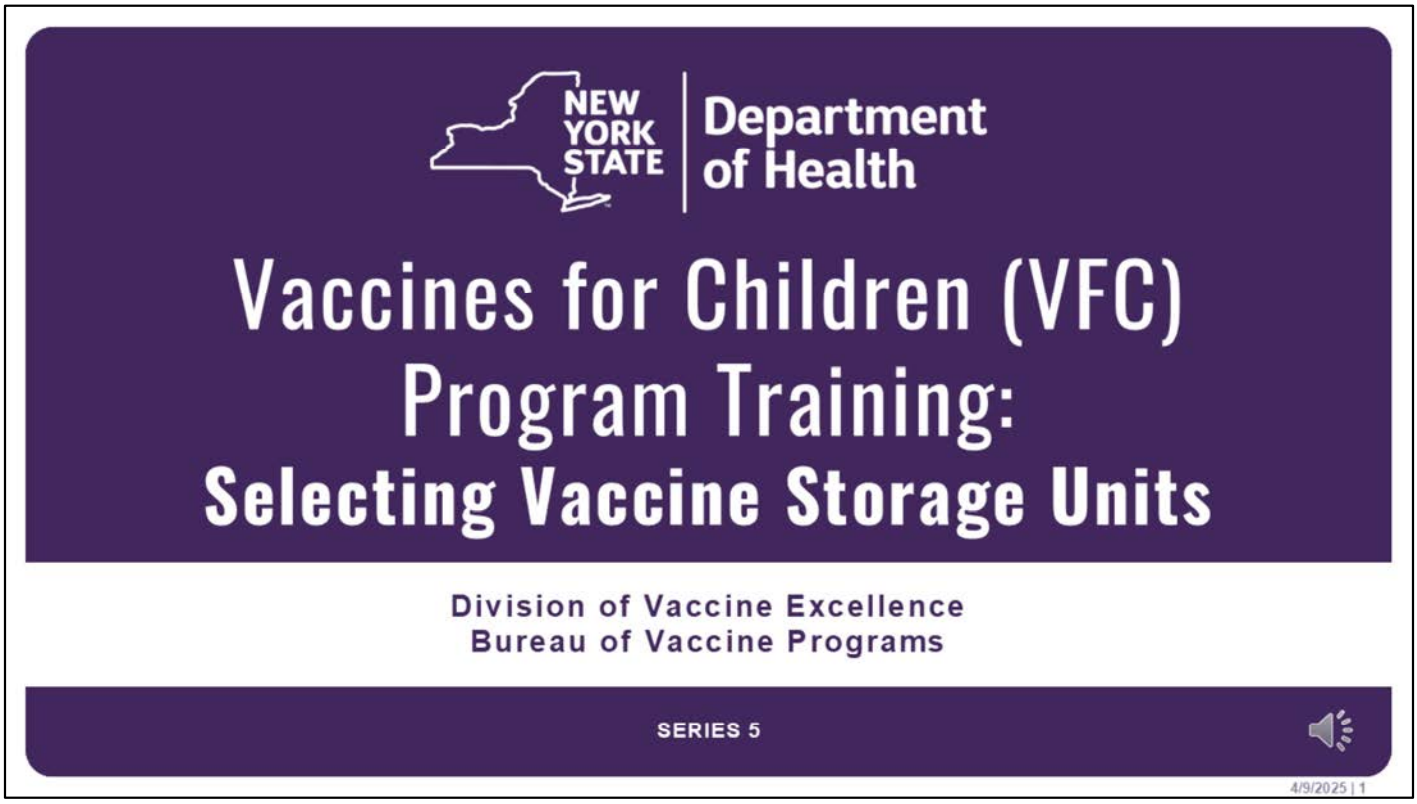
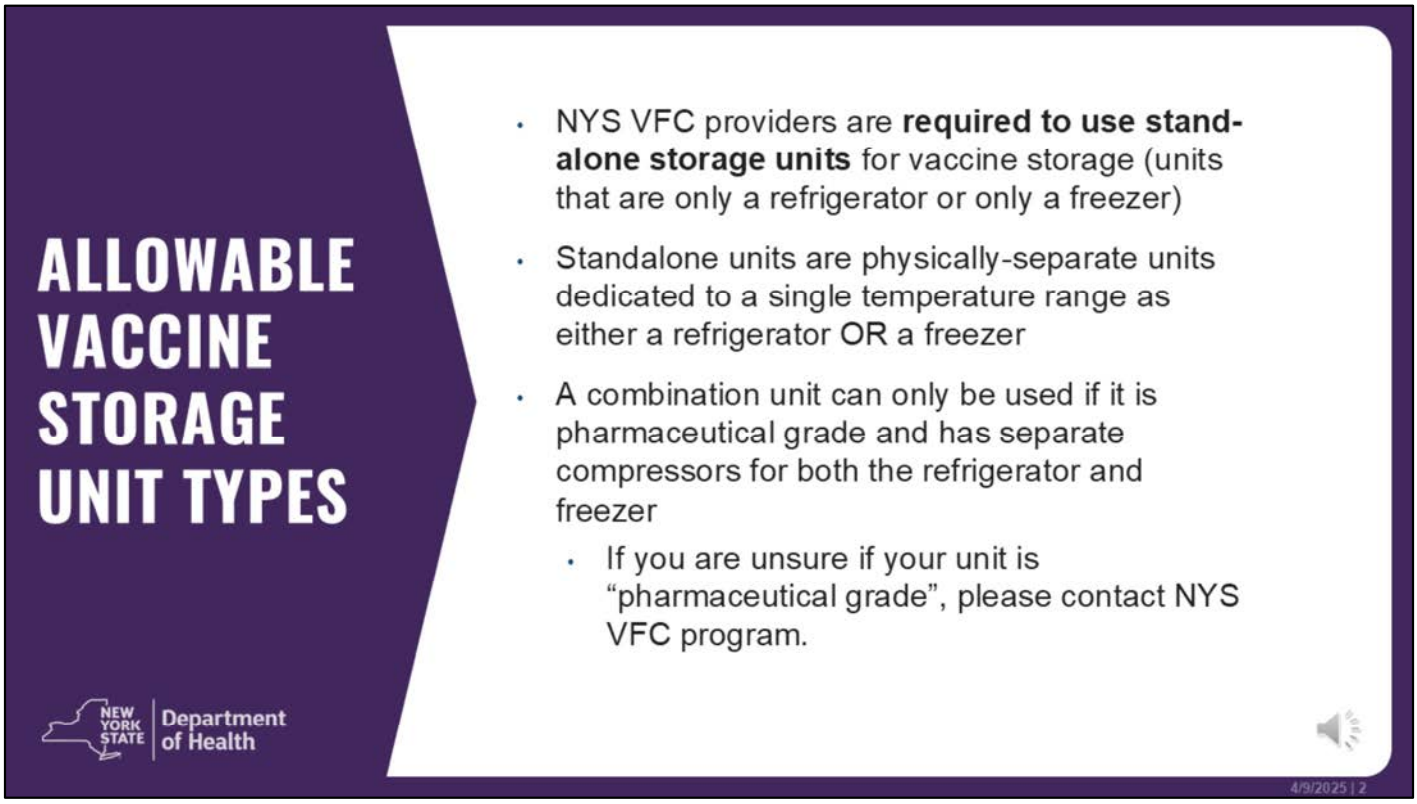


