

The cold chain

**If we don't protect our vaccines
they won't protect our
community!**

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Cold Chain



Health
Population
Health

Storage



- Vaccines must be stored in a purpose built vaccines fridge
 - Fridge must be serviced every 12 months.
- All vaccines to be stored in original packaging (light sensitive)
- No vaccines to be stored on the bottom shelf – need to be raised
- No vaccines to be touching the sides
- Do not crowd your fridge
- Recommended to use open weave baskets

Why do we keep talking about vaccine storage?



Usually we get it right!

However, sometimes we get it wrong!



Monitoring equipment



Data logger:

- 5 minute recording intervals, run continuously
- Downloaded and CHECK data weekly
- Don't keep this information and location a secret, save it to a shared drive that all staff can access in your absence
- serviced/calibrate/check accuracy every 12 mths.

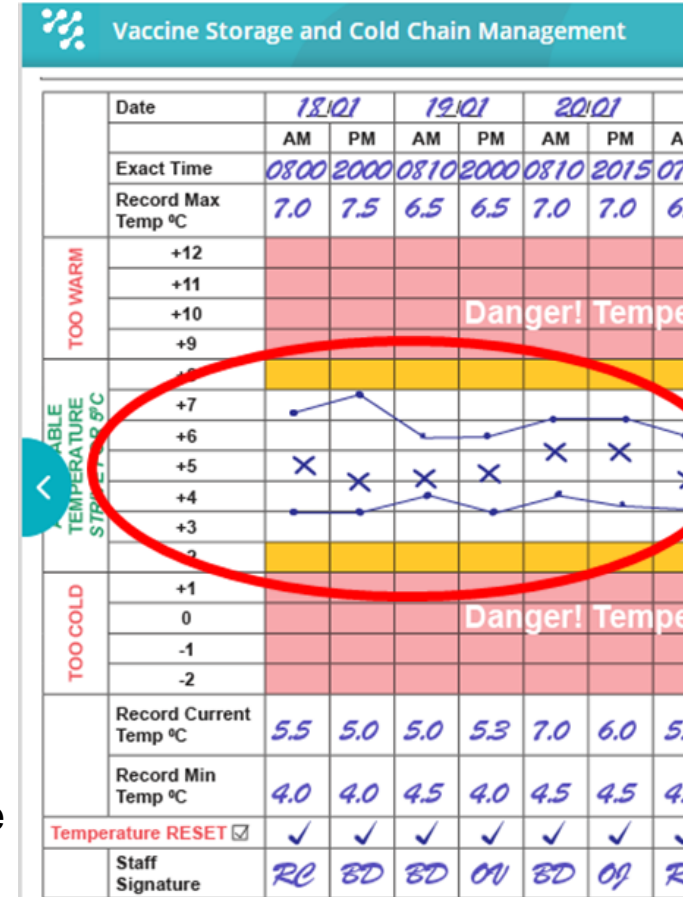


Alarm Status	Recorder Info
Lower <input checked="" type="checkbox"/> OK	Serial #: 1020024814 Model: TREX-8
Upper <input checked="" type="checkbox"/> OK	User ID: Vaccine Fridge March 2021
Recorder Configuration	
Start type: Push button start	
Start delay: None	
Interval: 5 Minutes	
Alert indicator: Enabled lower & upper	
OK indicator: Enabled	



Min Max thermometer:

- You **must have** a battery operated min/max for each vaccine fridge and alternate cold storage. (eskiies)
- **This is in addition to the built in min/max thermometer on your fridge**
- Current, minimum and maximum temperatures must be recorded and plotted twice daily
- battery must be changed when low or every 12 months



What else do you need?



Stickers

On your fridge, power point and meter box – get them from the Commonwealth website



<https://www.health.gov.au/resources/collections/national-vaccine-storage-guidelines-resource-collection>

In this collection

[Collection description](#)

[Guidelines](#)

[Posters](#)

[Stickers](#)

[Appendices](#)

Ice slurry test



- Leave the Min/Max probe in the Ice Slurry until it reaches 0°C (or -1°/+1°C)
- If 0°C is not achieved, replace battery again and repeat Ice Slurry test.
- If this then fails to reach 0°C - replace Min/Max Thermometer



Record the date of when Battery changed and ice slurry performed on the Min/Max thermometer.

Regular maintenance

- Refrigerator
- Logger
- Min/max thermometer

This includes checking the accuracy of all equipment every 12 months

Annual vaccine storage self-audit



APPENDIX 2: Vaccine storage self-audit

Immunisation service providers are required to use this checklist to carry out a self-audit at least once every 12 months, and more frequently if there have been problems with equipment or cold chain breaches. Documentation should be stored for future reference.

Print this checklist and use it as required.

Self-auditing is important because:

- it is part of routine quality assurance and risk management processes
- it enables staff to have confidence that they are providing a safe and effective vaccine.

Print or photocopy this page and keep it as a record of an audit.

