

This FAQ has been developed to provide all Health Care Professionals that store and/or handle vaccines in acute care settings, additional information to ensure vaccines are stored in accordance with the requirements as outlined within the [Alberta Vaccine Cold Chain \(AVCC\) Policy](#) and [AHS Vaccine Storage and Handling Standard](#).

All AHS staff members, handling vaccine, including clinical and nonclinical staff, will be familiar with all aspects of routine and urgent vaccines storage and handling protocols as per AHS Standards and individual Zone Guidelines including:

- the importance of the Cold Chain and implications of cold chain break incidents;
- recommended vaccine storage and handling practices; and
- the immediate and appropriate action to be taken in the event of a vaccine exposure to light or temperature outside the recommended storage conditions.

A number of frequently asked questions have been developed based on the following topics on your practice setting and involvement with the storage and handling of vaccines.

- Cold Chain
- Clinical Vaccine Storage and Handling
- Vaccine Ordering
- Vaccine Storage and Handling
- Vaccine Storage and Handling Equipment
- Vaccine Storage and Handling Training and Education

Clinical practitioners administering vaccines in acute care settings are required to be familiar with the following:

- Cold Chain
- Clinical Vaccine Storage and Handling

Pharmacy staff and nursing staff responsible for the vaccine management within a program, unit, or site are required to be familiar with the following:

- Cold Chain
- Clinical Vaccine Storage and Handling
- Vaccine Ordering
- Vaccine Storage and Handling
- Vaccine Storage and Handling Equipment
- Vaccine Storage and Handling Training and Education

Cold Chain

1. What is “cold chain”?
2. What is a cold chain break?
3. Why did Alberta Health (the Ministry of Health) develop a vaccine cold chain policy?
4. Why is cold chain relevant to my practice?
5. If I discover a cold chain break, what do I do?

Clinical Vaccine Storage and Handling

6. What am I required to do when I receive the vaccine for an individual patient?
7. What are the requirements for proper vaccine storage for Ward Stock?
8. What do I do with vaccines that are outdated/expired, damaged or no longer required?
9. Can I borrow vaccine from another department or unit?

Vaccine Ordering

10. How do I order vaccine for ward stock replenishment from AHS Pharmacy?
11. How do I order vaccine for individual patients from AHS Pharmacy?
12. How do I order vaccine for ward stock replenishment from Public Health?
13. How do I order vaccine for individual patients from Public Health?

Vaccine Storage and Handling

14. How is vaccine delivered to AHS sites? There are two routes for vaccine delivery.
 - 14.1 Vaccine delivery from AHS Public Health to AHS Pharmacies.
 - 14.2 Vaccine delivery from AHS Public Health to AHS Patient Care Areas.
15. When vaccine is delivered, how will it be transported?

Vaccine Storage and Handling Equipment

16. How should the vaccine refrigerator be maintained and cleaned?

Vaccine Storage and Handling Training and Education

17. Will there be any vaccine storage, handling, and cold chain management education, training, or support for my practice?
18. How do I reach my Zone Public Health Contact?

Cold Chain

1. What is “cold chain”?

Cold chain refers to the process of ensuring all vaccines are stored, handled, transported, and maintained at their optimum recommended temperatures of +2°C to +8°C from the time of manufacture until vaccine administration to the patient.

2. What is a cold chain break?

A cold chain break occurs when vaccine is exposed to light, or to temperatures outside of the recommended range. A cold chain break can reduce the effectiveness of the vaccine leading to lower than expected levels of immune stimulation.

3. Why did Alberta Health (the Ministry of Health) develop a vaccine cold chain policy?

The Alberta Vaccine Cold Chain policy sets standards of practice to ensure that provincially funded vaccines are stored and handled appropriately by adhering to the national vaccine cold chain management policy and best practice guidelines. In addition, the new policy ensures provincially funded vaccines provided to Albertans are potent, minimizing the risk of compromising the safety and efficacy of these biological products and providing maximum protection to patients.

[Alberta Health Vaccine Cold Chain Policy](#)

[National Vaccine Storage and Handling Guidelines for Immunization Providers](#)

4. Why is cold chain relevant to my practice?

It is important vaccines are available for patients as part of their medical care. Vaccine cold chain must be maintained in order to provide effective protection against vaccine preventable diseases. We all play a role in contributing to a healthy community. This also aligns with Alberta Health Services (AHS) Patient First Strategy and AHS Values of CARES and standards for professional practice.