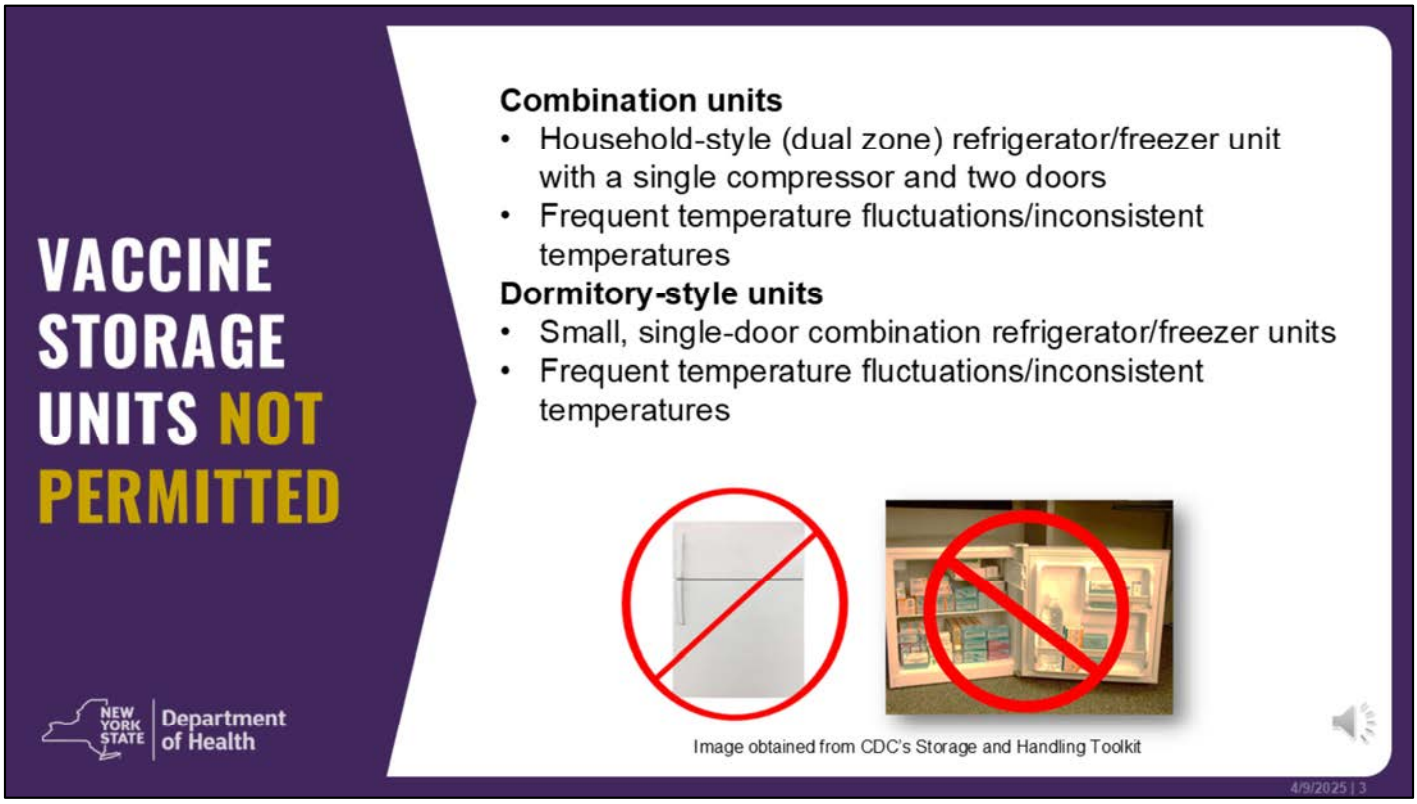
Hello and welcome! This training is intended to educate all newly enrolling and currently enrolled Vaccines for Children providers on selecting and purchasing vaccine storage units.



