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| Cold chain management |
| Guidance for immunisation providers |
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Contents

[1. Introduction 2](#_Toc201044907)

[Strive for 5 2](#_Toc201044908)

[2. Cold chain system 2](#_Toc201044909)

[What is the cold chain system? 3](#_Toc201044910)

[What is a cold chain breach? 3](#_Toc201044911)

[Who is responsible for cold chain management? 3](#_Toc201044912)

[3. Vaccine storage and monitoring 3](#_Toc201044913)

[Vaccine refrigerators 3](#_Toc201044914)

[Vaccine storage management 3](#_Toc201044915)

[Vaccine temperature charts 4](#_Toc201044916)

[Minimum/maximum digital thermometer 4](#_Toc201044917)

[Temperature data loggers 4](#_Toc201044918)

[4. Vaccine monitoring – start of the day 7](#_Toc201044919)

[The start of the day 7](#_Toc201044920)

[Cold chain breach reporting 7](#_Toc201044921)

[5. Receiving deliveries 8](#_Toc201044922)

[Assessing the vaccine delivery 8](#_Toc201044923)

[6. Use of portable coolers 9](#_Toc201044924)

[7. Vaccine monitoring – end of the day 11](#_Toc201044925)

[8. Vaccine monitoring – loss of power 11](#_Toc201044926)

[When the power goes off 11](#_Toc201044927)

[When the power is returned 12](#_Toc201044928)

[9. Annual cold chain activities 12](#_Toc201044929)

[Equipment maintenance checklist 12](#_Toc201044930)

[Performing a slush test 13](#_Toc201044931)

[Review cold chain protocols 14](#_Toc201044932)

[Complete a vaccine storage self-audit 14](#_Toc201044933)

[Update staff knowledge 14](#_Toc201044934)

[10. Requirements for immunisation services 15](#_Toc201044935)

# 1. Introduction

This document provides guidance for all clinical staff, practice managers and vaccine coordinators with primary and back-up responsibility for vaccine delivery and cold chain management.

The aim of this guideline is to support government-funded vaccine immunisation providers to:

* understand the cold chain system
* identify the equipment required for cold chain management of vaccines
* follow the correct processes to monitor vaccine refrigerator temperature and ensure vaccine potency
* identify the appropriate steps to receive and stock vaccines
* identify and follow the required steps to prevent and manage a cold chain breach
* perform cold chain self-audits and annual maintenance activities
* know where to find more information about vaccine storage and cold chain management.

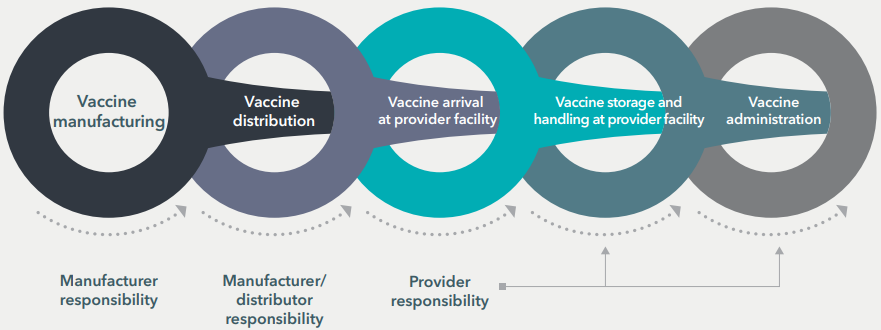
## Strive for 5

This document is based upon the National Vaccine Storage Vaccine Guidelines ‘Strive for 5’ (3rd Edition) 2019.

‘Strive for 5’ provides guidance and governance standards for best practice in vaccine storage to maintain cold chain. In Victoria, registered immunisation providers must adhere to these Australian guidelines to receive government funded vaccines.

