MDHHS Guidance on Temperature Monitoring

This handout provides guidance on temperature monitoring for all providers. Temperature monitoring is imperative to effective vaccine management. The Michigan Department of Health and Human Services (MDHHS) follows the recommendations set forth by the Centers for Disease Control and Prevention (CDC) on temperature monitoring.

Storage Unit Temperatures

- Required temperature ranges for storage units are:
  - Refrigerator should maintain temperatures at 36ºF to 46ºF (2ºC to 8ºC)
    - Aim to stabilize temperature at 40ºF (5ºC)
  - Freezer should maintain temperatures at -58ºF to +5ºF (-50ºC to -15ºC)
    - Aim to achieve average of about 0°F (-18°C)

Safeguard Temperatures Inside Storage Units

- Only the vaccine coordinator or back-up coordinator should adjust the temperature
- Be sure to have a warning sign posted on each storage unit stating, "Do not adjust temperature controls!"; examples of signs can be found in CDC's Storage and Handling Toolkit, January 2018
- Stabilize temperatures in the storage unit with water bottles
  - Store water bottles labeled "Do Not Drink" on the top shelf, floor, and door of the refrigerator
  - Store water bottles along the walls, back, door, and bottom of the freezer
- Limit the number of times the storage unit door is opened, and routinely check the storage unit door during the day and at the end of each workday to ensure it is closed tightly and sealed
- Remove any deli, fruit, and vegetable drawers from the storage unit to allow room for water bottles
- Thermometer placement is **important**; place thermometer probe in the center of the unit with vaccines
- Do a daily visual inspection to ensure temperature monitoring device is properly positioned and functioning normally

Thermometers

- Using only calibrated thermometers with a Certificate of Traceability and Calibration Testing that has not expired is recommended (this is required in all storage units that store VFC vaccine)
- CDC and MDHHS recommend Digital Data Loggers with a detachable probe in a buffered material (e.g., glycol) with continuous temperature monitoring and recording capabilities; temperature should be easily readable from the outside of the unit with these additional CDC recommended features:
  - Alarm for out-of-range temperatures
  - Display current temperature, plus minimum & maximum temperatures on an active display screen
  - Be within +/- 1°F accuracy (+/- 0.5°C)
  - Low battery indicator
  - Memory stores at least 4,000 readings, device will not write over old data, and stops recording when memory is full
  - User programmable logging interval (or reading rate) of every 30 minutes
    - If no interval setting of 30 minutes, use an interval less than 30 minutes
- VFC providers that have received a digital data logger through the VFC program will be required by their Local Health Department (LHD) to put them into use starting January 1, 2017
  - See "MDHHS Tip Sheet for VFC Digital Data Loggers" for guidance

Monitor Temperatures

- Assess and record temperatures twice a day; in the AM when clinic opens & 30-60 minutes before leaving for the day, ensuring temperatures are maintained and consistent
  - Document temperature, time, and initials on a temperature log, and post temperature log on the door of each storage unit
- If using digital data logger: assess, record and **RESET** the minimum/maximum temperatures every AM
  - For further guidance, review "MDHHS Tip Sheet for VFC Digital Data Loggers"
- Download and assess stored temperature data from the digital data logger weekly

Out-of-Range Temperatures

- If **any** temperature monitoring device shows an out-of-range temperature, take **IMMEDIATE** corrective action
  - Notify vaccine coordinator and back-up coordinator; determine the cause, correct it, and document actions taken
- Follow your Emergency Response Plan; for further guidance, refer to the MDHHS and CDC websites at www.michigan.gov/immunize and www.cdc.gov/vaccines/recs/storage
- If vaccines are exposed to a temperature excursion, immediately separate all compromised vaccine in a paper bag and mark "Do Not Use," then place in the proper storage unit
- Do **not** discard vaccine; **ALWAYS** call the vaccine manufacturer and if VFC vaccine is involved, contact your LHD for guidance

Key Points to Remember

- VFC providers are required to follow the guidelines within the VFC resource book; the resource book can be found at www.michigan.gov/vfc
- Temperature can vary in a vaccine storage unit based on the contents, how often the door is opened, and power interruptions
- Thermometers not recommended by CDC are: alcohol or mercury thermometers, even if placed in a fluid-filled biosafe liquid vial; bi-metal stem thermometers; food thermometers; chart recorders; infrared thermometers; and non-calibrated thermometers
- Remember storage units can "die" slowly; if thermostat must be turned colder and colder or you notice a pattern in temperature data, it may be time to look at new equipment
- Consider an alarm/notification system; these systems alert staff to temperature changes, however, should not be used to record temperatures
- All temperature data, including temperature logs, should be stored for at least 3 years
- Know resources; review MDHHS guidance & CDC's Storage and Handling Toolkit for current information
- Complete the "Checklist for Safe Vaccine Storage and Handling" at the Immunization Action Coalition at www.immunize.org to be sure you are safeguarding your vaccine supply

Resources: CDC Storage and Handling Toolkit, January 2018 at: https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/index.html
MDHHS guidance for storage and handling can be found at: www.michigan.gov/immunize