

Quick Reference Guide: Vaccine Storage Unit

Last Revised: 12/2023

The guidelines below are specific to Wyoming Immunization Unit providers enrolled in any Public Vaccine Program (PVP) including but not limited to the Vaccines For Children program (VFC), Wyoming Vaccinates Important People Program (WyVIP), and the Adult Hepatitis Vaccine program (AHV).

Providers must not place publicly supplied vaccines in a new storage unit or a storage unit that has been moved until an Immunization Unit staff member has reviewed the temperature readings and approved the storage unit for use.

Acceptable Vaccine Storage Units

- Refrigerator storage units:
 - o Must be stand-alone pharmaceutical or medical-grade refrigerator storage units intended for storing vaccines.
 - o Is equipped with automatic defrost (frost-free) and is free of any frost, ice, water, or coolant leaks.
 - o Maintain required vaccine storage temperatures year-round between 4°C and 6°C.
 - o Have sufficient usable space to store the largest number of doses expected at one time (including flu season), without overcrowding. See below, Vaccine Storage Unit Requirements and Recommendations.
 - o Be used only for vaccine storage. **Contact the Immunization Unit to request an exception.*
 - o Be reliable, with a quiet compressor or motor, and not have a history of frequent repairs.
 - o Have doors that seal tightly and close properly.
 - o Have a working, calibrated digital data logger (DDL) thermometer with the buffered probe placed centrally in the unit.
- Freezer storage units:
 - o Must be stand-alone pharmaceutical or medical-grade freezer units intended for storing frozen vaccines.
 - o Are equipped with an automatic defroster. **Manual defrost units should only be used if the office has an acceptable alternate freezer to store frozen vaccines while defrosting the freezer.*
 - o Must maintain vaccine storage temperatures year-round, between -20°C and -40°C.
(ultra-cold freezer units must maintain temperatures between -60°C and -90°C.)



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- o Provide space to store calibrated DDL thermometer, frozen cold packs, and the largest number of vaccine doses expected at one time, without overcrowding. *See below, Vaccine Storage Unit Requirements and Recommendations.*
- o Be used only for vaccine storage. **Contact the Immunization Unit to request an exception.*
- o Have doors that seal tightly and close properly.
- o Have a working calibrated digital data logger thermometer with the buffered probe placed centrally in the storage unit.
- Combination storage units:
 - o Must be pharmaceutical grade and have documentation stating they are pharmaceutical or medical grade.
 - o Store both refrigerated and frozen vaccines.

Unacceptable Vaccine Storage Units

- **Any type of** manual defrost (cyclic defrost) refrigerators with visible cooling plates or coiling in the internal back wall of the storage unit.
- **Household** combination refrigerator and freezer units. Providers enrolled before 2019 are allowed to use these storage units for refrigerator storage only. In the event the storage unit needs to be replaced, only pharmaceutical or medical-grade units are acceptable.
 - o Household storage units must have separate temperature controls (separate thermostats) for the refrigerator and freezer. The freezer section cannot be used.
 - o Bins and drawers must be removed or taped shut and only used to store temperature stability water bottles.
 - o Vaccines should NEVER be stored in areas directly underneath air vents, in deli-crispers, vegetable bins, or in the doors.

The following storage unit types must NOT be used for vaccine storage at any time or duration:

- **Dorm-style or bar-style** storage units. Small refrigerator/freezer combination storage units with a single external door and a small freezer compartment within the storage unit. An evaporator plate or cooling coil forms the freezer or is pulled across the internal back wall of the unit. *Dorm-style storage units provide poor temperature control and often freeze vaccines that require refrigeration, resulting in immediate and irreversible damage.*
- **Convertible** storage units with an internal switch that convert to “refrigerator only” or “freezer only.”

Vaccine Storage Unit Requirements and Recommendations

Use Velcro straps to secure storage unit doors if the door is not self-closing.

Maintain storage units according to manufacturer instructions and cleaning instructions in the Vaccine Management Plan. Generally, storage units over 10 years old need to be replaced.



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The size of the storage unit you choose will depend on how many vaccine doses you intend to store at your busiest time of year, including a buffered probe and water bottles placed in unusable areas.