Selecting an appropriate vaccine storage unit is critical to ensuring the viability of refrigerated and frozen vaccine.

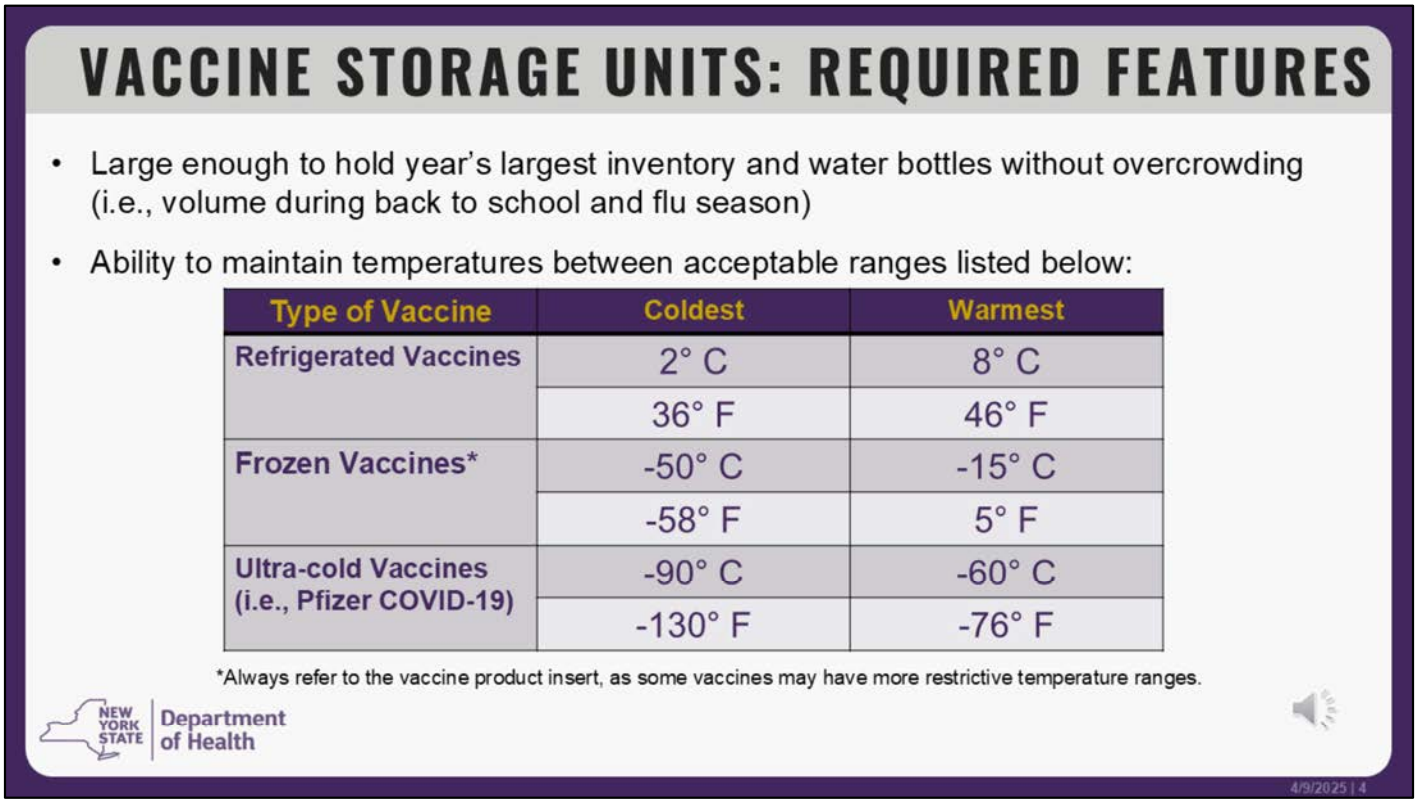
All NYS VFC providers are required to use stand-alone refrigerator and freezer units to store publicly purchased vaccine. Standalone units are self-contained units dedicated to a single temperature range, as either a refrigerator OR a freezer and are manufactured to maintain a single temperature range, thus having decreased risk in freezing refrigerated vaccine or warming frozen vaccine.