Nominated person responsible for vaccine management	
Nominated back-up person for vaccine management	
Make and model of refrigerator	
Date of self-audit	
Person conducting audit	

National vaccine storage guidelines – Strive for 5

In addition for
HNELHD
facilities - annual
QARS audit



Procedures

Checklist for safe vaccine handling and storage

- Have all staff received orientation and/or an annual update on vaccine management?
- Have vaccine management policies been reviewed in the past 12 months to ensure that procedures are up to date?

Date of last revision

- Is graph/logbook/chart for temperature recording readily available?
- Is the temperature of the vaccine refrigerator recorded twice a day when the facility is open?
- Are the contact numbers to report a cold chain breach easily accessible?
- Were all deviations outside the +2°C to +8°C range reported to the appropriate state or territory health department?
- Have the responses to all deviations outside the +2°C to +8°C range been documented and recommended actions taken?

Equipment

Vaccine refrigerator

- Has the refrigerator shown evidence of malfunction (eg poor seals so that the door opens too easily)?
- Is there an appropriate gap between the vaccines and the walls of the refrigerator?
- Can the refrigerator continue to store the required volume of vaccines safely according to these guidelines? (This includes times of increased demand such as the influenza program.) If 'No', what action is being taken?

Date refrigerator was last serviced

- If the refrigerator has a solid door, is a map or guide to where vaccines are stored located on the outside of the door?
- Does the power outlet have a sign 'Do not turn off or disconnect this refrigerator'?

Monitoring equipment

Date the minimum/maximum thermometer(s) was purchased

Date the battery for the minimum/maximum thermometer(s) was last changed

Date and results of thermometer accuracy check at 0°C
See Strive for 5 Section 4.4 'How to check the accuracy of a thermometer ('slush test')'

- Is the minimum/maximum thermometer temperature probe(s) placed correctly?

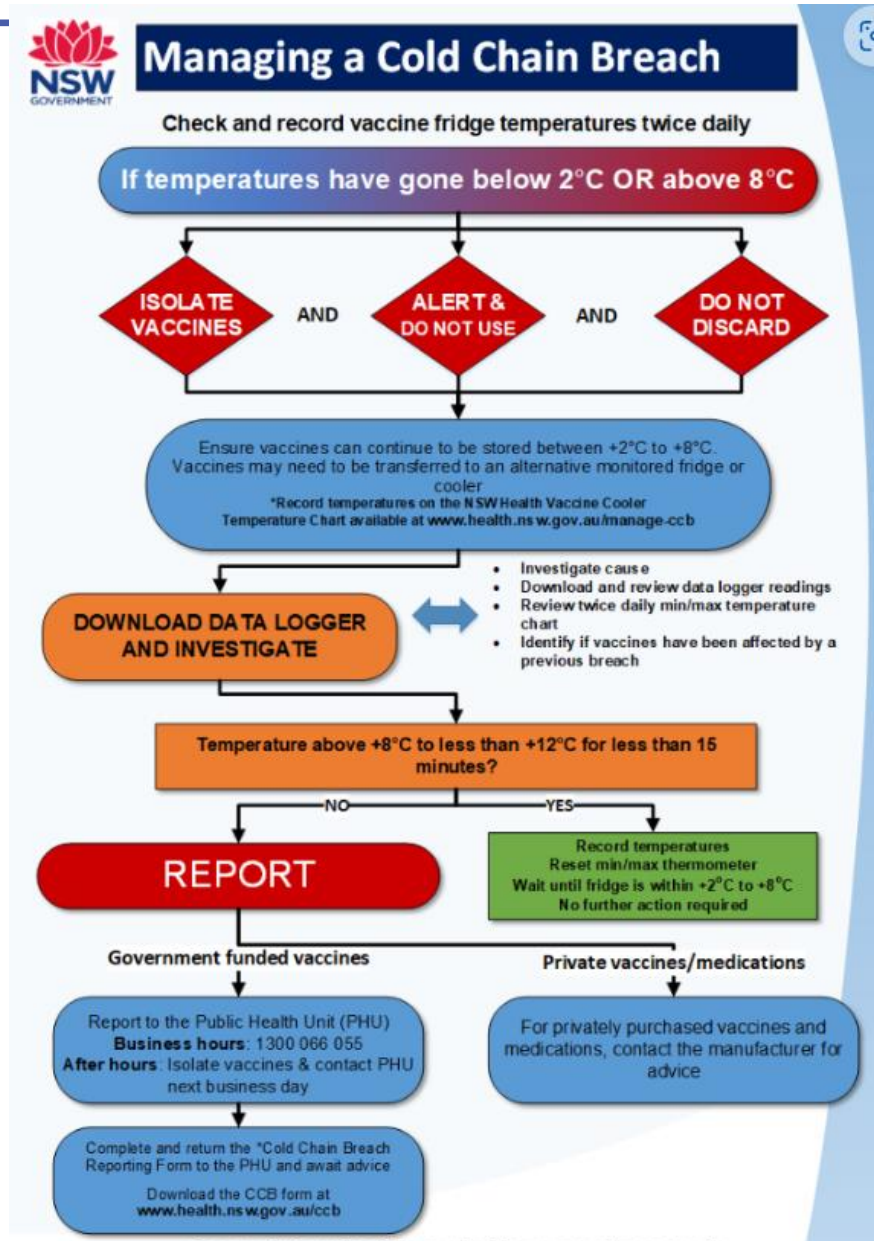
Date the data logger(s) battery was last changed