Review the Australian Government [National Vaccine Storage Guidelines resource collection](https://www.health.gov.au/resources/collections/national-vaccine-storage-guidelines-resource-collection) to access ‘Strive for 5’ guidelines and resources for health practices. <https://www.health.gov.au/resources/collections/national-vaccine-storage-guidelines-resource-collection>

# 2. Cold chain system



*Cold chain flowchart. Image source:* [*Centre for Disease Control and Prevention 2023*](https://www.cdc.gov/vaccines/hcp/storage-handling/?CDC_AAref_Val=https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/index.html)

## What is the cold chain system?

The ‘cold chain’ is the system of transporting and storing vaccines within the safe temperature range of +2°C to +8°C. The cold chain begins from the time the vaccine is manufactured, continues through to the vaccine distribution centres and immunisation service providers, and ends when the vaccine is administered.

The optimal storage temperature for vaccines is +5°C.

Vaccines are delicate biological substances. They can become less effective or destroyed if they are:

* frozen or exposed to temperatures below +2°C
* exposed to temperatures above +8°C
* exposed to direct sunlight or ultraviolet (UV) light, including fluorescent light.

**Note**: Poor cold chain management may result in a loss of confidence in immunisation providers and distress if people have to be revaccinated after receiving vaccines that may have been compromised.

## What is a cold chain breach?

A ‘cold chain breach’ occurs when vaccine storage temperatures are outside the recommended range of +2°C to +8°C. This does not include temperature deviations in which the temperature reaches a maximum of up to +12°C for 15 minutes or less.

## Who is responsible for cold chain management?

All people who handle vaccines (including receipt of deliveries) are responsible for maintaining the cold chain. All government funded vaccine account holders are required to nominate a vaccine coordinator in each facility to oversee vaccine management and appoint a back-up person to act in the coordinator's absence. The vaccine coordinator and back-up person must understand and comply with all requirements for managing the cold chain of vaccines.

Watch this short, animated [Melbourne Vaccine Education Centre video](https://mvec.mcri.edu.au/references/cold-chain-helpful-resources/) (3:38), Journey of the cold chain: What is the cold chain? to understand the importance of the cold chain and your responsibilities <https://mvec.mcri.edu.au/references/cold-chain-helpful-resources/>.

# 3. Vaccine storage and monitoring

## Vaccine refrigerators

Vaccines should **only be stored in purpose-built vaccine refrigerators**, specifically designed to store vaccines between +2°C and +8°C. Some purpose-built vaccine refrigerators have an inbuilt data logger and/or digital temperature indicators (current, minimum and maximum temperature displays).

* Domestic refrigerators (including bar refrigerators) are **not** built or designed to store vaccines and must not be used for vaccine storage.
* Food and drinks **must not** be stored in this refrigerator.
* Vaccine refrigerators should be serviced at least **every 12 months**.

## Vaccine storage management

When ordering and storing vaccines:

* order government funded vaccines monthly to control stock levels and maintain a small buffer
* do not crowd the vaccines by overfilling the shelves
* store vaccines in their packaging to protect them from temperature fluctuations and UV light
* ensure space between vaccine boxes to allow air circulation
* label each basket or shelf clearly so it can be clearly seen through the glass door
* if the vaccine refrigerator does not have a glass door, place a refrigerator map on the door to help locate vaccines quickly.

Refer to [Chapter 5 of the ‘Strive for 5’](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en) for further guidance on vaccine storage management.

## Vaccine temperature charts

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| Use a standardised chart to document the vaccine refrigerator temperatures. This example can be downloaded from the ‘Strive for 5’ guidelines resources collection.  You **must** record the vaccine refrigerator temperatures (current, minimum, and maximum) at least **twice a day**: before the refrigerator is used for the first time and at the endof each day. **Reset** the thermometer after each reading.  *Image:* [*Strive for 5 - Vaccine fridge temperature chart poster*](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5-vaccine-fridge-temperature-chart-poster?language=en) | Example of a vaccine refrigerator temperature chart showing the relevant month and year, temperature in the morning and afternoon for each day of the month, time checked, initials of the person doing the checking, and comments. |

## Minimum/maximum digital thermometer

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| A portable minimum/maximum thermometer is required if the vaccine refrigerator's inbuilt temperature-monitoring system does not have a battery back-up, generator back-up or uninterrupted power supply.  This ensures that vaccine refrigerator temperatures can be monitored in the event of a power failure.  *Image: Example of minimum/maximum thermometer* | Digital fridge/freezer thermometer displaying a temperature of 21.2°C with probe and control buttons. |

Portable minimum/maximum thermometers are also used for outreach or mobile vaccination clinics:

* Batteries **must** be changed at least **every 12 months**.
* Portable minimum/maximum thermometers **must** be calibrated yearly (refer to [Chapter 9 of the ‘Strive for 5’ guidelines](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en)).

