Replacing Combination Household Storage Units

Your storage unit and temperature monitoring equipment help safeguard your vaccine. Having equipment that is accurate and functions properly is the best protection against the loss of vaccine due to out-of-range temperatures that could lead to revaccination of patients, replacement of expensive vaccine, and loss of patient confidence in your practice. For sites participating in the Minnesota Vaccines for Children (MnVFC) program, vaccine will no longer be allowed to be stored in the freezer of any combination household unit starting in 2020.

Recommended vaccine storage units

Starting Jan. 1, 2019, sites are required to store vaccine in a pharmaceutical unit (combination or stand-alone), stand-alone refrigerator, or stand-alone freezer in these situations:

- Sites newly enrolling in MnVFC.
- Any new storage unit equipment purchase.
- Sites with a vaccine loss due to a storage unit failure.

Beginning Jan. 1, 2020, you cannot store vaccine in the freezer section of a household unit.

In order of preference:

- Pharmaceutical-grade unit, either stand-alone or combination. Designed specifically for storage of vaccines or biologics.
- Stand-alone household unit. Intended for use in homes and offices, typically for food storage.

Least preferred (and in the process of phasing out as described above):

- Combination household unit. Use the refrigerator section only and use a separate stand-alone freezer to store frozen vaccine.

Why you should replace your household combination unit

While it is possible to use a household combination unit safely, it is riskier and requires more effort and care than pharmaceutical-grade and household stand-alone units.

- It is difficult to simultaneously maintain proper storage temperatures in the refrigerator and freezer compartments.
- Risk of damage to refrigerated vaccines increases because cold air from the freezer flows into the refrigerator and can freeze vaccine.
- Once refrigerated vaccines are frozen, they are no longer viable (effective), and should not be used.
- A significant amount of vaccine loss reported to the MnVFC program is due to refrigerated vaccine being exposed to freezing temperatures.

Never use dorm-style units!

A dorm-style unit is a combination refrigerator/freezer with one exterior door. Vaccines should never be stored in this type of unit and are considered unusable due to a significant risk of freezing vaccine.

Key points

Vaccine potency depends on proper storage conditions. Vaccines stored outside the recommended temperature range (either too warm or too cold) can lose potency and be ineffective at preventing disease, leaving patients vulnerable to serious illness. Exposure to freezing temperatures can destroy refrigerated vaccine in minutes with no visible indication of freeze damage. Any patient that receives vaccine that has been exposed to freezing temperatures will need to be revaccinated.

Vaccines are expensive. Replacement of vaccines destroyed by temperature excursions can cost thousands of dollars. One box of each of the ACIP recommended childhood vaccines adds up to about $7,000.
Vaccine storage needs have increased. The number of vaccines and combination choices have increased, and MnVFC providers need to stock enough of both MnVFC vaccine and privately purchased vaccine for their patient population. Extra storage space is needed during back to school time and in the fall when flu vaccine is distributed.

Stand-alone units can hold more vaccine. There is very little usable space in a household combination unit. In general, keep vaccines and diluents 2 to 3 inches from the storage unit walls, ceiling, floor, and door. In household units, avoid storing vaccines and diluents in any part of the unit that may not provide stable temperatures or good air flow, such as directly under cooling vents; in deli, fruit, or vegetable drawers; or in the door.

Do not use the freezer section of a household combination refrigerator.

- The freezer section has been proven to have poor temperature stability.
- A stand-alone freezer is strongly encouraged and will be required by the MnVFC program starting in 2020.
- Using combination household units that result in vaccine loss are no longer allowed and sites cannot order vaccine again until they have replaced the unit.

Monitor your storage unit

To help ensure vaccines are stored at appropriate temperatures, it is important to follow best practices.

- Use a digital data logger or continuous temperature monitoring system.
- Place the probe of the temperature monitoring device in the center of the storage unit with the vaccine surrounding it.
- A device placed near the walls, floor, vent, or in the door of a household unit may record temperatures different from the actual vaccine temperature.
- In a pharmaceutical unit, placement of the probe in other locations may be suitable as these units maintain more consistent temperatures throughout the unit.

- An active temperature display should be easily read from outside the unit, including on a computer monitor.
- Download and review data at least weekly to identify any out-of-range temperatures and monitor temperature trends.
- Read and record current temperatures twice daily and the minimum/maximum temperature once daily with the date/time and your name or initials.
- Take immediate action for out-of-range temperatures, including out-of-range min/max temperatures. Refer to the Storage & Handling Mishap Checklist on Vaccine Management Forms (www.health.state.mn.us/people/immunize/hcp/mnvfc/forms.html).

Adapted from CDC’s Vaccine Storage & Handling Toolkit (www.cdc.gov/vaccines/hcp/admin/storage/toolkit).

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