

## **Daily procedure adopted to ensure cold chain in the vaccine storage refrigerator at the MOH Office**

### Responsibility

- This should be performed daily, twice a day, by the member of the health staff nominated by the MOH.

It is essential that this staff member is well versed and possesses a thorough knowledge on the importance of the cold chain.

- Another member of the staff should be trained on cold chain maintenance to perform when the nominated member is off duty.

### **Monitoring cold chain and recording**

- On office days (including Saturdays) cold chain should be checked twice daily (at 8 a.m. and 3 p.m.) and information/data should be recorded in the cold chain record.
- Temperature inside the refrigerator should be viewed and recorded twice a day while it would be sufficient to obtain other cold chain data once (morning) a day.
- Obtaining cold chain data should be the first task no sooner the refrigerator is opened.
- Ensure maintenance of refrigerator temperature at around 5°C ( $5^{\circ} \pm 1^{\circ} \text{C}$ )
- Information on temperature should be obtained from the thermometer placed inside the refrigerator, while the digital display outside should not be used for this purpose.
- In case the thermometer shows a recording below 2°C or above 8°C it should be notified immediately to the MOH/PHNS/SPHI/SPHM.
- Data Logger – Log Tag provided in the refrigerator for recording temperature data and the Freeze Tag should be checked at least once a day.
- Check the Data Logger for the colour of the bulb and record same in the cold chain record.

Green Colour - OK

Red colour - Alert

In case the bulbs do not light or the bulb indicates RED inform the MOH and others concerned.

If the bulb indicates GREEN record "G" and if RED, record "R" in the cold chain record.



If the Freeze Tag indicates "v " record " v " and if it indicates "X" record "X" in the cold chain card. Inform MOH immediately if the indication is "X".

- Vaccine vial monitor (VVM) in OPV vaccine which is most sensitive to temperature should be viewed once a day.
- Monitoring one OPV vial from each series out of the two stocks stored in the refrigerator (currently used and recently received) would be sufficient.

In this instance, record the extreme stage out of the two vials.

- Record the current stage of the vaccine vial monitor (VVM) in the cold chain record. If it has reached the 3<sup>rd</sup> stage or if a marked difference from the previous day is observed MOH should be notified immediately.

### **Change of Thermostat of the refrigerator**

- Change in the thermostat should be effected only by the member of the health staff monitoring the daily cold chain.
- Prior permission from the MOH should be obtained for such change.
- Instances of such change should be recorded clearly in the cold chain record.

For this purpose, mark an asterisk in the date column and record below in the cold chain record under the asterisk.

- When the temperature control is adjusted special attention should be paid to temperature fluctuation.
- In case of electricity failure adhere to instructions provided.

### **Instances of suspected exposure of vaccines stored in the refrigerator to excessive temperature**

1. When the thermometer records over 8°C
  2. Change in the VVM
  3. Electricity failure for over 8 hours
- When temperature in the refrigerator is proved to have been less than 0°C for over one hour conduct the Shake Test to ascertain freezing.

### **Instances of suspected exposure of vaccine in the refrigerator to freezing**

1. Thermometer indicating less than 0°C
2. Freeze Tag indicating "X" symbol
3. Environment maintaining low temperature



When vaccine in the refrigerator is suspected to have been exposed to freezing or excessive temperature a printout of the data logger should be obtained and suitable action taken after studying.

- After making entries in the cold chain card the person concerned should place his/her initials in the cage provided.
- At the end of each month, the MOH should inspect the cold chain card and place his/her signature.
- At the end of each month, cold chain records (printouts) should be filed of record and retained safely at least for 3 years.

### **Obtaining printouts of Data Logger readings**

- Printouts of Data Logger readings should be obtained once in two weeks.
- The printouts should be checked by the MOH and temperature fluctuations observed.,

e.g. 01. Whether the temperature in the refrigerator and the temperature recorded in the cold chain card tally

02. Whether the normal temperature in the refrigerator fluctuates around 5°c

for accuracy.

- One copy thereof should be forwarded to the Regional Epidemiologist and the other filed of record with the signature of the supervisor.

Instances of exposure to excessive temperature / freezing should be identified and action taken thereof should be recorded. Such instances should be intimated to the Regional Epidemiologist through a report.

- If the data logger in your institution does not contain lighting (red/green) bulbs, the data logger should be connected to a computer every Monday and the temperature chart on the computer screen should be observed.

This copy should be subsequently filed in a separate Folder.

It is important to name this file in the Desktop for easy reference.

- If the cold chain equipment (Data Logger/Log Tag/Tiny Tag/ Freez Tag) are malfunctioning, the Regional Epidemiologist should be informed through the MOH.