## Temperature data loggers

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| Temperature data loggers are small electronic devices that measure temperatures at pre-set time intervals.  ‘Strive for 5’ guidelines require that data loggers **must** be set to record temperatures at **5-minute intervals**.  If the purpose-built vaccine refrigerator does not have an inbuilt data logger, a battery-powered data logger can be purchased separately and used to continuously monitor temperatures.  *Image: Examples of data loggers* | Two different types of data loggers - a LogTag USB data logger on the left, and another type connected to a vaccine fridge via cables on the right. |

**Remember to:**

* Change the battery according to the manufacturer’s recommendation, or when the battery life screen is low.
* Calibrate at least **every 12 months**.

### Setting up and using data loggers

Vaccine coordinators must set the data logger to record vaccine refrigerator temperatures at 5-minute intervals and set the **alarm system to alarm outside the +2°C to +8°C range**.

Review the following steps to learn more.

* **Placement:** place the portable data logger in the middle shelf between boxes of the vaccines and ensure it can be easily accessed.
* **Educate:** all staff involved in cold chain management should be trained to use and download data on a data logger.
* **Connect:** connect the data logger to your computer using a USB, cable, or wireless transmission to download data.
* **Download:** download data at least weekly or in the event of vaccine refrigerator temperature fluctuations.
* **Assess the data:** review the graph and the 5-minute intervals on the data log report (or summary report) and check for any breaches in the cold chain.
* **Check:** ensure vaccines have been maintained within the recommended +2°C to +8°C cold chain range.
* Assess cold chain breaches: identify any episodes where vaccine refrigerator temperature has been outside of the recommended cold chain range of +2°C to +8°C. Assess duration and extent of temperature fluctuation.
* **Report cold chain breaches:** follow the guidance on the Victorian Department of Health (the department) [Cold chain breach reporting](https://www.health.vic.gov.au/immunisation/cold-chain-breach-reporting) web page to report breaches.

### Example

Below is an example of downloaded data logger information that shows a cold chain breach.

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| Image: Example of a data logger download showing a cold chain breach, resulting from mechanical failure. Vaccines were relocated to another vaccine fridge on 19/12/2022. | Data logger download showing a cold chain breach due to mechanical failure. Temperature rose sharply on 18/12/2022, peaking at ~27°C by 19/12/2022. Vaccines were relocated to another fridge on 19/12/2022. |
|  |  |
| Image: Section from a data logger download, showing vaccine refrigerator readings at 5-minute intervals and start time of the breach. | Section from a data logger download showing vaccine refrigerator temperature readings at 5-minute intervals. The breach begins around 8:44pm on 18/12/2022, indicated by abnormal or corrupted data entries following a steady temperature range. |

The National Vaccine Storage Guidelines ‘Strive for 5’ require that:

* All vaccine refrigerators that store vaccines **must** have a data logger in place.
* Data loggers are to be set to record temperatures at **5-minute intervals**.
* Information from the data logger is to be downloaded and reviewed **at least weekly** or in the event of a temperature fluctuation.
* Twice-daily minimum and maximum temperatures **must** be manually recorded.

Refer to [Chapter 4 of the ‘Strive for 5’ guidelines](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en) for further information on data loggers.

# 4. Vaccine monitoring – start of the day

## The start of the day

The first action of every shift must be to **check the temperature of the vaccine refrigerator**. This must occur before any vaccines can be used.