A combination unit can only be used if it is pharmaceutical grade and has separate compressors for both the refrigerator and freezer.



Household-style combination units share a single compressor, which means that air is exchanged between the two units. Studies have shown that household units are not effective at maintaining temperatures for vaccine storage, especially when both compartments are used simultaneously. Therefore, these types of units are NOT allowed to store VFC vaccine.

Dormitory-style units are never allowed for the storage of VFC vaccine. A dormitory-style refrigerator/freezer is defined as a small combination refrigerator/freezer unit that is outfitted with one exterior door and an evaporator plate (cooling coil), which is usually located inside an icemaker compartment (freezer) within the refrigerator. In the photo you can see a doorless compartment in the upper right section of this unit. This is the "freezer". It has often been mistaken for an additional shelf. In some units there is a flimsy plastic door on this compartment. The freezer compartment in this type of unit does not maintain cold enough temperatures for frozen vaccine storage. Additionally, the refrigerated compartment in this type of unit can subject vaccine to freezing temperatures.



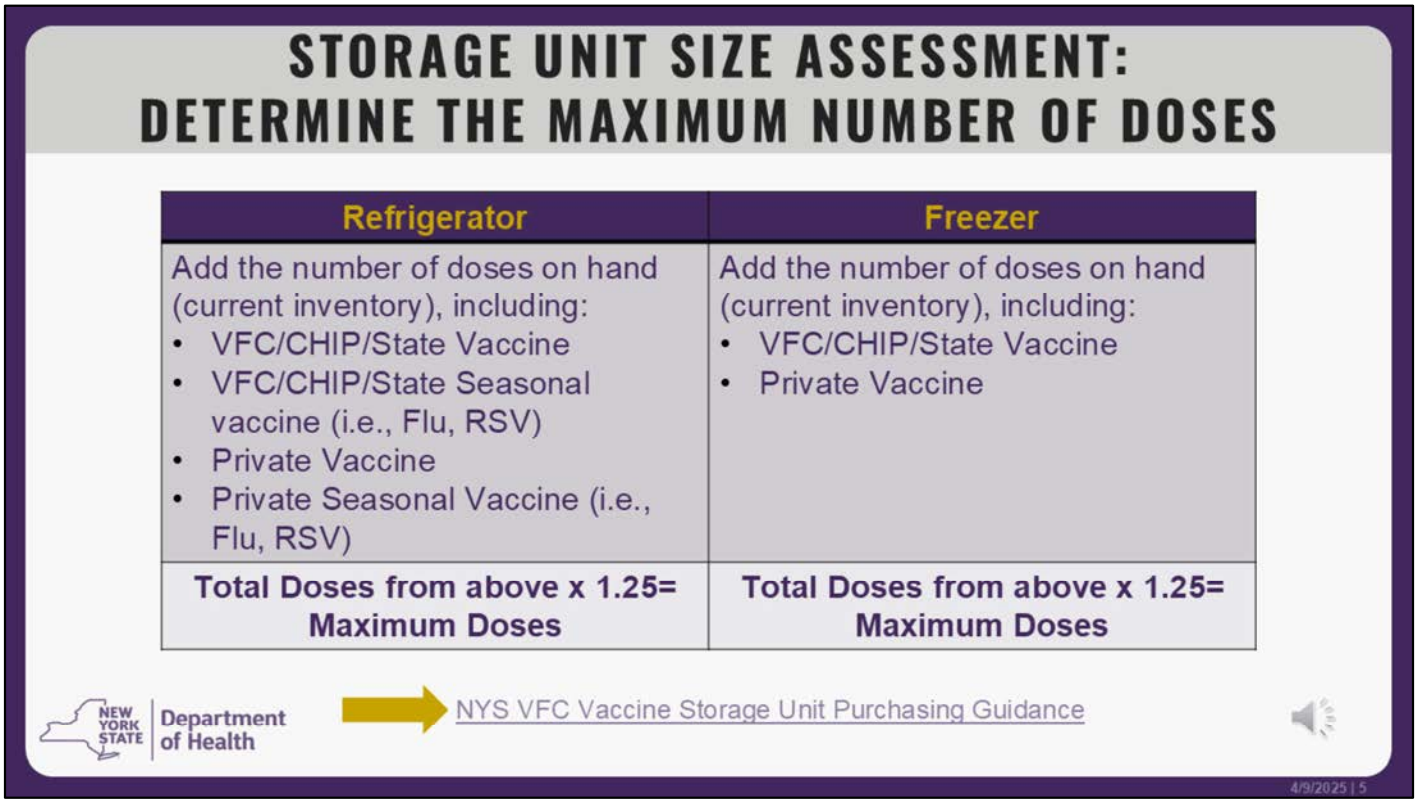
In terms of required features of storage units, the units must:

Be large enough to hold the practice's largest annual inventory and water bottles without overcrowding. To determine what size vaccine storage unit your practice needs, review your practice's history of the maximum number of doses (volume) of both publicly and privately-purchased vaccine that will be stored in your refrigerator and freezer, including during back-to-school and flu seasons .

