Immunization Program
Vaccine Management Plan

Post all pages of this plan on the outside of all vaccine refrigerators and freezers. The Non-Office Hours contact must have 24-hour access to vaccines. To stay viable and effective, vaccines must stay within a certain temperature range. If your storage units cannot maintain in range temperatures for any reason, it's important to have a plan to protect the vaccines. If your vaccine storage unit is out of range, contact your site's emergency contacts, listed below and refer to page 2 and 3 for next steps.

Site Information

Facility Name	*Immunization Program Pin*	*Date Completed*
Address		*Suite Number*
City	*State*	*Zip*

Staff Contact Information

Title	Name	Cell #
Vaccine Coordinator		
Backup Coordinator		
Site Medical Director		
Non-Office Hours Contact		

Back-up Storage Information

One of these back-up storage locations should be available 24 hours a day! For guidance on identifying appropriate back-up locations see page 2.

Back-up Storage Location #1		
Contact Person	*Phone Number*	*Facility*
Address		

Back-up Storage Location #2		
Contact Person	*Phone Number*	*Facility*
Address		

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Department of Public Health
Immunization Program
CITY OF PHILADELPHIA

Non-routine Vaccine Access

Non-routine vaccines include, but are not limited to:

- Respiratory syncytial virus (RSV) maternal vaccine
- Mpox vaccine
- Pneumococcal polysaccharide (PPSV23) vaccine
- Meningococcal serogroup B (MenB) vaccine
- COVID-19 vaccine

Stocking non-routine, VFC-covered vaccines (including the COVID-19 vaccine) at all times may not be a viable option for VFC Providers.

How will your site ensure access to COVID-19 and other non-routine vaccines?

- ☐ Maintain a limited amount of stock.
- ☐ Order non-routine vaccines as needed.
- ☐ Request small doses from the Immunization Program.

Other

Online Vaccine Management Plan

Scan the QR code to view the interactive version of this document with links to more resources.

Or visit **vaccines.phila.gov** and search "Vaccine Management Plan".

Table of Contents

The Vaccine Management Plan includes guidance on storage and handling, responding to emergencies, the roles and responsibilities of vaccine coordinators and inventory and order management based off CDC requirements. All publicly funded vaccines (Vaccines for Children (VFC), Vaccines for Adults at Risk (VFAAR) and COVID vaccine) must be managed according to these guidelines.

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Before an Emergency, Be Prepared!

- Print out this document so that you can consult it even if the power is out.
- Maintain emergency contact information for key staff responsible for vaccine management. Identify an emergency contact who has 24-hr access to the vaccine.
- Store water bottles in fridge and freezer to help maintain the interior temperature, and to use in an emergency. Some refrigerators, particularly pharmaceutical-grade units, may have specific guidance about using water bottles. Check the manufacturer's guidance for your unit.
- Identify two back-up vaccine storage locations, like a local hospital, or another Immunization Program medical provider.
  - One of the back-up locations must be off-site from your location.
  - This location cannot be a personal house or have the same address as your clinic location.
  - Ensure the location has enough space to accommodate vaccines and that their temperature monitoring equipment meets Immunization Program requirements.
  - Keep the contact information for the back-up locations up to date. Include the facility name, address, contact person, and telephone number.
- Stock the supplies mentioned in the **attached CDC document**, "Packing Vaccines for Transport during Emergencies." Make sure you have enough materials to transport all your vaccines. Store any other important information with these supplies.
- Be familiar with the back-up power sources in place at your site.

During an Emergency

- **Do not** manipulate the digital data logger (DDL) sensor probe. Cooling or warming the probe does not accurately reflect the temperature of the vaccines. Manipulating the probe can lead to the administration of non-viable vaccine to patients.
- Notify **TempCheck@phila.gov** (215-685-6777) if there is an out of range temperature or you need to transport the vaccines.
- Move your DDL with the vaccine.
- Keep a record of all actions you take.

Different types of emergencies warrant different responses. Please find the section below that aligns with your situation and follow the listed procedures.

If the power is on at the site, but the unit is out of range

- **Do not adjust the thermostat.**
- Check if the source of the temperature excursion can be easily resolved (e.g. a door left open, or a unit unplugged).
- To get temperatures back in range:
  - Place a "DO NOT OPEN" sign on storage unit(s) to conserve cold air.
  - Monitor the unit temperature for an hour.
- If temperatures have not stabilized in one hour, move the vaccines to a back-up unit and contact TempCheck.