* Check and record the current, minimum, and maximum refrigerator temperatures on your vaccine temperature chart.
* Ensure temperatures have been within +2°C to +8°C range since last recordings.
* Reset your vaccine refrigerator thermometer.
* Ensure the vaccine refrigerator door is closed securely and that the plug is connected to the power source.

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| * Current temperature showing +5.1°C. * Press ▲ to identify maximum temperature. * Press ▼ to identify minimum temperature.   *Image: Example of inbuilt temperature display.* | Control panel of a Lec Medical refrigerator showing a temperature reading of 5.1°C. Buttons for menu navigation and temperature adjustment are visible beside the display. |

**Remember:**

* Document all readings on your vaccine temperature chart, including the time and date.
* Always reset the thermometer and document the time on the temperature chart.
* Any temperature outside of the recommended range of +2°C to +8°C is a cold chain breach.

## Cold chain breach reporting

You will remember that a ‘cold chain breach’ occurs when vaccine storage temperatures deviate outside the recommended range of +2°C to +8°C.

This does **not** include temperature deviations in which the temperature reaches a maximum of up to +12°C for 15 minutes or less.

**Cold chain breaches must be managed by the vaccine coordinator or a nominated back-up person.**

In the event of a suspected cold chain breach, you **must** always take the following actions:

1. immediately notify the vaccine coordinator (or back-up person)
2. put a sign on the vaccine refrigerator door: **‘DO NOT USE OR DISCARD VACCINES’**
3. download the data logger (if you have received training), check readings and report findings to the vaccine coordinator (or back- up person) immediately
4. the vaccine coordinator must assess data for a cold chain breach and follow the department’s cold chain breach reporting procedures for government funded vaccines
5. if the vaccine coordinator (or back-up person) is not available, contact the department for advice via email on [immunisation@health.vic.gov.au](mailto:immunisation@health.vic.gov.au)
6. contact the manufacturer for advice for privately purchased vaccines
7. record the date, duration and any actions taken
8. follow the instructions provided by the vaccine coordinator (or the department)
9. determine the cause of the breach to reduce the risk of recurrence (e.g. check the electricity plug).

### Cold chain management

Read the department’s [Cold chain management web page](https://www.health.vic.gov.au/immunisation/cold-chain-management) and save it to ‘Favourites’ in your web browser <https://www.health.vic.gov.au/immunisation/cold-chain-management>.

### Cold chain breach reporting

Read the department's [Cold chain breach reporting web page](https://www.health.vic.gov.au/immunisation/cold-chain-breach-reporting) for details of reporting criteria, and to download the template for reporting <https://www.health.vic.gov.au/immunisation/cold-chain-breach-reporting>.

# 5. Receiving deliveries

All vaccine deliveries **must** be opened and checked as soon as they arrive to prevent temperature breaches and loss of potency.

If you have not been trained to receive a vaccine delivery and assess cold chain, you **must** immediately notify the vaccine coordinator.

## Assessing the vaccine delivery

Every delivery of government funded vaccines will have a single use cold chain indicator (TagAlert®) in the box and a form to complete in the event of a cold chain breach. The TagAlert® electronically records the vaccine temperature during transport.

If there is no TagAlert® in the delivery, contact Onelink immediately (see delivery receipt for contact details).

An alarm is triggered if a heat or freeze breach occurs during transport from the warehouse to the immunisation provider.

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| **Delivery within cold chain range** | **Cold chain breach** |
| *TagAlert® in operation, with an arrow pointing at the green tick indicating no breach.TagAlert® stopped, showing a dot next to the arrow pointing at the green tick, indicating vaccines are viable.*  *Left: TagAlert®in operation – no breach*  *Right: TagAlert®stopped - vaccines viable* | TagAlert® in operation, with an arrow pointing at the red cross indicating a breach was encountered.TagAlert® stopped, showing a dot next to the arrow pointing at the red cross, indicating a breach was encountered.  *Left: TagAlert®in operation - encountered a breach*  *Right: TagAlert®stopped - encountered a breach* |