If you currently have zero doses on hand and have never placed an order, this information can be determined from the provider population guidance in your NYS VFC Program provider agreement.

The acceptable temperature ranges are between:
36° Fahrenheit and 46° Fahrenheit (or between 2° Celsius and 8° Celsius) in the refrigerator
between -58° Fahrenheit and +5° Fahrenheit (or between -50° Celsius and -15° Celsius) in the freezer.
And between -130° Fahrenheit and -76° Fahrenheit (or between -90° Celsius and -60° Celsius) in ultra-cold units

Remember to always refer to the vaccine product insert for specific storage and handling requirements, as some vaccines may have more restrictive temperature ranges.



To determine what size vaccine storage unit your practice needs, first determine the maximum number of doses of publicly and privately funded vaccine that will be stored in your refrigerator and freezer, using the formulas in this slide.

You can determine this information from your inventory in the New York State Immunization Information System (NYSIIS), from your VFC Provider Profile section of the provider agreement.

Please refer to the NYS VFC Storage Unit Purchasing Guidance linked on this slide and other helpful documents and in the resources document included with this training for additional information.

DETERMINING STORAGE UNIT STYLE/TYPE

	Volume	Max Doses	Minimum Cubic Feet	Type & Cost of Needed Unit
REFRIGERATOR	Very High	10,000+	Multiple units needed	Full-size, stand-alone units ($800 - $9,000 per unit)  Reprinted from the Nevada State Immunization Program Vaccine Storage Unit Protocol
	High	2,000 – 10,000	May need multiple units	
	Medium-High	1,000- 2,000	40 cu. ft.	
	Medium	901- 1,000	36 cu. ft.	
		801- 900	21-23 cu. ft.	
		701- 800	17-19.5 cu. ft.	
		400- 700	16.7 cu. ft.	
	Low	100- 399	4.9 – 6.7 cu. ft.	Under-counter units ($200 - $5,000 per unit)  Reprinted from the Nevada State Immunization Program Vaccine Storage Unit Protocol
FREEZER	Medium-High	501- 6,000	7 – 14.8 cu. ft.	Full-size units ($800-$9,000 per unit)
	Low	201 -500	5 – 5.6 cu. ft.	Under-counter ($200 - $5,000 per unit) and chest-style units ($200 - $5,000 per unit)  Chest-style freezer
		0 - 200	3.5 – 4.9 cu. ft.	Under-counter units

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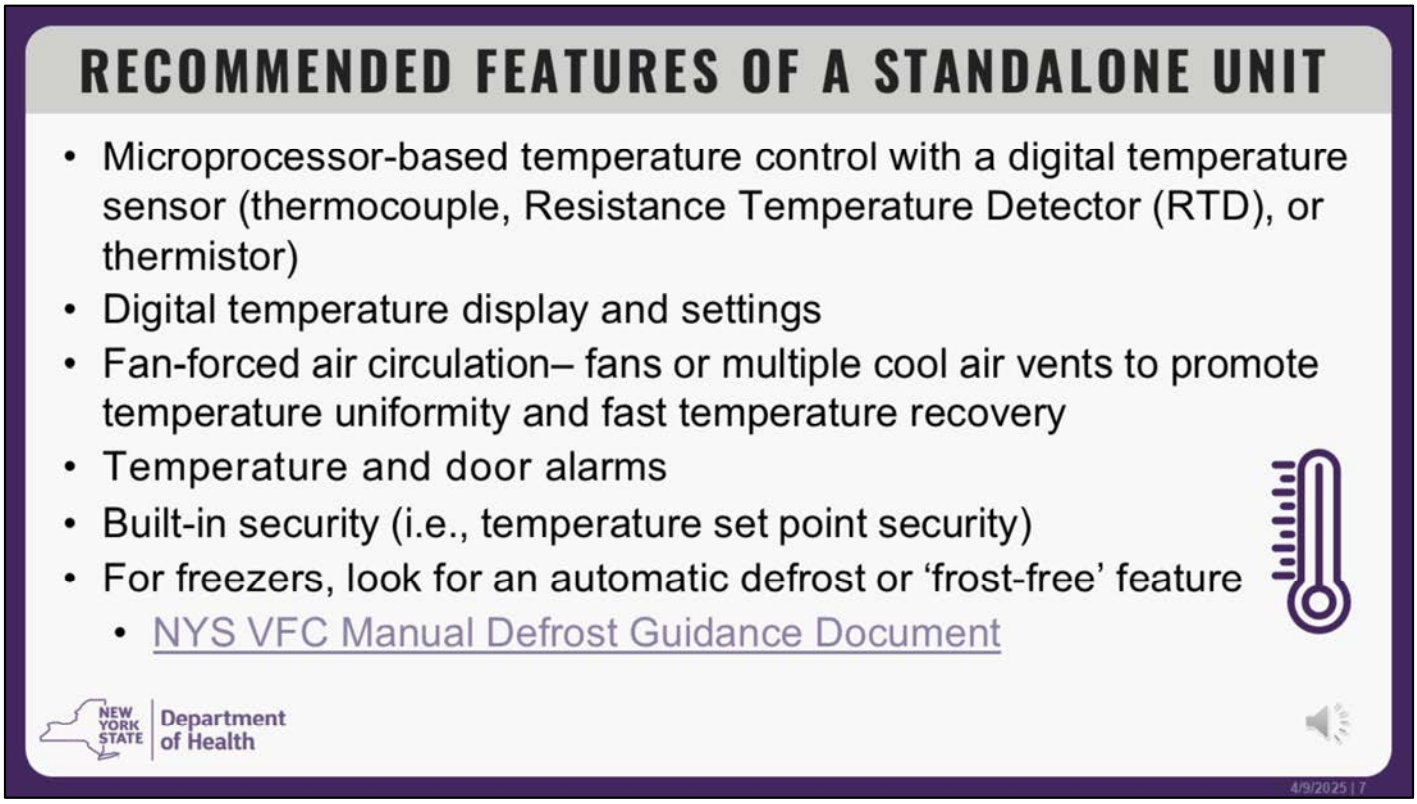
To fully ensure the safety of vaccines, equipment should have enough space to accommodate your maximum inventory without overcrowding. Refer to this chart to determine what size/type of storage unit your practice requires based on your calculated maximum annual dose needs.