If it's a short-term power outage

- If the power outage is expected to be short-term (restored within 2 hours):
  - Record the time the outage started, the unit temperatures (CURRENT, MIN and MAX) and room temperature.
  - Place a "DO NOT OPEN" sign on storage unit(s) to conserve cold air.
  - Monitor the interior temperature until power is restored. **Do not adjust the thermostat or open the unit to verify the temperature.**

If it's a long-term power outage

- Prepare to move vaccines to one of your back-up storage locations if:
  - You have a power outage that is not over in 2 hours, or
  - If the office will close before the power is restored, or
  - The temperature of your vaccine storage units is rising and may reach out-of-range temperatures
- Before transporting vaccines:
  - Review page 11 of this document for contact information.
  - Contact the back-up storage location to verify they can accept the vaccines.
  - Notify **TempCheck@phila.gov** (215-685-6777).
- If it's not feasible to move the vaccines (e.g., the back-up location isn't available, or if it's not safe to travel):
  - Keep units closed and document the temperatures (CURRENT, MIN, MAX) on your paper temperature logs.
  - Notify **TempCheck@phila.gov** (215-685-6777).

Packaging and transporting vaccine

- Notify the key staff listed on the first page of this plan.
- Pack the vaccine with a digital data logger (DDL) in a purpose built cooler or according to the *Emergency Refrigerated Vaccine Transport Guide* on page 14 and the *Emergency Frozen Vaccine Transport Guide* on page 16.
- Do not use frozen cold packs or dry ice: placing vaccine directly on frozen packs may damage vaccines.
- Where ever the vaccine is stored, it must be monitored by a DDL.
- Transport the diluent the same way that you store it normally:
  - MMR, Varicella, and MMRV diluent can be stored at room temperature or in the refrigerator.
  - Diluents stored in the refrigerator should be transported with refrigerated vaccines.
  - Diluents stored at room temperature should be transported at room temperature.
  - Diluents packaged with their vaccine should be transported with the vaccine.
- Upon arrival at the back-up location, document total vaccine transport time, the temperatures (CURRENT, MIN, and MAX) in the transport cooler(s) and the back-up storage unit(s).
  - Monitor temperatures twice a day and document them on the paper temperature log.

After an Emergency: Getting Back on Track

- Continue to use vaccines that have stayed in the proper temperature range.
- For any vaccine that experiences out-of-range temperatures:
  - Segregate it in the storage unit.
  - Mark it "DO NOT USE."
- Contact **TempCheck@phila.gov** (215-685-6777) to provide time frames and temperature information.
- If you transported vaccine to a back-up location, contact **TempCheck@phila.gov** (215-685-6777) to plan to get the vaccine back on site

Never return vaccine to the vaccine distributor without Immunization Program authorization.

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Vaccine Management Personnel

This section highlights key duties of vaccine management staff. However, all personnel working with vaccines should be familiar with Immunization Program requirements and guidelines.

Provider of record (aka the Chief Medical Officer (CMO) or Medical Director)

- Comply with all federal vaccine management requirements, including this plan.
- Designate one employee as the practice's Vaccine Coordinator, responsible for vaccine management.
- Designate one employee as the Back-up Vaccine Coordinator responsible for vaccine management when the primary Vaccine Coordinator is not available.
- **Report staffing changes** regarding the Vaccine Coordinator, Back-up Vaccine Coordinator, and Provider of Record to the Immunization Program.
- **Meet and document required orientation and annual training** for vaccine management personnel.
- Ensure that vaccine management personnel know Immunization Program requirements for temperature monitoring and storage equipment.
- Ensure that vaccine inventory management is consistent with Immunization Program requirements.
- Ensure that the practice's vaccine storage units meet Immunization Program requirements.
- Update and revise vaccine management plans at least annually and when necessary.
- Review Immunization Program requirements and plans with staff at least annually and when necessary.
- Ensure monthly vaccine reporting to **PhilaVax IIS** (Immunization Information System).

Vaccine Coordinators

- Complete required Immunization Program training sessions.
- Meet responsibilities described in the **Vaccine Coordinator job aid**.
- Oversee the practice's vaccine management during routine and emergency situations.
- Monitor vaccine storage units.
- Maintain Immunization Program-related documentation in an accessible location.
- Notify the Immunization Program if your **address changes** or your site closes permanently.