### Always follow these steps

1. Sign the vaccine delivery receipt and return to the courier.
2. Remove the TagAlert® immediately on receipt of the vaccines.
3. Stop the device by pressing and holding the “Start & Stop” button for 5 seconds until an octagon appears.
4. Some deliveries come with multiple boxes; remove and stop all TagAlert® devices.
5. If the TagAlert® screen displays a black octagon and an arrow pointing to the green **✓**, the vaccines are safe to use. Notify the vaccine coordinator immediately of the delivery and ensure all vaccines are placed in the vaccine refrigerator.
6. If the TagAlert® screen displays a black octagon and an arrow points to a red **X**, the TagAlert® has alarmed. Notify the vaccine coordinator immediately and ensure they follow the instructions on the enclosed form and submit to Onelink.
7. If a breach has occurred, isolate the vaccines in the vaccine refrigerator (add sign **‘DO NOT USE OR DISCARD VACCINES’**) until advice is received from the department.

# 6. Use of portable coolers

**Portable coolers are used for mobile clinics and for back-up in the event of a loss of power.**

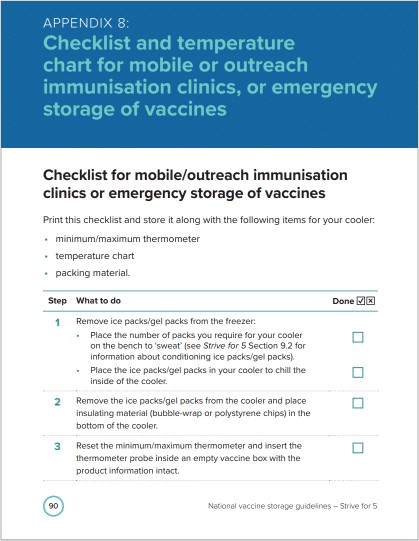
Condition ice/gel packs and prepare portable coolers according to [Chapter 9 of the ‘Strive for 5’ guidelines](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en).

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| 1. Place ice/gel packs inside the cooler. | Ice packs being placed into a hard-sided cooler. |
| 1. Cover with insulating material. | Insulating material lying at the bottom of a hard-sided cooler. |
| 1. Place the vaccines in the cooler. | Boxes of vaccine inside a hard-sided cooler. |
| 1. Place minimum/maximum thermometer in the centre of the vaccines, cover vaccines with insulating material and more ice/gel packs. Close the cooler lid and attach the battery-operated minimum/maximum thermometer to the outside of the cooler.   *Image source:* [*National vaccine storage guidelines - 'Strive for 5'*](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en) | Thermometer placed among boxes of vaccine inside a hard-sided cooler. |

**Monitor and record the temperature:**

* every 15 minutes for the first 2 hours
* then at least hourly (provided that temperatures are stable).
* the thermometer should be **reset after each reading for accuracy**.

**Download and print out** [**Appendix 8:** **Checklist and temperature chart**](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5-appendix-8-checklist-mobile-and-emergency-storage?language=en), from the ['Strive for 5' Guidelines](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en), for mobile or outreach immunisation clinics, or emergency storage of vaccines.



*Image:* [*National vaccine storage guidelines - 'Strive for 5*](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en)

# 7. Vaccine monitoring – end of the day

At the end of your shift, you **must**:

1. Check and record the current, minimum, and maximum vaccine refrigerator temperatures on your vaccine temperature chart.
2. Ensure temperatures have been within +2°C to +8°C range since last recordings.
3. Reset your vaccine refrigerator thermometer.
4. Ensure the vaccine refrigerator door is closed securely.
5. Check the vaccine refrigerator plug is connected to the power source, and a there is a warning sign not to remove the plug.
6. If vaccine refrigerator temperature recordings are outside the +2°C to +8°C range, follow the department's [cold chain breach procedure](https://www.health.vic.gov.au/immunisation/cold-chain-breach-reporting).

# 8. Vaccine monitoring – loss of power

**An interruption to power supply may be sudden and unavoidable,** due to power failure or mechanical failure of the vaccine refrigerator. Vaccine coordinators must have a back-up plan including an alternative storage arrangement to maintain cold chain storage of vaccines. This may involve a back-up power supply (such as a generator or battery), use of an alternative purpose-built vaccine refrigerators or portable coolers.