Full-size standalone refrigerators and freezers are an appropriate option for medium-to-very-high- volume providers.

Under-counter standalone refrigerators and freezers are an acceptable option for low-volume providers.



Companies use buzz words like “medical grade” or “laboratory grade”, even “VFC grade”, to promote their products, but these terms do not always mean they are acceptable for VFC storage. Look for the following features to help determine capabilities:

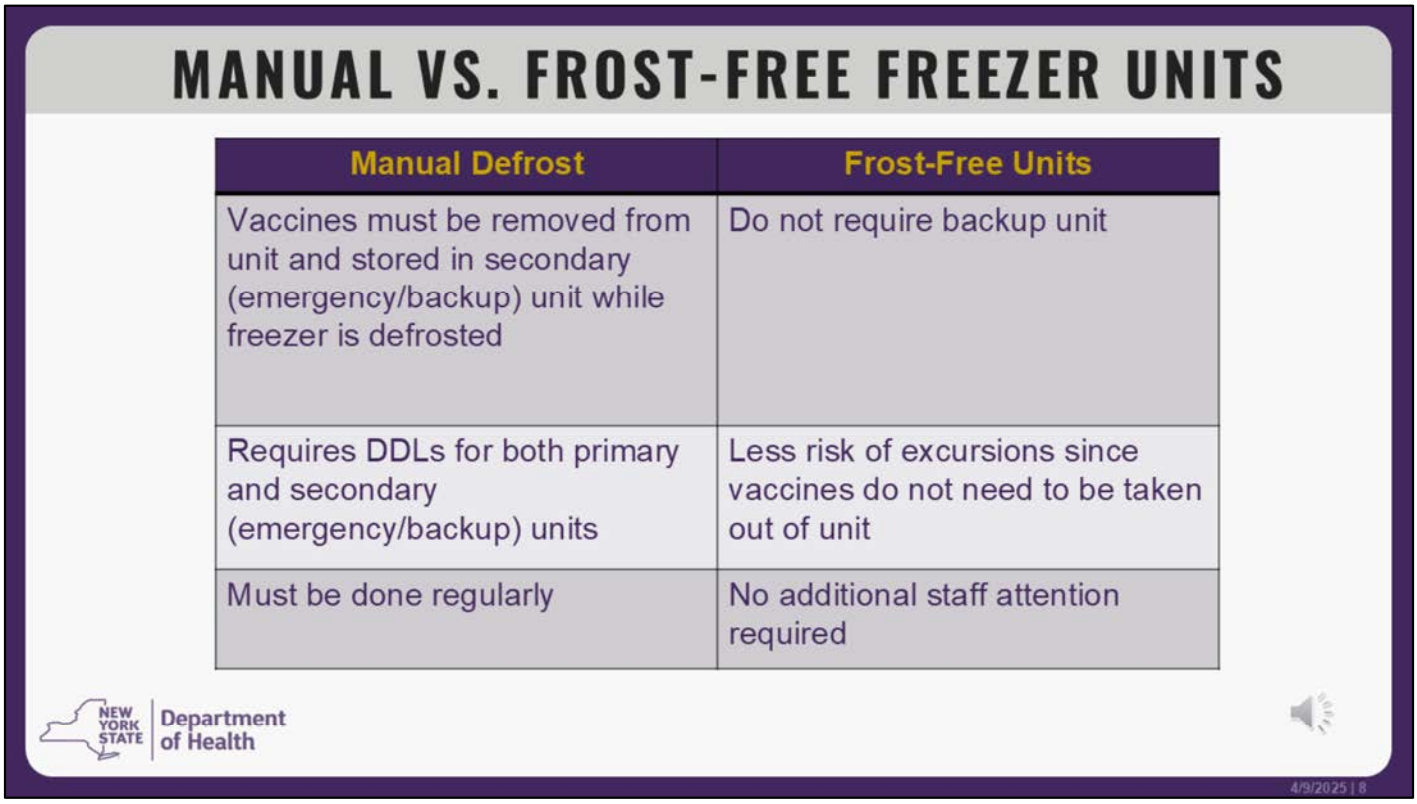
A unit with a microprocessor-based temperature control with a digital temperature sensor (for example, temperature sensor types such as thermocouple, Resistance Temperature Detector (RTD) or thermistor technology).