Vaccine Storage and Handling Units

Refrigerators, Freezers, and Ultra-low units

Your practice should have storage units that:

- Are Immunization Program compliant and maintain recommended temperature ranges:
  - Refrigerator: between 36°F - 46°F (2°C - 8°C)
  - Freezer: 5°F (-15°C) or below
  - Ultra-low freezer: -76°F and -130°F (-90°C and -60°C)
- Are big enough to store your site's entire vaccine supply, including peak back-to-school and flu seasons.
- Have proper seals on the doors.
- Are monitored by an Immunization Program-compliant thermometer (see page 6).

Keep maintenance records on file, so that Immunization Program staff can review them upon request. Routinely clean the inside of the storage unit and keep the outside dust-free.

Power Supply

- Plug each unit directly into a wall outlet that is not controlled by a light switch, power strip, or surge protector with an on/off switch. Never use an extension cord, or ground-fault circuit interrupter (GFCI) outlet (i.e. an outlet with a reset button).
- Post "DO NOT UNPLUG" signs on the unit, each outlet, and at the circuit breaker. **Order free stickers!**
- Consider using plug guards to prevent power interruption.

Set-up

- Keep units away from direct sunlight and away from walls to allow for air circulation.
- Remove drawers and other bins. Do not store vaccine in the door, drawers, or bins.
- Clearly label Immunization Program and private vaccine storage areas and shelves.
- Organize vaccine in plastic mesh baskets. Clearly label them by type of vaccine. Group vaccines by pediatric, adolescent, and adult types.
- Place the glycol-encased thermometer probe in the center of the unit, near the vaccines.
- Attach the thermometer's display to the outside of the storage unit.

Storage

- Store vaccines in their original packaging until administered. Keep vaccine supply 2-3 inches away from the walls, air vents, and floor of the storage unit to allow space for air circulation.
- Do not tear off the tops of boxes. Some vaccines are sensitive to light.
- Store water bottles in fridge and freezer to maintain temperature and to use in an emergency. Some refrigerator units, particularly pharmaceutical-grade units, may have guidance about using water bottles. Check the manufacturer's guidance for your unit.
- Do not store food, drinks, or laboratory specimens in the units at any time.
- When medications or biologic media (not inoculated) are stored in the unit, place them on the shelves below vaccines.
- When diluent is packaged with vaccine, store them together. When diluent is not packaged with its vaccine, clearly label the diluent and store it where it can be easily identified.

Vaccine Storage and Temperature Monitoring Equipment

Thermometers

To be compliant with Immunization Program requirements, each unit's temperature must be monitored with a **Digital Data Logger (or DDL) that meets these requirements:**

- Be accurate within +/-1°F (+/-0.5°C).
- Have a current and valid Certificate of Calibration (also known as a Report of Calibration).
- Have a probe that best reflects vaccine temperatures (e.g., a probe buffered with glycol, glass beads, sand, or Teflon®) placed in the center of the storage unit close to the vaccine.
- Never place thermometer probes on the unit's doors, near walls, under air vents, or on the unit floor.
- Have a digital display that shows current, minimum, and maximum temperatures.
- Have a low battery indicator.
- A logging interval (or reading rate) that can be programmed by the user to measure and record temperatures no less frequently than every 10 minutes.
- An audible alarm.

The Immunization Program provides DDLs that meet these requirements to providers enrolled in one of our federal vaccine programs. To ensure that your vaccines' temperatures are continuously monitored, contact TempCheck (contact info below) immediately if:

- There are issues restarting the DDL.
- The battery indicator appears on your DDL.
- Any part of the DDL is damaged.

Back-up DDLs are stored at the Department of Public Health and provided to you as needed. If you want to purchase your own thermometers for your site, please review full requirements by visiting our **Monitoring Equipment page**.

Safeguarding Vaccines: Handling and Reporting Excursions

Follow the guidance on pages 2-3 of this plan in case of power outage, appliance malfunction, weather conditions, or human error that may affect vaccine viability. **When the temperature is out of range, address the situation immediately to prevent vaccine spoilage.**

- Mark potentially affected vaccine "DO NOT USE" until you confirm whether they are viable.
- Contact TempCheck at **tempcheck@phila.gov** or 215-685-6777 to report the incident.
- Follow all Immunization Program guidelines if you need to transport vaccine to keep them safe.
  - Instructions on how to transport your vaccine during an emergency can be found at the end of this document on pages 14-17.
- Document all actions on the paper temperature log and other forms, as appropriate.

