Appendix 5.4 -
Guidance for Vaccine Response Plan in the Event of Power Failure

Health care practitioners who store and administer publicly funded vaccine are expected to ensure the cold chain is maintained. See New Brunswick Immunization Program Guide Policy 2.8. All health care practitioners who are receiving influenza vaccines will be required to have a temperature-monitored purpose- built vaccine refrigerator in place by September 2022.

The National Vaccine Storage and Handling Guidelines for Immunization Providers 2015 - Canada.ca provide the requirements for equipment required to store and transport vaccines including pupose built vaccine fridges or pharmaceutical fridges, vaccine coolers, and temperature monitoring devices.

GNB has been purchasing pharmaceutical refrigerators and or fridge freezer combos since 2005 with temperature monitoring data logger systems with alarms since 2005. Most are made by Panasonic / PHCBI (MPR-N450FH | Pharmaceutical Refrigerator with Freezer | PHCBI (phchd.com) and ESBE Scientific seem to be the sole distributor in Canada.

At the Regional Health Authority level, Physical Resources has been involved with Regional Public Health to set up vaccine fridges with data loggers and back up power supplies. They may be a valuable contact.

Sites storing publicly funded vaccine should have an operational plan in place in the event of a power failure.

Power outages or failures may result in an adverse storage condition when there is no generator or back up power. Vaccine cannot remain in the fridge. Vaccine should be packed in an insulated cooler as per National Storage and Handling Guidelines to maintain temperature between 2 and 8 degrees Celsius.

A plan should be in place to store vaccine at an alternate site such as a pharmacy or hospital with back up power if the power will remain out for more than a few hours. Vaccines placed in a cooler must be monitored at all times.

Appropriate packing materials to temporarily store vaccine and/or transport vaccine may include the following:

- Insulated containers
    - Use properly insulated containers to store/ transport the vaccine. These containers should be qualified, as per storage and handling guidelines, to ensure that they can maintain the vaccine at the correct temperature. Styrofoam coolers can be used, like the ones you receive vaccine/medications in. Thin-walled recreational-use Styrofoam coolers, such as those purchased to hold beverages, are not acceptable.
- Refrigerated packs
- Frozen packs (may be gel or ice)
    - ensure there are icepacks and gel packs ready in case of emergency

- Insulating barrier materials or materials used as barriers between the vaccine and refrigerated/frozen packs and as filler
- Digital or min/max thermometer

Vaccine Coolers, Transportation and Shipping containers

Examples of temperature monitoring devices

Min/Max Thermometers:

- https://ca.vwr.com/store/catalog/product.jsp?catalog_number=61161-364
- https://ca.vwr.com/store/product/en/4590446/vwr-traceable-refrigerator-freezer-plus-thermometers

Temp Tales:

- Temperature Monitors | Sensitech

Contact person for the Vaccine Transport Coolers:

Jason Netherton
Marsys Inc.
Fax: 705-684-8933
Jason direct: 647-284-7542
www.marsysinc.com

Venessa Marsala
Cryopak Industries (2007) ULC
vmarsala@cryopak.com
Tel: 514-324-4720 ex 300 / Fax:514-324-9623
FEPS00709
FEPS00816
www.cryopak.com