Look for a unit with fan-forced air circulation. This means that fans or multiple cool air vents are present inside the unit to promote temperature uniformity and fast temperature recovery.

Door alarms will alert you when the door has been left open which can prevent temperature excursions.

Also look for a unit with built-in security features such as, temperature set point security. Some units offer the ability to have a key-operated master switch that controls the power and/or temperature settings of the unit.

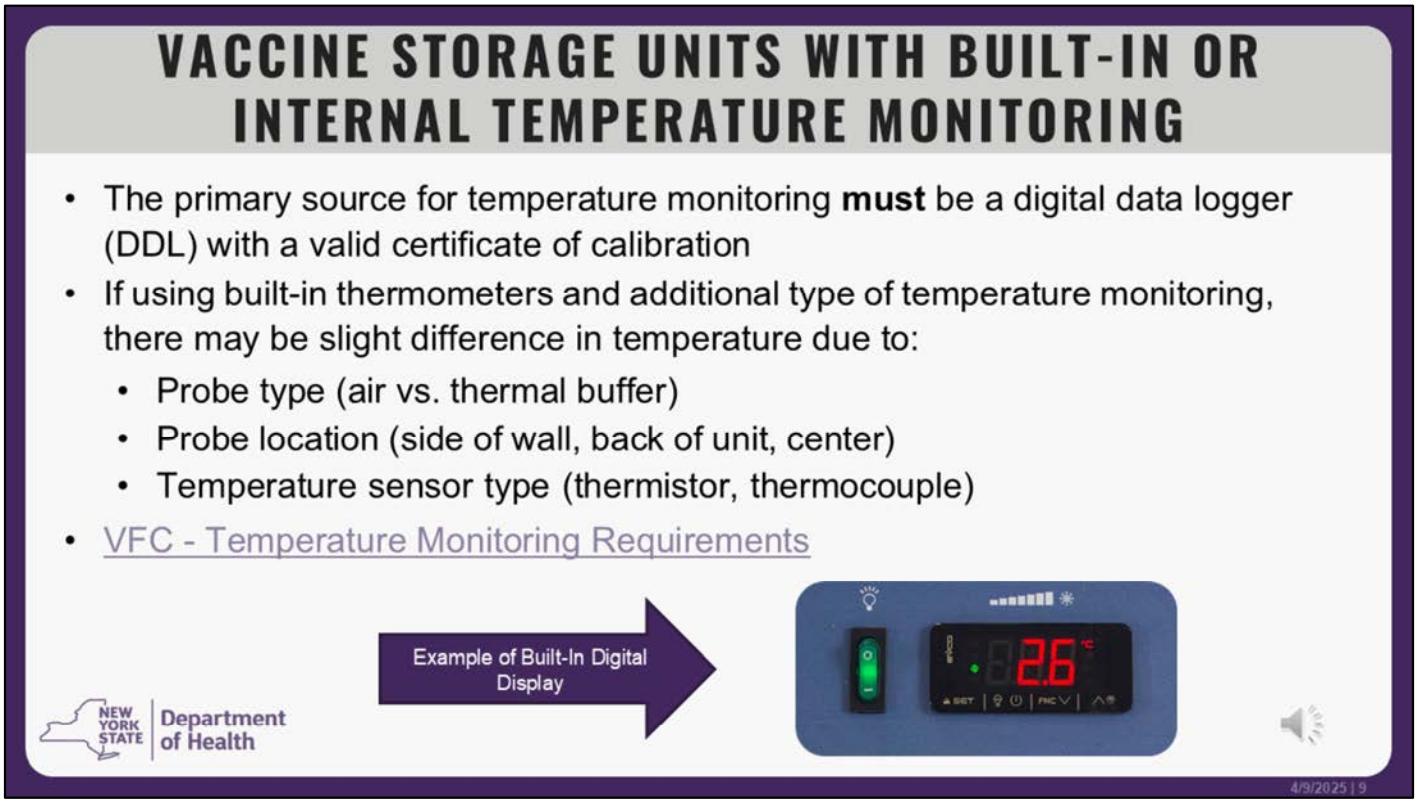
If purchasing a freezer, look for a unit with automatic defrost or a frost-free feature. A unit that is not frost-free will likely need a manual defrost. For more information on manually defrosting your freezer unit, please see the NYS VFC Manual Defrost Guidance Document linked here and included on the resources document included with these trainings.



Manual defrost freezers require you to have a secondary freezer in which to store vaccine when the primary is being defrosted. You must also have temperature monitoring devices for both units.

On top of these additional costs, you should consider that moving vaccines to backup unit, defrosting, verifying temperature, and replacing vaccines uses a considerable amount of staff time, and takes away from other duties. If you do not manually defrost on a regular basis, the frost can build up and create spacing and door-seal issues, which again can impact your vaccine viability.