Include training on recognizing alarms and how to respond to them in training for new staff and in yearly staff trainings.

Contact TempCheck at tempcheck@phila.gov or 215-685-6777 for assistance with any vaccine storage or temperature monitoring equipment.

Routine Storage and Handling Monitoring

Twice a day: monitor and document temperature

A staff person should monitor and document unit temperatures twice a day.

- When your practice opens:
  - Read and record the current refrigerator and freezer temperatures before opening the units.
  - Record the MIN and MAX temperatures.
  - Check for alarms that may have occurred overnight.
  - Initial the temperature log and note the time.
- At the end of the day:
  - Read and record the current refrigerator and freezer temperatures before opening the units.
  - Check for alarms.
  - Initial the temperature log and note the time.
- Document the temperatures on Immunization Program **temperature logs** even if you have a continuously recording/graphing thermometer, data logger, or remote monitoring system.
- Post temperature logs on the storage unit door or nearby in an accessible location.

The practice should keep completed temperature logs for three years and make them available for review upon request to Immunization Program staff.

Monthly vaccine inventory management

- Conduct a physical vaccine inventory at least once a month and before ordering vaccine.
- Keep enough vaccine supply to meet the needs of eligible patients.
- Adjust your ordering practices to find the right balance to ensure that you can maintain a 4-to-6-week supply of vaccines.
- Keep a record of the patient, date of birth, vaccine type, lot number, date, site of administration, and VIS or EUA date for each dose of vaccine that you administer. Report this information to the **PhilaVax IIS**.
- Report all vaccines administered at your site according to the reporting method your site is currently using.
- For COVID-19 vaccines, ensure reporting of all the federally required data points: name, DoB, sex, address, race, ethnicity, administration date, vaccine type, manufacturer, site of administration, route, dose, series completion, refusal, mobile phone number, email and patient language.
- Maintain accurate records, including purchase invoices, for privately purchased vaccines and make them available upon request to Immunization Program staff.
- Account for every federally funded dose that is provided to your site.
- Vaccine doses provided through the VFC or VFAAR program that are lost due to negligence must be replaced on a dose-to-dose basis with privately purchased vaccine or be compensated for by other means, such as replacement of storage units.

Annually (or as needed for new staff)

The medical director or equivalent should work with the vaccine coordinators to train all staff that works with Vaccine cold-chain management. Training should be included in new staff training and scheduled with all staff annually.

Additionally, routine maintenance of storage units, DDLs, and any other vaccine storage equipment such as generators and backup batteries should be done annually.

Stock Rotation, Returns, Excursions and Wastage

- Organize vaccines so those with the shortest expiration dates or beyond-use-date (BUD) are used first. Ensure COVID-19 Vaccines are labeled with **BUD labels** when appropriate. For proper storage and handling and BUD information please refer to an up-to-date manufacturer EUA for healthcare providers.
- For any vaccine that experiences out-of-range temperatures, segregate it in the storage unit, mark it DO NOT USE, complete an **emergency response form here** and send to **TempCheck@phila.gov**.
  - In addition, contact the manufacturer and complete an excursion report. Forward the manufacturer's response to **TempCheck@phila.gov**
- DO NOT DISPOSE of **any** vaccine until otherwise directed
- If the vaccine is deemed non-viable (wasted, spoiled, or expired) remove immediately from the storage unit. Document all non-viable vaccines to the Immunization Program in the PhilaVax Inventory Module.
- Return expired and/or spoiled VFC and VFAAR vaccine to McKesson. **COVID-19 Vaccines cannot be returned.**
- Return unused vials/pre-filled syringes to McKesson if unopened and in original packaging. The following vaccine supplies should not be returned:
  - Used syringes with or without needles.
  - Syringes with vaccine drawn up and not used.
  - Broken or damaged vaccine vials.
  - Multi-dose vials that have been opened or accessed (e.g., needle-punctured).
- Report any vaccine wastage using the **following guidance found here**.
  - Use these guides to to properly account for non-viable vaccines or email **DPHProviderHelp@phila.gov**.