Date data logger(s) was last serviced

Alternative vaccine storage

- Is there a readily accessible written procedure for what to do during a power failure?
- Is enough alternative storage (eg cooler, other monitored refrigerator) available for vaccine storage, if necessary (eg vaccine refrigerator breakdown or power failure)?
- Are ice packs/gel packs at the correct temperature available?
- Is there one minimum/maximum thermometer for each cooler?
- Is there enough insulating material for each cooler?

Reporting a cold chain breach



How to complete the cold breach and wastage report form



Go to HNELHD website

https://www.hnehealth.nsw.gov.au/our_services2/population-health/immunisation

- Fill this form in online so it can be emailed back to the team
- Complete section 1 and 2 carefully and include reason for the breach. Note if this is their first excursion or breach

COLD CHAIN BREACH AND VACCINE WASTAGE REPORTING FORM

Sections marked with an * are mandatory



*SECTION 1: IMMUNISATION PROVIDER DETAILS	
Facility Name	Vaccine Account Number
Address	Phone
Number of GPs in the practice	Person Reporting the breach
Email	

*SECTION 2: DETAILS OF COLD CHAIN BREACH	
1. Type of refrigerator	<input type="checkbox"/> Purpose Built Vaccine Specific Refrigerator <input type="checkbox"/> Domestic refrigerator
2. Date of breach	
3. Date breach identified	
4. Reason for breach	



Only complete section 3 if it was a fridge malfunction or the reason from breach is unknown

- Section 4 vaccine details take your time and note the explanation at the top.
- Total number of doses exposed to first breach
- In brackets – (total number of doses exposed to second breach)

*SECTION 4: VACCINE DETAILS			
Count and enter the <u>exact number</u> of doses of each vaccine cold chain breach.			
Vaccines exposed to a second breach should			
Total number of doses exposed to first breach (total number of doses exposed to second breach)			
Vaccine	*Doses	PHU advice	Vaccine
MMRII	5 (5)	Retain 5 (Discard 5)	Infanrix

Vaccine	*Doses	PHU advice	Vaccine
Act-HIB	5 (9)	Select <input type="button" value="v"/>	MMR II
Adacel	7	Select <input type="button" value="v"/>	Neis-V
Afluria Quad		Select <input type="button" value="v"/>	*Nimer (Provide batch expiry date)
Bexsero		Select <input type="button" value="v"/>	Pneum
Boostrix	12 (10)	Select <input type="button" value="v"/>	Preven
Engerix B (adult)		Select <input type="button" value="v"/>	Priorix
Engerix B (paed)	5	Select <input type="button" value="v"/>	Priorix
Fluad Quad	15 (12)	Select <input type="button" value="v"/>	Proqua
Fluarix Tetra		Select <input type="button" value="v"/>	Quadra

Reporting form continued



- Attach the required documents listed on the last page

Attachments required

All providers are required to provide the following items on the checklist

- Data logging for the duration of the cold chain breach (graph and temp log required)
- Vaccine refrigerator twice daily min/max temperature chart
- Min/max temperature chart used during transfer of vaccines e.g. esky (if applicable)
- Last refrigerator service report (required if there has been a fridge malfunction)
- Certificates of completion of all staff that have completed the NSW Health Vaccine Storage and Cold Chain Management online training module

Under the final section 'Public Health Unit Only', the PHU staff will add information on what vaccines can be retained and labelled and which vaccines need to be discarded and other actions required.

This section is the PHU report to NSW Health.

Public Health Unit Use Only

PHU Contact person:

Reason for cold chain breach:

- Refrigerator malfunction
- Power outage
 - planned
 - unplanned
- Storm
- Human error
- Unknown/other
- Flood
- Fire

Action(s) taken:

Vaccines quarantined: Yes No

Fridge service requested: Yes No

Service report received: Yes No

HETI module recommended: Yes No

Certificates received: Yes No

Stop placed on vaccine account: Yes - Date: No

Comments:

Take home to do list – Report cold chain excursions



Vaccines are special and need special care

Cold chain management is everyone's responsibility –
“probably stored ok” is not good enough

- Ensure vaccines are checked and put in the fridge when they arrive
- Ensure you have a battery operated min/max thermometers
- **Ensure your fridge is serviced every 12 months**
- Ensure your data logger is set for 5 minute recording and multiple staff know how to down load the logger AND to attach to an email
- Ensure no vaccines are stored on the floor of your fridge and always in their original packaging
- **COMPLETE YOUR ANNUAL STRIVE FOR 5 SELF AUDIT**

Our wonderful website, make it a favourite!



<https://www.hnehealth.nsw.gov.au>



Immunisation

Questions?