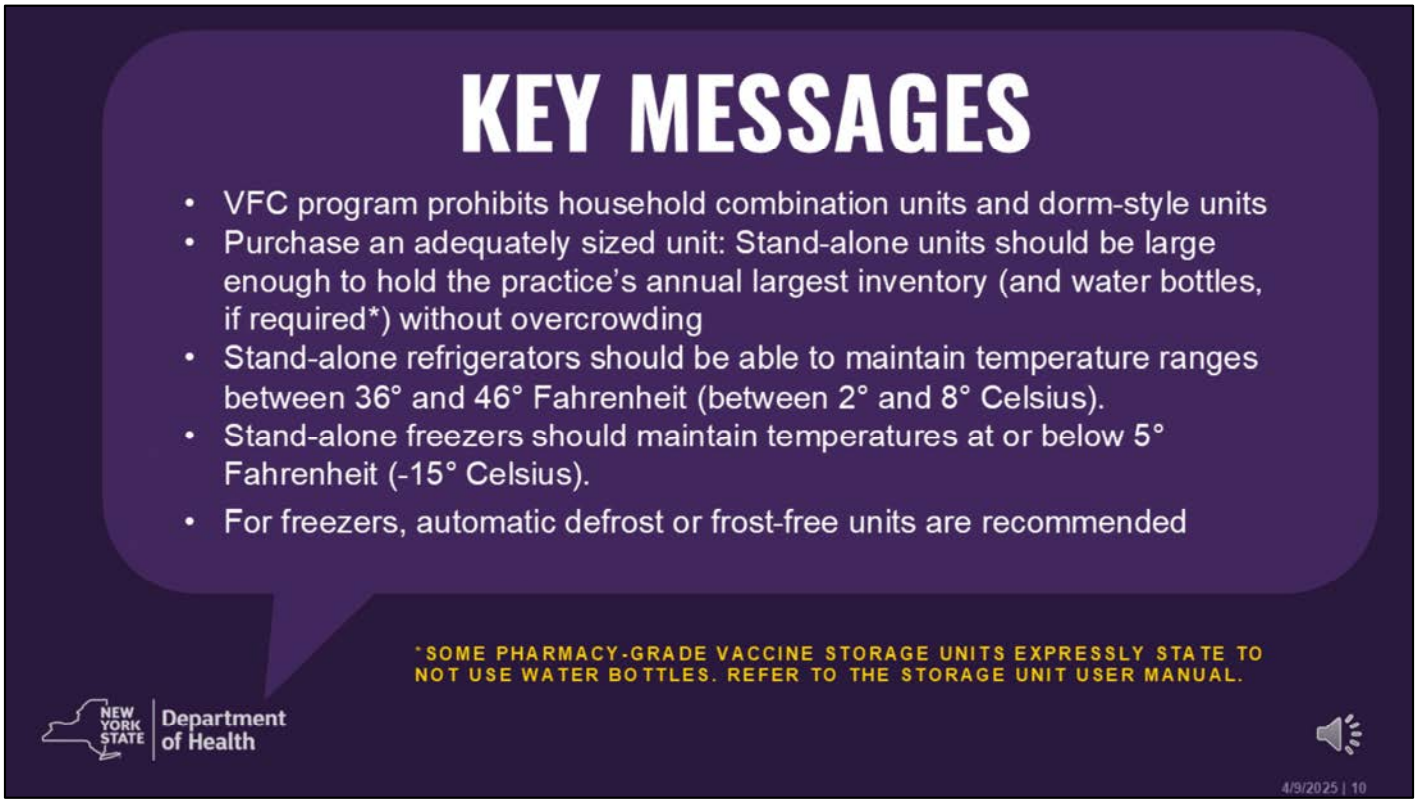
Frost-free units eliminate these additional costs and reduce excursion risk due to removal and transport of vaccines and require no additional staff time or attention beyond routine temperature monitoring.



Your primary source for temperature monitoring is your calibrated DDL (refer to training #8 on temperature monitoring device calibration for more information).
Your unit may have built-in thermometers, and while these can be useful, they are not acceptable for VFC program requirements as your primary source for temperature reporting unless they meet ALL of the VFC requirements for Digital Data Loggers including a valid certificate of calibration etc.

Temperature readings from probes with thermal buffers are the most reliable and should override readings from any other devices if ever there are discrepancies in temperature readings.

Refer to the VFC Temperature Monitoring Requirements document linked on this slide as well as in the resources document provided with these trainings for further information on required and recommended DDL features.



Some key takeaways from this training include:

The VFC program prohibits household combination units and dorm-style units.
Purchase an adequately sized unit: Stand-alone units should be large enough to hold the practice's annual largest inventory (and water bottles, if required*) without overcrowding.
Stand-alone refrigerators should be able to maintain temperature ranges between 36° and 46° Fahrenheit (between 2° and 8° Celsius).
Stand-alone freezers should maintain temperatures at or below 5° Fahrenheit (-15° Celsius).
*some pharmacy-grade vaccine storage units expressly state to NOT use water bottles. Refer to the storage unit user manual.
For freezers, automatic defrost or frost-free units are recommended.

Thank you for your participation in this training on selecting vaccine storage units. As always, any questions can be sent to nyvfc@health.ny.gov.