5. If I discover a cold chain break, what do I do?

- When a cold chain break is discovered, vaccine must not be discarded. Vaccine must be immediately quarantined to a backup functioning and monitored vaccine refrigerator and labeled ‘Do Not Use – Cold Chain Break’. If a backup refrigerator is not available, contact your vaccine provider (AHS Pharmacy or your AHS Zone Public Health Contact) for further guidance. For information on Zone Public Health Contact refer to Question 18.
- A cold chain break report form must be completed with details of the cold chain incident and vaccines involved. The link to the Cold Chain Break Reporting Form as well as an algorithm for Managing a Cold Chain Breaks can be found at:

[Cold Chain Break Reporting Form](#)

[Algorithm for Managing a Cold Chain Break](#)

- If vaccine is urgently required, this should be communicated with your vaccine provider (AHS Pharmacy or AHS Zone Public Health Contact). For information on Zone Public Health Contact refer to Question 18.

- Each site/unit storing provincially funded vaccine must have completed a Cold Chain Management Plan which includes an Emergency Response Plan.

Clinical Vaccine Storage and Handling

6. What am I required to do when I receive the vaccine for an individual patient?

- When vaccine is delivered, the temperature monitoring device must be checked immediately to determine the recommended temperatures of +2⁰C to +8⁰C have been maintained.
- Vaccine should be administered as soon as possible. If not administered immediately, the vaccine must be stored and monitored in a vaccine bag/qualified insulated container/lab grade refrigerator that is able to maintain temperatures between +2⁰C and +8⁰C.

7. What are the requirements for proper vaccine storage for Ward Stock?

- A purpose-built vaccine refrigerator (also referred to as a pharmacy, lab-style or laboratory grade refrigerator) is the recommended standard for storing vaccines to keep them within the +2⁰C to +8⁰C temperature range.
- For storage of low volumes of vaccines, domestic refrigerators are acceptable if the refrigerator and freezer compartments have separate external doors and have been assessed for consistent temperatures of +2⁰C to +8⁰C.
- Bar fridges are NOT ACCEPTABLE as they are not manufactured to maintain a stable temperature, and may vary widely in temperature throughout the unit. Therefore, they cannot be used for storing vaccines.
- A dedicated refrigerator for vaccine storage is strongly recommended.
 - If vaccine is stored with other medications / blood products, consideration must be given to the frequency of access to these medications / blood products.
 - Frequent access may compromise the temperature stability of that storage unit.
- Trained, designated staff member(s) must be responsible for safe and effective vaccine storage and handling. For further information about vaccine storage and handling training refer to Question 17.
- As well trained designated staff member(s), must be responsible to monitor and document the minimum, maximum and current refrigerator temperatures, using an appropriate [AHS vaccine refrigerator temperature log sheet](#); at minimum twice daily for each work day (schedule for checks to be determined at the discretion of the manager). The manual temperature log is required as an audit system to ensure cold chain is maintained between +2⁰C to +8⁰C as automatic monitoring systems have failed in the past.

- **Report any cold chain breaks immediately by contacting the department** that distributes your vaccine. As well, a Cold Chain Break Report must also be completed. For further detail refer to Question 5.

8. What do I do with vaccines that are outdated/expired, damaged or no longer required?

- In order to minimize vaccine wastage, vaccine should be monitored regularly for expiry dates and vaccine with shortest expiry date should be used first.
- Order vaccine to maintain an adequate supply for 2 to 4 weeks.
- For vaccines that are outdated/expired, do not use for patients and notify the department that supplied the vaccine. The department will advise on the return process of outdated/expired vaccines. This will allow vaccine to be reconciled in the provincial vaccine inventory management system. This is required for accountability of vaccine usage for the provincial immunization programs.
- For vaccines that are damaged, do not use for patients. Do not discard the vaccine. Notify the department that supplied the vaccine in order to request replacement and for directions on returning the damaged product. This is required for accountability of vaccine usage for the provincial immunization programs.
- For vaccines that are no longer required (e.g., vaccine for a specific patient who has been discharged or patient refusal), do not discard the vaccine. This is required for accountability of vaccine usage for the provincial immunization programs.
 - Notify your vaccine provider (AHS Pharmacy or AHS Public Health Zone Contact) to arrange for return. Your vaccine provider will provide details on how the vaccine will be returned including if the vaccine needs to be returned in specific insulated containers to maintain cold chain.
 - When returning vaccine, cold chain must be maintained; vaccine must be stored at the recommended temperatures of +2⁰C to +8⁰C.