Clinics should **have the following checklists accessible** to guide actions in the event of a power loss.

**Download, review the following resources.**

* [‘Strive for 5’ Appendix 9 - Checklist for managing a power failure](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5-appendix-9-checklist-for-managing-a-power-failure)
* [‘Strive for 5’ Appendix 8 - Checklist: Mobile and emergency storage](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5-appendix-8-checklist-mobile-and-emergency-storage)

All actions involving vaccine management during power outages **must** be instructed by the vaccine coordinator.

## When the power goes off

#### Initial steps

* **immediately** notify the vaccine coordinator
* confirm the vaccine refrigerator electrical plug is connected
* place a sign on the door of the vaccine refrigerator **‘Power out - Do not use vaccines. Keep refrigerator door closed’**
* place a battery-operated digital minimum/maximum thermometer temperature probe into a vaccine box in the middle of the vaccine refrigerator (place close to data logger)
* place the external display of the minimum/maximum thermometer on the outside of the vaccine refrigerator to limit the need to open the door
* leave the vaccines in the vaccine refrigerator and ensure the door is closed securely
* closely monitor the vaccine refrigerator temperature arrange urgent service if there is mechanical failure.

#### Plan ahead

* identify an alternative purpose-built vaccine refrigerator or portable cooler
* begin to condition icepacks/gel packs for your portable cooler to prevent freezing of vaccines
* place a minimum/maximum thermometer into the portable cooler to monitor temperature
* follow [‘Strive for 5’ Appendix 9 - Checklist for managing a power failure](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en).

#### Vaccine temperature outside +2°C to +8°C range

1. the vaccine coordinator **must** move vaccines to an alternative purpose- built vaccine refrigerator or prepared cooler
2. refer to [Strive for 5 Appendix 8 - Checklist: Mobile and emergency storage](https://www.health.gov.au/resources/publications/national-vaccine-storage-guidelines-strive-for-5?language=en)
3. move the portable data logger into the cooler (if possible)
4. record the cooler temperature (current, minimum, and maximum) **every 15 minutes for the first 2 hours**, **then at least hourly** (provided the temperatures are stable)
5. do not open the cooler until vaccines can be transferred to a purpose-built vaccine refrigerator
6. consider another health service site such as a pharmacy or hospital if power will be out for greater than 24 hours.

Vaccines should **never** be transferred to another vaccine refrigerator or cooler without a minimum/maximum thermometer or data logger to monitor the temperature.

## When the power is returned

**Next steps**

* record the vaccine refrigerator temperature and reset the minimum/maximum thermometer
* ensure that the vaccine refrigerator temperature has returned to between +2°C and +8°C before returning vaccines
* download data from the portable data logger (if used)
* if the data shows temperatures outside the +2°C to +8°C range, isolate and clearly mark vaccines **‘DO NOT USE OR DISCARD VACCINES'** and keep vaccines refrigerated between +2°C and +8°C
* follow the cold chain breach reporting procedure where indicated
* clinical staff must not use or discard any vaccines until the cold chain breach has been assessed and advice received from the department
* monitor the vaccine refrigerator closely (e.g. hourly) to ensure that the temperature is consistently stable, then return to twice-daily monitoring.

# 9. Annual cold chain activities

All Victorian government funded vaccine account holders are required to nominate a vaccine coordinator to oversee vaccine management in each facility and appoint a back-up person to act in the key person’s absence.

Vaccine coordinators must ensure there are written policies and procedures for vaccine management and to record equipment maintenance, vaccine transport and staff education.

These should be reviewed **at least every 12 months**.

## Equipment maintenance checklist

1. Check the due date for your vaccine refrigerator service and book an appointment.
2. If a back-up generator is used, book a service.
3. Ensure the vaccine refrigerator is placed away from direct sunlight and heat.
4. Elevate the front footings to tilt the vaccine refrigerator back and help doors to shut.
5. Place a sign above the refrigerator power point that reads ‘Vaccine refrigerator – do not turn off or disconnect.’
6. Display contact details for the refrigerator/generator servicing for easy access.
7. Check supply of portable coolers and ice/gel packs for power outages or mobile clinics.
8. Replace batteries in the portable data logger & recalibrate (see manufacturer’s instructions).
9. Replace batteries in the minimum/maximum thermometers.
10. Check accuracy of the minimum/maximum thermometers by using a ‘slush test.’