Maintaining Your Vaccine Inventory

- Before a new order can be submitted, report the vaccine that is spoiled or expired to the Immunization Program by **submitting a return or inventory adjustment**.
- Physically count your vaccine inventory at least once a month, and before ordering vaccine. **Complete a monthly reconciliation** in the PhilaVax inventory module to capture this information.
- Adjust your ordering practices to find the right balance to ensure that you can maintain a 4- to 6-week supply of vaccines. Maintain a 4- to 6-week supply to:
  - Have enough to meet the needs of VFC/VFAAR-eligible patients.
  - Prevent shortages in case there is a shipment delay.
  - Prevent wastage caused by ordering too much.
- When you place an order:
  - Submit your reconciliation and **temperature logs** since the last order.
  - Verify your practice's operation hours before submitting. Report any changes to the practice's hours to PDPH to avoid receiving a shipment when the clinic is closed, or staff aren't available.
  - **Check your order** 2 business days after you submit it, to see if it has been approved or rejected.
- When a vaccine is offered by two or more manufacturers, the practice must choose one brand.

Receiving and Inspecting Vaccine Shipments

- The practice assumes responsibility for all Immunization Program (VFC, VFAAR or COVID) vaccine shipped to the site.
- Inspect and store vaccine shipments immediately upon arrival. Inspect them to verify that the temperature during transport was within range and that the vaccines being delivered match those listed on the packing slip and order confirmation.
- Never reject vaccine shipments.
- Report shipment discrepancies and vaccine exposed to out-of-range temperatures immediately to the Immunization Program.

Adjusting Storage Unit Temperatures

Storage unit temperatures will likely need to be adjusted over time. In some situations, thermostats may need to be reset in summer and winter, depending on room temperature.

- Thermostat adjustments should only be made by the primary or alternate vaccine coordinator.
- Temperature adjustments should not be done during a busy clinic day when the unit door is being frequently opened and closed.

Remember that temperatures within any storage unit will vary at least slightly, even with normal use.

Therefore, before making any adjustment: `

- Confirm the unit is securely plugged into a power source.
- Check the temperature inside the storage unit.
- Wait 30 minutes, without opening the door, to allow the temperature to stabilize, and check it again to verify the thermostat should be adjusted.

If you confirm that an adjustment is needed:

- Refer to the owner's manual for detailed instructions.
- Turn the thermostat knob slowly to avoid going outside the correct temperature and make a small adjustment toward a warmer or colder setting as necessary.
- Allow the temperature inside the unit to stabilize for 30 minutes without opening the door.
- Recheck the temperature.
- Repeat these steps as needed until the temperature has stabilized at around 5° C (40° F) for a refrigerator or between -50° C and -15° C (-58° F and +5° F) for a freezer.
- Consider placing additional water bottles in the unit to help improve temperature stability.

If you are using a combination storage unit, please note that adjustments to the freezer temperature can adversely affect the refrigerator compartment temperature, possibly resulting in frozen refrigerated vaccines.

Do not leave vaccines in a storage unit that does not maintain temperatures within the recommended range.

If you are unable to stabilize the temperature in your unit within the required range, or temperatures in the unit are consistently at the extreme high or low end of the range, your vaccine supply is at high risk. Use your emergency storage, handling, and transport SOPs to identify an alternative unit with appropriate temperatures and sufficient storage space until the primary unit can be repaired or replaced.

Contacts

Important Contact Information		Important Contact Information	
PECO Energy	1-800-841-4141	VFC/VFAAR Fax	215-238-6948
Water Department	215-685-6300	Dept of Disease Control	215-685-6742
TempCheck	215-685-6777 | **TempCheck@phila.gov**		

Manufacturer	Website	Phone #	Products
GlaxoSmithKline (GSK)	**www.gskusmedicalaffairs.com/stability-calculator/**	866-GSK-VACC (475-8222)	Infanrix, Kinrix, Pediarix, Havrix, Engerix-B, Twinrix, Hiberix, Cervarix, Fluarix, FluLaval, Rotarix, Boostrix, Menveo
Grifols (immuneglobulin)	**www.grifols.com**	800-520-2807	HBIG, IGIM, RIG, TIG
Massachusetts Biologics (distributed by Grifols)	**www.umassmed.edu/massbiologics/**	617-474-3000	Td, TT
MedImmune, Inc.	**www.flumist.com/contact-us**	1-877-358-6478	FluMist
Merck & Co., Inc.	**www.merckvaccines.com**	800-MERCK-90 (637-2590)	PedvaxHIB, Comvax, Vaqta, Recombivax-HB, Gardasil, M-M-R II, ProQuad, Afluria, Pneumovax 23, RotaTeq, Varivax, Zostavax, Td
Pfizer (Wyeth Vaccines)	**www.pfizerpro.com**	800-438-1985	Prevnar 13, Prevnar 20, Penbreya
Sanofi Pasteur	**www.vaccineshoppe.com**	800-VACCINE (822-2463)	Daptacel, Tripedia, Pentacel, ActHIB, Fluzone, Menactra, Novaxovid, IPOL, Imovax, Decavac, Tenivac, Adacel, Quadracel
Pfizer (COVID Vaccine)	**www.comirnaty.com**	1-800-TRY-FIRST (879-3477)	COVID-19 vaccine
Moderna (COVID Vaccine)	**www.modernatx.com**	866-MODERNA (663-3762)	Moderna COVID-19 vaccine