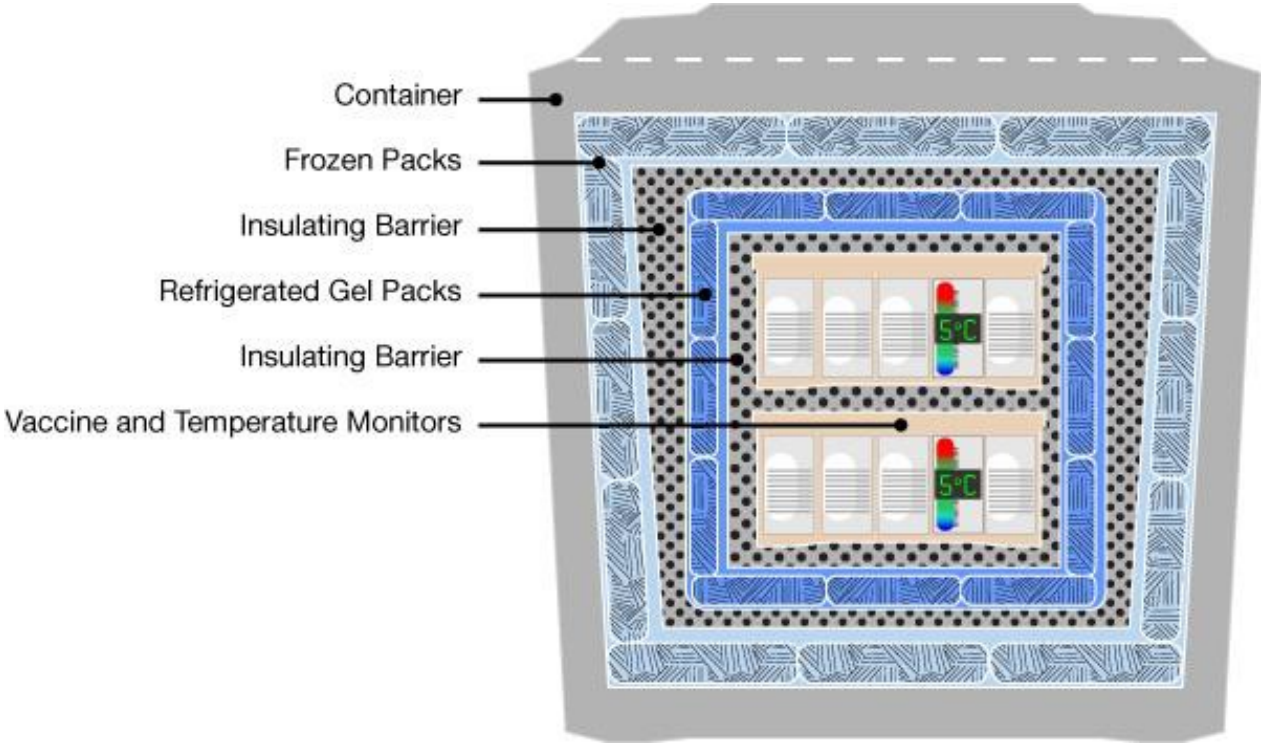
Steps for packing a vaccine cooler

Open the refrigerator and/or freezer doors only when necessary and only after all preparations for packing the vaccine to the alternative storage. (see Figure 1)

1. Place frozen packs on bottom of the cooler
2. Next place Insulating barrier / paper packaging (Vaccine should not be placed directly adjacent to frozen packs)
3. Then the refrigerated packs next
4. Finally place the vaccine stored upright and secure.
5. Place a digital or min/max thermometer next to the vaccine.

Document the steps taken and temperature throughout the power outage incident. If a temperature excursion occurs, contact the manufacturer with specific detailed information. The manufacturer will provide information to help determine if vaccine is suitable for use based on the specific time and temperature information provided.

Figure 1 Packing Shipping Containers



When packing vaccines for storage and/or transportation, a number of factors need to be considered: ambient temperature; distance and time in transit; mode of transportation; and amount of vaccine being packaged. It is essential that vaccines be transported in appropriate containers that are packed so that they are protected from temperature and light excursions.

Consider the following when selecting and packing containers:

1. Vaccine should be monitored at all times.
2. Minimize the number of times vaccine is handled and/or transported.
3. Protect the cold chain at all times, no matter how brief the period "out of refrigeration."
4. Transport vaccines in insulated containers large enough to hold vaccine, ice/gel packs, insulating material and temperature monitors.
5. Use temperature monitored containers.
6. Use appropriate freezer and gel packs. DO NOT use loose ice or snow.
7. Use signage on the outside of the container to indicate that it contains "vaccine requiring controlled temperatures."
8. Use sturdy coolers that have a minimum insulation thickness of 30 mm to 80 mm. The cooler may be either soft or hard sided, but it must be strong and durable.
9. DO NOT place vaccines in the trunk of a vehicle.
10. Protect transport containers from direct sunlight.
11. Protect transport containers from vehicle air vents.
12. Protect vaccine from sunlight and fluorescent light.
13. Do not leave vaccines in an unattended vehicle.

For further details please reference:

- National Vaccine Storage and Handling Guidelines for Immunization Providers 2015 - Canada.ca
- New Brunswick COVID-19 Vaccine Clinic Guide for Immunizers
- New Brunswick Immunization Program Guide-standard3-4-e.pdf (gnb.ca)
- Seasonal Influenza Vaccine Information for Immunization Providers