

MDHHS Guidance on Vaccine Transport

MDHHS and CDC do NOT recommend routine transport of vaccines. If transport does occur, vaccines should only be transported using appropriate packing materials that provide maximum protection. This guidance outlines such materials and the importance of maintaining appropriate storage conditions during transport.

General Transport Requirements and Reminders

Transporting vaccine is **not recommended** and should only occur in an emergency. In instances where transport of vaccine is necessary, take appropriate precautions to protect your supply.



It is important to understand that **different transport situations necessitate different methods for packing (detailed on page 2)**. Improper packing is as risky for vaccines as a failed storage unit.

Providers should ensure appropriate steps are outlined in their [Vaccine Management & Emergency Response Plan](#). All staff should be aware of this plan and familiar with transport materials needed and appropriate packing. The Vaccine/VFC Primary and Backup Coordinators are expected to be experts in its implementation.

Vaccine transport can only occur:

- When a process is in place to ensure vaccine viability, as outlined below and in the [CDC Vaccine Storage and Handling Toolkit](#). This includes use of a certified, calibrated digital data logger (DDL) for temperature monitoring during transport, as well as appropriate packing equipment detailed below.
- Ensuring total time for transport or transport plus off-site clinic will not exceed 8 hours (e.g., if transport to an off-site clinic is 1 hour each way, the clinic may run for up to 6 hours).
- With approval and guidance from the Local Health Department (LHD) if enrolled in a public vaccine program such as the Vaccines for Children Program, Michigan Adult Vaccine Program, Universal Hepatitis B Vaccine Program, and High-Risk Hepatitis A & B Program. If transport occurs after-hours in an emergency, notify the LHD as soon as possible.

Transport Situations & Packing Methods

Transport packing methods differ between 1) Emergency transport and 2) Planned transport such as for off-site clinics, satellite facilities, or re-location of stock. A portable refrigerator/freezer is always the preferred method. Do not utilize original shipping containers or food/beverage coolers for transporting vaccine.

Emergency transport requires either portable vaccine storage units (portable vaccine refrigerator/freezer), qualified containers and pack-outs, or the conditioned water bottle transport system.

- For step-by-step guidance on packing a cooler for emergencies using the conditioned water bottle method, see CDC's [Packing for Emergency Transport](#).

Planned transport requires either portable refrigerators/freezers or qualified containers and pack-outs (e.g., Cool Cubes, TempArmour, etc.). The conditioned water bottle method **cannot be used for planned transport**.

- Follow instructions specific to the portable refrigerator/freezer or qualified container/pack-out used.

Transport Method Requirements: Emergency versus Planned

| Transport Method | Emergency Transport | Planned Transport (Off-site Clinic, Satellite Facility, or Relocation of Stock) |
|---|---------------------|---|
| Portable Vaccine Storage Unit (preferred)¹ | Yes | Yes |
| Qualified Container and Pack-out² | Yes | Yes |
| Conditioned Water Bottle Transport System³ | Yes | No |

1. Portable Vaccine Storage Unit - A type of **powered** refrigerator or freezer unit specifically designed for use during vaccine transport. These are passive units that require a power source to function. Some active units are “qualified” to maintain desired temperatures for a set amount of time in the event of a power loss. For proper use, follow directions stated in manufacturer instructions.

2. Qualified Container and Pack-out: A type of container and supplies specifically designed for use when packing vaccines for transport. They are passive containers that do not require a power source and are “qualified” through laboratory testing under controlled conditions to ensure they achieve and maintain desired temperatures for a set amount of time (i.e., Cool Cubes, TempArmour, etc.). For proper use, follow directions stated in manufacturer instructions.

3. Conditioned Water Bottle Transport Method: Method outlined according to CDC’s [Packing for Emergency Transport](#). This is for **emergency transport only**; it cannot be used for planned transport such as off-site clinics, transport to a satellite facility, or relocation of stock. If packed correctly, this method can maintain appropriate temperatures for up to 8 hours, but the container should not be opened or closed repeatedly.