Facility/Organization	Contact	Phone #	Email
PDPH Immunization Program	Temp Check	215-685-6777	**TempCheck@phila.gov**
Power Company	PECO Energy	1-800-841-4141 Report an Outage	
		1-800-494-4000 Customer Service	
Power Company (other)			
Water Department	Philadelphia Water Department (PWD)	215-685-6300	**WaterInfo@phila.gov**
Fridge/Freezer Repair Company			
Generator Repair Company			

Vaccine Storage Unit Locations & Maintenance

Use this sheet to keep track of your equipment. Update it whenever you receive new equipment. Also, keep your specifications, manuals, certificates, and maintenance information in one easy-to-access location.

Maintenance/Repair Company	*Phone #*

Unit Type	Location	Funding *(VFC, COVID, etc.)*	Brand	Model	Maintenance Notes

Notes

Digital Data Logger (DDL) Tracking & Maintenance

Your practice receives a copy of the certificate of calibration for thermometers that PDPH supplies.
Email **TempCheck@phila.gov** or call 215-685-6777 to request a backup thermometer.

Location of Calibration Certificates

Location	Thermometer Serial #	Check if provided by PDPH Immunizations Program	Calibration Date	Date Battery Replaced	Funding *(VFC, COVID, etc.)*
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Notes

Packing Vaccines for Transport during Emergencies

Be ready BEFORE the emergency

Equipment failures, power outages, natural disasters—these and other emergency situations can compromise vaccine storage conditions and damage your vaccine supply. **It's critical to have an up-to-date emergency plan with steps you should take to protect your vaccine.** In any emergency event, activate your emergency plan immediately. Ideally, vaccine should be transported using a portable vaccine refrigerator or qualified pack-out. However, if these options are not available, you can follow the emergency packing procedures for refrigerated vaccines below:

1 Gather the Supplies

Hard-sided coolers or Styrofoam™ vaccine shipping containers

- Coolers should be large enough for your location's typical supply of refrigerated vaccines.
- Can use original shipping boxes from manufacturers if available.
- Do NOT use soft-sided collapsible coolers.

Conditioned frozen water bottles

- Use 16.9 oz. bottles for medium/large coolers or 8 oz. bottles for small coolers (enough for 2 layers inside cooler).
- Do NOT reuse coolant packs from original vaccine shipping container, as they increase risk of freezing vaccines.
- Freeze water bottles (can help regulate the temperature in your freezer).
- Before use, you must condition the frozen water bottles. Put them in a sink filled with several inches of cool or lukewarm water until you see a layer of water forming near the surface of bottle. The bottle is properly conditioned if ice block inside spins freely when rotated in your hand (this normally takes less than 5 minutes.

Insulating material — You will need two of each layer

- **Insulating cushioning material** – Bubble wrap, packing foam, or Styrofoam™ for a layer above and below the vaccines, at least 1 in thick. Make sure it covers the cardboard completely. Do NOT use packing peanuts or other loose material that might shift during transport.
- **Corrugated cardboard** – Two pieces cut to fit interior dimensions of cooler(s) to be placed between insulating cushioning material and conditioned frozen water bottles.

Temperature monitoring device – Digital data logger (DDL) with buffered probe. Accuracy of +/-1°F (+/-0.5°C) with a current and valid certificate of calibration testing. Pre-chill buffered probe for at least 5 hours in refrigerator. Temperature monitoring device currently stored in refrigerator can be used, as long as there is a device to measure temperatures for any remaining vaccines.

Why do you need cardboard, bubble wrap, and conditioned frozen water bottles?

