Management

- **Clear segregation of COVID-19 vaccines and logistics** from RI vaccines & logistics to avoid program error
 - Preferable to store COVID-19 vaccines in separate CCE, if available, at PVS
 - If separate equipment not available, ensure clear demarcation of vaccine storage in same CCE
 - Dedicated and segregated dry storage space for COVID-19 syringes and other logistics
- **Non – interchangeability of COVID-19 vaccines**
 - Every beneficiary must receive the 2nd dose of same vaccine

Syringe Estimation



- The AD syringes (0.1 ml and 0.5 ml) will be used to administer COVID vaccine
- Number of AD syringes supplied is equal to the number of vaccine doses supplied
- This means wastage rate calculated for vaccines by default gets calculated for the AD syringes
- COVID vaccine is a liquid vaccine, hence no requirement of reconstitution syringe

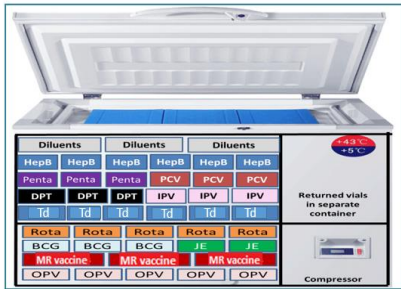
Vaccine storage at different levels



WIC



ILR



ILR/SDD



Vaccine carrier

National

Regional

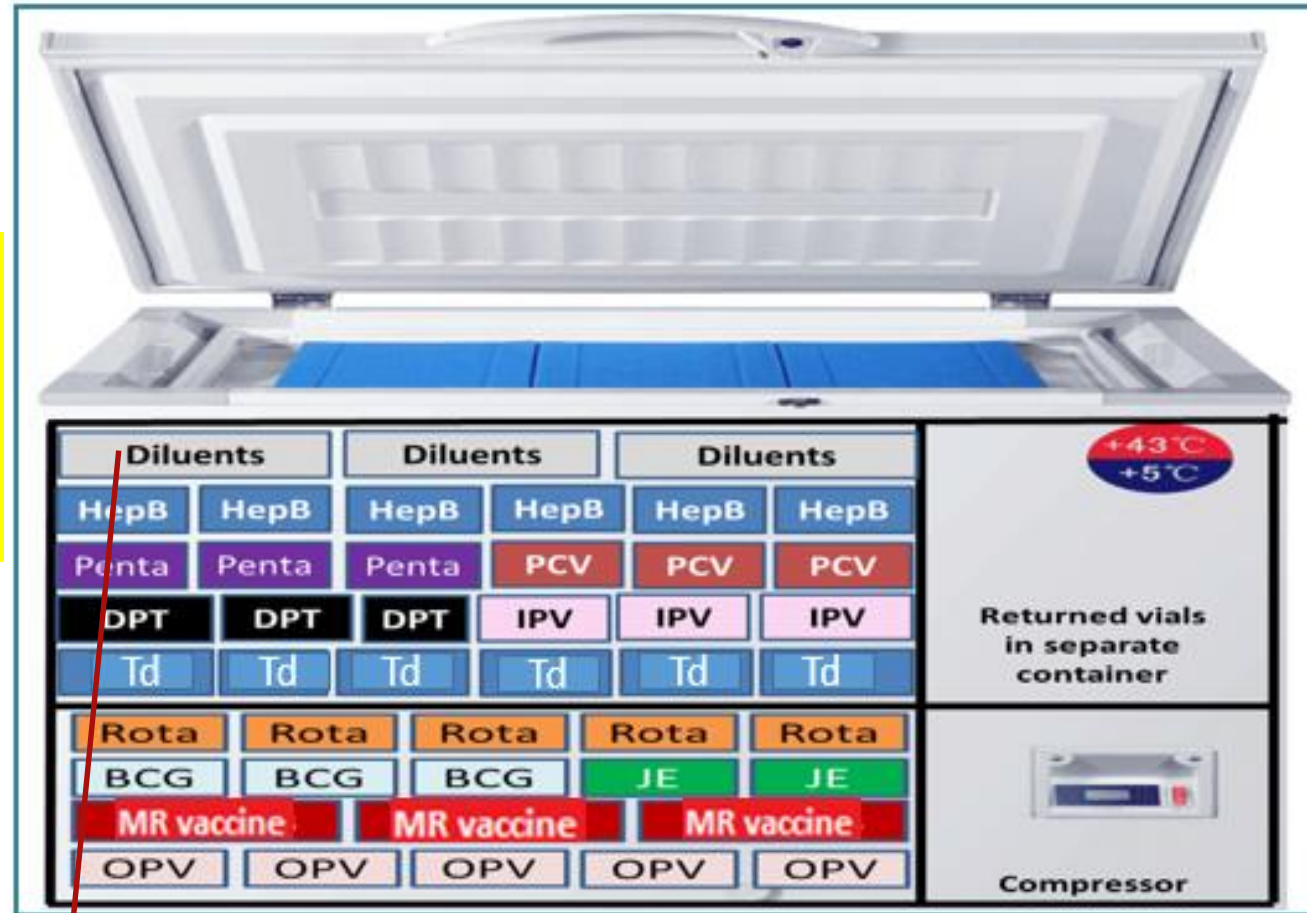
District

Health facility

Session site

COVID vaccine to be kept in +2 to +8 degree Celsius at all levels

COVID vaccine storage in ILR



COVID vaccine should be stored in basket at the top of the ILR

AstraZeneca vaccine cannot be frozen

COVID vaccine

Conditioning Ice Packs



When water ice packs are removed from the freezer, they may be at very low temperature between -15 °C to -20 °C



Place ice packs on the table and wait until the frost on the surface of ice packs melts

Conditioning of ice packs



Place the ice packs first and then the vaccine

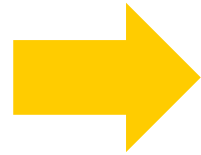


To see if ice packs are conditioned observe for sweating (water drops) on ice packs shake the ice packs to hear the water move inside



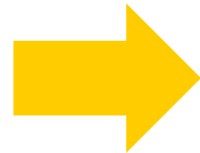
Transportation of Vaccines

Till Cold chain point



COVID vaccine should be transported using cold boxes with conditioned ice-packs

Session site



COVID vaccine should be transported to session sites in vaccine carrier with conditioned ice packs.

COVID-19 Vaccine Security

- Provinces need to ensure adequate safety and security arrangements for the vaccines at the following sites:
 - ✓ All PVS
 - ✓ During vaccine transport at all levels
 - ✓ At session sites
- Stringent vigilance mechanism to be in place to prevent pilferage and theft