1. Portable Vaccine Storage Unit (PREFERRED)



Planned or
Emergency

2. Qualified Container & Pack-Out



Planned or
Emergency

3. Conditioned Water Bottle Transport



Emergency
ONLY

Materials for Transport

Maintain sufficient materials for transport of your largest inventory. Keep these available at all times, and detail their use within in your [Vaccine Management & Emergency Response Plan](#). Such materials include:

- Portable vaccine storage units (refrigerator/freezer units - preferred)
- Qualified vaccine-specific coolers or pack-out containers (Cool Cube, TempArmour, etc.)
- Coolant materials such as phase change materials (PCMs) for vaccine-specific coolers above
- Hard-sided insulated containers or Styrofoam™
- Frozen water bottles that can be conditioned to maintain appropriate vaccine storage ranges
 - Conditioned water bottle transport method is for **emergency** transport only
- A digital data logger for **each** cooler/refrigerator (certified and up-to-date calibration)
- Insulating materials: bubble wrap and cardboard
- Printed out guidance on [Packing for Emergency Transport](#)
- Pen and paper for temperature documentation before, during, and after transport
- Printed MDHHS [Vaccine Transport Temperature Logs](#)

Do **NOT** use dry ice, coolant packs from shipments, or soft-sided food/beverage coolers.

Packing & Monitoring Vaccine During Transport

- Follow manufacturer’s guidance when using a portable refrigerator/freezer or a qualified container and pack-out designed for vaccine transport (typically includes specific materials and “conditioning” processes).
- Never freeze diluents, not even during transport.
- Place calibrated temperature monitoring device (preferably a digital data logger with a buffered probe) in the container. Place the device/probe as close as possible to vaccine(s).
- Document:
 - Time and temperatures at the start, during, and end of transport - if longer than 1 hour, document hourly. If device displays min/max temperatures, review and record information.
 - Utilize the **NEW** MDHHS Vaccine [Transport Temperature Log](#).

If any excursion occurs during transport or off-site clinics, follow [MDHHS Guidance for Responding to Temperature Excursions](#). Do not use vaccine until viability information is obtained and the LHD has provided guidance.

Transporting Opened Multidose Vials: A partially used vial **cannot be transferred from one provider to another** ([CDC Storage & Handling Toolkit](#)). If necessary, a partially used vial may be appropriately transported to or from an off-site/satellite facility *operated by the same provider*.

Guidance Specific to Frozen Vaccine

MDHHS, CDC, and Merck **do NOT recommend transporting varicella-containing vaccines** (VAR, ZVL, MMRV). If these must be transported in an emergency:

- A portable freezer is BEST practice. All other options may cause a vaccine excursion.
- Use a portable vaccine freezer or qualified container and pack-out that maintains temperatures between -58.0° F to +5.0° F (-50.0° C to -15.0° C).
- Do NOT use dry ice, even for temporary storage or emergency transport.
Immediately upon arrival at the destination, unpack the vaccines and place them in a freezer at a temperature range between -58.0° F to +5.0° F (-50.0° C to -15.0° C).

Backup Location

Identify a backup location even if a generator is on-site. This is required for VFC providers. In case of power disruption or unit failure, a backup location allows temporary storage and monitoring. This location should be listed on the [Vaccine Management & Emergency Response Plan](#) and inspected prior to an emergency to validate proper conditions can be maintained. Providers should have 24-hour access to the backup location.

Image Sources:

- Portable Vaccine Refrigerator/Freezer Image: <http://www.accucold.com/product/SPRF26M>
- Qualified Container & Pack-out Image: <https://www.vericormed.com/product/cooler-cool-cube-08-vaccine-transport-cooler-at-refrigerated-temperatures-fresh-vaccine-vt-08/>
- Conditioned Water Bottle Method Image: <https://www.cdc.gov/vaccines/recs/storage/downloads/emergency-transport.pdf>

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