## Performing a slush test

A slush test checks the accuracy of a minimum/maximum thermometer. To start, collect a polystyrene or plastic cup and two-thirds fill with cold water.

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| 1. Place the cup in the vaccine refrigerator freezer until a fine layer of ice forms on the top and small sections of ice form within the fluid (this may take up to 2½ hours). | White cup containing water and ice. |
| 1. Place the temperature probe into the middle of the container (be careful not to let the probe touch the container). | White cup containing water and ice, with a temperature probe submerged. |
| 1. Observe the temperature on the display screen after 2 minutes. | White cup containing water and ice, with a temperature probe submerged and connected to a digital thermometer displaying 0°C. |
| 1. Document the date of the Slush test. | *Image source: NSW Health* |

The thermometer must be accurate to ±1°C or better. If the temperature reading is more than 1°C above or below 0°C at 2 minutes, replace the battery (and record the date the battery was changed) and test again. If the temperature reading is still not within range, replace the thermometer.

A check of the accuracy of your minimum/maximum thermometer is recommended after the battery is changed (indicated when display is flashing or dull), at least every 12 months, for auditing purposes and if there are cold chain problems.

## Review cold chain protocols

An effective vaccine management protocol will ensure safe management of vaccines before an emergency occurs. Vaccine coordinators must ensure that the following are included in the health service's protocol:

* a trained, designated person (and back-up person) is responsible for vaccine storage and cold chain protocol
* all staff are trained to manage vaccine delivery requirements, storage, and cold chain processes
* contact details for reporting cold chain breaches, equipment issues or power failures
* back-up vaccine storage options are documented and tested
* orientation for all new staff includes the vaccine management protocol.

Refer to [‘Strive for 5’ Appendix 1 - Vaccine management protocol](https://www.health.gov.au/resources/collections/national-vaccine-storage-guidelines-resource-collection) for help with writing or reviewing your vaccine management protocol.

## Complete a vaccine storage self-audit

Routine self-auditing helps to ensure that your health service is administering potent vaccines. All government funded vaccine account holders must:

1. complete a vaccine self-audit at least once every 12 months, and more frequently if there have been problems with equipment or
2. cold chain breaches to continue to receive government funded vaccines
3. read [‘Strive for 5’ Appendix 2 - Vaccine storage self-audit requirements](https://www.health.gov.au/resources/collections/national-vaccine-storage-guidelines-resource-collection)
4. store documentation for your reference or auditing by the department.

## Update staff knowledge

**Vaccine coordinators must ensure:**

1. all staff understand cold chain procedures and can access the ‘Strive for 5’ guidelines
2. new staff are educated about cold chain protocols
3. all staff can identify the vaccine coordinator and the back-up person responsibility for vaccine delivery and cold chain management
4. responsibility for cold chain management is defined in the relevant staff member’s position description.

**Vaccine coordinators should:**

* be familiar with the [National Vaccine Storage Guidelines ‘Strive for 5’ resource collection](https://www.health.gov.au/resources/collections/national-vaccine-storage-guidelines-resource-collection) web page
* regularly review of the department’s Cold chain management web page for any updates
* subscribe to the department’s [Heat health warnings](https://www.health.vic.gov.au/subscribe) <https://www.health.vic.gov.au/subscribe>.

# 10. Requirements for immunisation services

Cold chain is critical to maintain potency of vaccines.

**Providers must adhere to the National Vaccine Storage Guidelines ‘Strive for 5’.**

Ensure your health service has current, documented vaccine cold chain policies and procedures for the following:

* cold chain monitoring and breach processes
* delivery and receipt of vaccines
* a plan for loss of power
* staff orientation and training
* equipment maintenance.

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