- **Refrigerators:**

- 100 - 400 doses must have a minimum of 4.9, up to 6.1 cubic feet
- Up to 700 doses must have a minimum of 16.7 cubic feet
- 701 - 800 doses must have between 17 - 20 cubic feet
- 801 - 900 doses must have between 21 - 23 cubic feet
- 900 - 1000 doses must have 36 cubic feet
- 1000 - 2000 doses must have 40 cubic feet
- 2000+ doses must have multiple refrigerators

- **Freezers:**

- Up to 200 doses must have a minimum of 1.5 cubic feet, up to 4.9 cubic feet
- 201 - 500 doses must have 5.6 cubic feet
- 501 -6,000 doses must have 7 - 14.8 cubic feet

Placement of Your Vaccine Storage Unit—Make Sure it Fits!

The number one reason new refrigerators and freezers are returned is that they do not fit in the designated space. Make sure your new storage unit will fit in your office. If you are replacing a refrigerator/freezer combination storage unit, you will need space for two units: a new stand-alone pharmaceutical or medical-grade refrigerator unit and a stand-alone, pharmaceutical or medical-grade freezer unit.

Measure your space. Pay close attention to the depth, width, and height measurements of the model before you purchase. You will need to account for an additional 4 inches from the wall and ceiling to ensure good air circulation around the storage unit. This is essential for proper heat exchange and cooling functions. The storage unit's location is also important. It must be placed away from direct sunlight and in a well-ventilated area.

Your unit must be in its permanent location prior to requesting Immunization Unit approval.

IMPORTANT: Never stack a vaccine storage unit on top of another, unless the manufacturer or retailer has approved the configuration.

Setting up Your New Storage Unit

Your storage unit must be approved by the Immunization Unit prior to storing publicly supplied vaccines. Before placing vaccines in your new storage unit, follow these simple steps to ensure success:

- Plug the vaccine storage units directly into outlets.
 - Never use extension cords, power strips, outlets connected to a wall switch, or any other device that can easily disconnect power to the storage unit.
 - Protect the power supply by only plugging in one storage unit per outlet.



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- Fill bottles of water and mark them as “Do Not Drink.” Place them in unusable places such as directly under fans, on the bottom and the top shelf of the storage unit.
- Put “Do Not Unplug” signs directly on the storage unit, the unit’s power cord, and the power outlet to prevent the unit from being unplugged.
- Clearly label the areas within the storage unit that you will be storing each vaccine type (i.e. “Public” or “Private”).
- Place the calibrated, buffered data logger probe in the center of each storage unit, near the vaccines.
- Set refrigerator temperatures so that the data logger reads between 4°C and 6°C and the freezer data logger temperature reads at -20°C or below.
- Prior to requesting approval, your storage unit must have stable, recorded temperatures in the ideal range.
 - o Use a properly calibrated DDL for at least 5 days. You will also need to complete the [Vaccine Storage Unit Checklist](#).

Please review the [CDC Vaccine Storage & Handling Toolkit](#) for additional information on setting up a new vaccine storage unit.

Moved Storage Units

Any time your vaccine unit is moved it will need to be reapproved for vaccine use by the Immunization Unit. This includes if the storage unit is moved to another space within your facility or the facility moves locations.

Vaccines can never remain in the storage unit while it is moved. Transfer your vaccines to your backup location listed on your facility’s Emergency Plan prior to the move.

- Place your storage units in their permanent location and plug them back in.
- Complete the [Vaccine Storage Unit Setup Checklist](#) to ensure the storage units are properly set up.
- Monitor the storage units to ensure they are working properly and returning to the ideal temperature range.
- Send data logger files of 48 hours of stable, in-range temperatures to wdh.pvpreporting@wyo.gov for review along with your completed Vaccine Storage Unit Setup Checklist.

You must receive written approval from the Immunization Unit before publicly supplied vaccine can be returned to the storage unit.

Resources:

Still have questions? Please contact:

Immunization Main Line : 307-777-7952 or wdh.pvpreporting@wyo.gov



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