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Emergency/Inclement Weather Preparedness: Vaccine Storage and Handling

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1. **Checklist for Vaccine Storage Locations WITHOUT Emergency Backup Power**

- If possible, decrease immunization operations in order to have plenty of time to pack and move product.
- Determine a packing priority list for vaccine in case all vaccine cannot be moved.
- Keep a detailed itemized list along with contact information affixed to outside of the transport container for easy identification.
- Label transport container as “temperature sensitive” and “Refrigerated” or “Frozen” product.
- Pack and move all vaccine that is not stored in a location supported by back-up power to your designated alternate storage location (e.g., logistics, pharmacy, alternate clinics).
- Document the storage unit temperature when the vaccine is removed for transport and at the final destination to identify any temperature deviations.
- During transport maintain temperatures for refrigerated vaccines between 2° – 8°C/36° – 46°F and frozen vaccines at -15°C/5°F or less.
- Verify that vaccine is placed in the appropriate storage unit; refrigerator vs. freezer at the alternate storage location.
- If no alternate storage location is available, immediately notify your Defense Health Agency – Immunization Healthcare Division (DHA-IHD) Immunization Healthcare Specialist (IHS) for assistance. www.health.mil/ContactYourIHS

2. **Checklist for Vaccine Storage Locations CONNECTED to Emergency Backup Power**

- Ensure ALL storage units are clearly labeled on the outside as either a refrigerator or freezer.
 - VERIFY that all equipment is functioning properly.
 - Plug storage unit(s) and electronic monitoring system into the designated emergency power (normally the red outlets).
3. If your site uses a generator for backup power, make sure it is properly connected and there is sufficient fuel on hand to continuously run the generator for at least 72 hours.
 4. If electronic monitoring system has a battery backup, ensure system is charged or has new batteries.
 5. Check the automated call system to determine if it is programmed correctly and that it is setup to call the appropriate designated staff.
 6. TEST the electronic monitoring system/automated call system before departing.

- Verify duty officer alarm response procedures and policies are updated.
- Have Storage and Handling emergency plan readily accessible and review with all staff.
- Prepare equipment and supplies and have them readily available for responders in case the emergency movement of vaccine is required due to failure of backup power.
 - Validated transport containers (e.g., Endurotherm insulated shipping boxes, Hard-sided or Styrofoam™ coolers with at least 2 inch thick walls, PX1L, PX6L, and/or AX27L)
 - Refrigerated and/or frozen coolant material or conditioned frozen water bottles.
 - Insulating barrier (e.g., bubble wrap, corrugated cardboard, packing foam, etc.).
 - A calibrated temperature-monitoring device for each transport container.
 - Verify PX1L (also known as VaxiPac) phase change bricks (PXC/VaxiSafe) are fully chilled according to manufacturer instructions and that there are 4 bricks per PX1L. NOTE: Do not use any other cooling item (frozen or refrigerated packs) with the PX1L.
 - Verify PX6L PCM coolant belts (blue-frozen, white-refrigerated) are fully conditioned according to manufacturer instructions. Do not use any other cooling item (frozen or refrigerated packs) with the PX6L.
 - Verify AX27L (also known as the VaxiCool) is fully charged and plugged into emergency power.
- All vaccine storage locations in low-lying areas or in lower levels of the facility that are prone to flooding should move vaccine to a higher-level location.
- Call electronic monitoring system (e.g., Sensaphone, AmegaView, REES, etc.) more frequently during the storm, if possible.

3. **Resources for Emergency Procedures** can be found at www.health.mil/coldchain

Emergency Vaccine Retrieval and Storage Plan Worksheet: Local list of emergency contacts and equipment repair. Should be prepared as part of emergency standard operating procedures, updated as needed and readily accessible to all staff.

Potentially Compromised-Temperature Sensitive Worksheet (PC-TSMP): Utilize when power failure has occurred to prepare and managed potentially compromised vaccine.

Temperature logs: For tracking temperatures of vaccines both when stored in refrigerator/freezer and when transporting or storing off site.

Vaccine Storage and Handling Guide: A guide to assist clinics in routine and emergency storage and handling procedures.

4. **Packing Protocols for Moving Vaccine**

All packing protocols are available from USAMMA/DOC at: [USAMMA Cold Chain Management Processes & Procedures](#)

Vaccine packing reminders:

- Always use validated containers (e.g., Endotherm shipping containers, Hard-sided or Styrofoam™ coolers with at least 2 inch thick walls, PX1L, PX6L, AX27L);
- Always include calibrated thermometer to track temperatures during transport and storage;
- Always document on the outside of the storage container the vaccine type, date, time, originating facility, phone number. Include that the contents are fragile and temperature sensitive;
- Always use insulating barrier (e.g., Bubble wrap, corrugated cardboard, packing foam) between coolant material and the vaccines. NEVER pack refrigerated vaccine with frozen coolant;

- Record temperatures hourly when vaccine is outside of a functioning refrigerator or freezer.

Additional CDC guidance for packing vaccines for transport during emergencies can be found at [Packing Vaccines for Transport during Emergencies](#)

5. Procedures for Reporting Potentially Compromised Vaccine

Sometimes vaccine loss cannot be prevented. If vaccine is suspected to have been outside the recommended temperature range immediate action must be taken.

- Step-by-step instructions for reporting a potential vaccine compromise can be found at: www.health.mil/Military-Health-Topics/Health-Readiness/Immunization-Healthcare/Vaccine-Storage-and-Handling/Potential-Vaccine-Compromise-Reporting
- Immediately place vaccine in a working storage unit at proper temperature. Do not leave vaccine(s) in a non-functioning storage unit.
- Segregate and label potentially compromised vaccine as “DO NOT USE.”
- Record room temperature and temperatures of refrigerator(s) and freezer(s) when vaccine is discovered and length of time vaccine was outside recommended temperature range.
- Inventory all the vaccine and document vaccines affected, lot numbers, expiration dates and number of doses using the Potentially Compromised-Temperature Sensitive Medical Products (PC-TSMP) Worksheet.
- Submit the PC-TSMP Worksheet along with copies of your temperature logs to USAMMA/DOC and/or DLA-TSM and to your DHA-IHD IHS.
- NEVER discard vaccine until it has been confirmed as a loss by USAMMA/DOC and/or DLA-TSM.

USAMMA/DOC is the DOD agency responsible for the management and storage of temperature sensitive medical products. To contact USAMMA/DOC for vaccine loss guidance call: 0700-1600 (EST): (301) 619-4318/3017, DSN 343. For after-hours urgent issues: (301) 676-1184/0808.

Email at: usarmy.detrick.medcom-usamma.mbx.doc@mail.mil

For additional vaccine storage and handling questions call 1-877-GETVACC, Option 2 (1-877-438-8222) or send an email message to DoDVaccines@mail.mil.