- Any such activity to be immediately officially reported and prompt action initiated with clear accountability

Management during COVID Vaccination session

- Never expose the vaccine carrier, vial or icepack to direct sunlight
- Ensure that the same vaccine is administered to the beneficiary for 2nd dose
- Open only 1 vial at a time
- The open vaccine vial should be kept in the foam pad placed on top the vaccine carrier until a beneficiary comes for vaccination
- Ensure that unopened vials are kept at all times within the vaccine carrier

Management during COVID Vaccination session

- At end of the session, the vaccine carrier with icepacks and unopened vaccine vials should be returned to cold chain office
- All unopened vials to be stored back in ILRs immediately upon return of vaccine carrier
- Intact sealed vials returned on the previous session day should be clearly marked and kept separately in the ILR so that these will be the first to be used on the following session day.
- Partially used vaccine vials must be discarded - Open vial policy not applicable.

Reverse Logistics Management

In the context of COVID-19 vaccine, reverse logistics refers to the process of returning unused unopened vaccine vials to the provincial level store.

- Since Covid-19 vaccines will not have VVM and have short shelf-life (≤ 6 months), any unused unopened vials must be returned to the provincial store level for proper management at the end of the campaign.

Note:

- All vaccine vials must be accounted for in all vaccine stores and service points. Hence, it is the responsibility of the Officer in-Charge of the health facility to conduct an inventory for all the unused COVID-19 vaccine vials immediately after the campaign. Vaccine use and balance should be tallied daily during immunization activity days.
- The vaccines must be packed using cold boxes or vaccine carriers with conditioned ice-packs and return to provincial store within 3 days after campaign for safe storage

Summary

- COVID vaccine to be stored at +2 to +8 degree Celsius at all levels
- COVID vaccine should be transported with conditioned ice packs
- Segregate COVID-19 vaccines and logistics from other RI vaccines
- Open vial policy is not applicable.
- No VVM and expiry on the COVID19 vaccine vial. Needs to be managed carefully
- The vaccine from same manufacturer should be administered to the beneficiary for 2nd dose
- Safety and security measures to be taken for COVID19 vaccines

Thank You