9. Can I borrow vaccine from another department or unit?

No, if vaccine is required for an individual patient it should be ordered through AHS Pharmacy or Public Health using established processes. This ensures vaccines are:

- Administered to the correct individual for the appropriate reason.
- Monitored and cold chain is maintained at all times.
- Accounted for appropriately in the provincial vaccine inventory system.

Vaccine Ordering

10. How do I order vaccine for ward stock replenishment from AHS Pharmacy?

- For vaccines that are ward stock, pharmacy will replenish supplies (similar to medications that are kept as ward stock) on a regularly scheduled basis.

- Outside of regular ward stock replenishment, please send a request to pharmacy.

11. How do I order vaccine for individual patients from AHS Pharmacy?

- For vaccines for individual patients, a prescriber's order should be written for that patient and sent to pharmacy. Pharmacy will then supply the vaccine specifically for administration to that patient.
- If pharmacy does not stock vaccine required contact your Zone Public Health Contact. For information on Zone Public Health Contact refer to Question 18.

12. How do I order vaccine for ward stock replenishment from Public Health?

- If provincially funded vaccine is supplied by Public Health in your Zone, follow up with your Zone Public Health Contact. For information on Zone Public Health Contact refer to Question 18.

13. How do I order vaccine for individual patients from Public Health?

- If provincially funded vaccine is supplied by Public Health in your Zone, follow up with your Zone Public Health Contact. For information on Zone Public Health Contact refer to Question 18.

Vaccine Storage and Handling**14. How is vaccine delivered to AHS sites?**

There are two routes for vaccine delivery.

14.1 Vaccine delivery from AHS Public Health to AHS Pharmacies:

- A designate from the pharmacy department will order vaccine using the Alberta Vaccine Inventory (AVI) system.
- AHS Public Health receives the order, processes and will ship vaccine under cold chain to the participating pharmacy using established delivery processes.
- Pharmacy then provides this vaccine to:
 - Patient care areas for ward stock from AHS Pharmacy.
 - Patient care areas for individual patients from AHS Pharmacy.
 - Cold chain is maintained at all steps in the process.

14.2 Vaccine delivery from AHS Public Health to AHS Patient Care Areas:

- When AHS Pharmacy does not provide provincially funded vaccines follow up with you Zone Public Health Contact. For information on Zone Public Health Contact refer to Question 18.
- Vaccines will be delivered from the Public Health site to the specific unit under cold chain.

15. When vaccine is delivered, how will it be transported?

- In order to maintain the recommended temperatures of +2°C to +8°C vaccines will be transported and delivered using equipment that maintains these temperatures. A temperature monitoring device will be placed in the insulated container to track temperatures and ensure vaccine cold chain has been maintained during transport.

Vaccine Storage and Handling Equipment**16. How should the vaccine refrigerator be maintained and cleaned?**

- Routine maintenance and cleaning of vaccine storage equipment helps to ensure optimal functioning, to maintain required temperatures, to extend the useful life of the appliance and to prevent bacterial and fungal growth. For specific information refer to the AHS Vaccine Storage and Handling Standard found at:

<http://www.albertahealthservices.ca/info/Page14001.aspx>

<http://www.albertahealthservices.ca/assets/info/hp/cdc/if-hp-cdc-vac-frdg-mntnce-clean-log.pdf>

Vaccine Storage and Handling Training and Education**17. Will there be any vaccine storage, handling, and cold chain management education, training, or support for my practice?**

- Yes, AHS Province-wide Immunization Program has developed a Vaccine Storage and Handling Standard which contains additional resources as well as Zone Contact information. This can be found at:
<http://www.albertahealthservices.ca/info/Page14001.aspx>
- In addition an AHS Vaccine Storage and Handling e-learning course, which includes 7 modules, is available on [MyLearningLink \(MLL\)](#).
 - Training is required for individuals who administer vaccines or are involved in vaccine storage and handling.
 - These modules were designed to provide a vast variety of education related to this topic; departments and/or programs can review and select the modules most appropriate for their teams in order to meet the requirements of Alberta Health.
- A Practice Wise Session webinar on vaccine storage and handling can be found on the AHS Province-wide Immunization Program web site.

18. How do I reach my Zone Public Health Contact?

- Your Zone Public Health Contact can be found on the Immunization Program Standards Manual, Vaccine Storage and Handling Standard under Zone Contact at the link below:
<http://www.albertahealthservices.ca/info/Page14001.aspx>