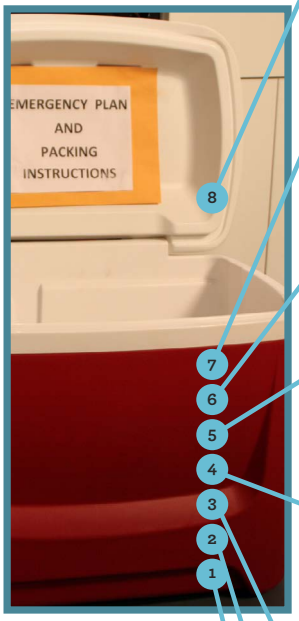
Conditioned frozen water bottles and corrugated cardboard used along with one inch of Insulating cushioning material such as bubble wrap keeps refrigerated vaccines at the right temperature and prevents them from freezing. **Reusing vaccine coolant packs from original vaccine shipping containers can freeze and damage refrigerated vaccines.**

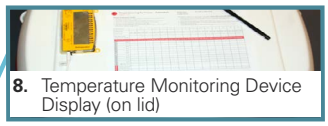
Packing Vaccines for Transport during Emergencies

2 Pack for Transport

Conditioning frozen water bottles (this normally takes less than 5 minutes)

- Put frozen water bottles in sink filled with several inches of cool or lukewarm water or under running tap water until you see a layer of water forming near surface of bottle.
- The bottle is properly conditioned if ice block inside spins freely when rotated in your hand.
- If ice "sticks," put bottle back in water for another minute.
- Dry each bottle.
- Line the bottom and top of cooler with a single layer of conditioned water bottles.
- Do NOT reuse coolant packs from original vaccine shipping container.




8. Temperature Monitoring Device Display (on lid)

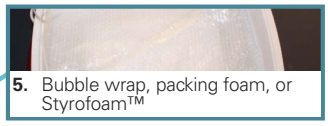
Close lid – Close the lid and attach DDL display and temperature log to the top of the lid.


7. Conditioned Water Bottles

Conditioned frozen water bottles – Fill the remaining space in the cooler with an additional layer of conditioned frozen water bottles.


6. Cardboard Sheet

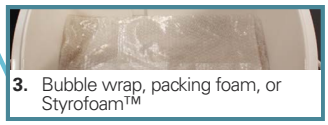
Insulating material – Another sheet of cardboard may be needed to support top layer of water bottles.


5. Bubble wrap, packing foam, or Styrofoam™

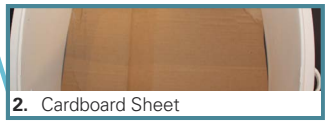
Insulating cushioning material – Cover vaccines with another 1 in. layer of bubble wrap, packing foam, or Styrofoam™


4. Vaccines, Diluents, and Temperature Monitoring Device Probe

Vaccines – Add remaining vaccines and diluents to cooler, covering DDL probe.
Temperature monitoring device – When cooler is halfway full, place DDL buffered probe in center of vaccines, but keep DDL display outside cooler until finished loading.
Vaccines – Stack boxes of vaccines and diluents on top of insulating material.


3. Bubble wrap, packing foam, or Styrofoam™

Insulating cushioning material – Place a layer of bubble wrap, packing foam, or Styrofoam™ on top (layer must be at least 1 in. thick and must cover cardboard completely).


2. Cardboard Sheet

Insulating material – Place 1 sheet of corrugated cardboard over water bottles to cover them completely.


1. Conditioned Water Bottles

Conditioned frozen water bottles – Line bottom of the cooler with a single layer of conditioned water bottles.

NOTE:
This pack-out can maintain appropriate temperatures for up to 8 hours, but the container should not be opened or closed repeatedly.

3 Arrive at Destination

Before opening cooler – Record date, time, temperature, and your initials on vaccine temperature log.
Storage – Transfer boxes of vaccines quickly to storage refrigerator.
Troubleshooting – If there has been a temperature excursion, contact vaccine manufacturer(s) and/or your immunization program before using vaccines. Label vaccines "Do Not Use" and store at appropriate temperatures until a determination can be made.

Philadelphia Department of Public Health – Division of Disease Control – Immunization Program
1101 Market St. Floor 12, Philadelphia, PA, 19107 | **vaccines.phila.gov** | **tempcheck@phila.gov** | October 2025

Department of Public Health
Immunization Program
CITY OF PHILADELPHIA

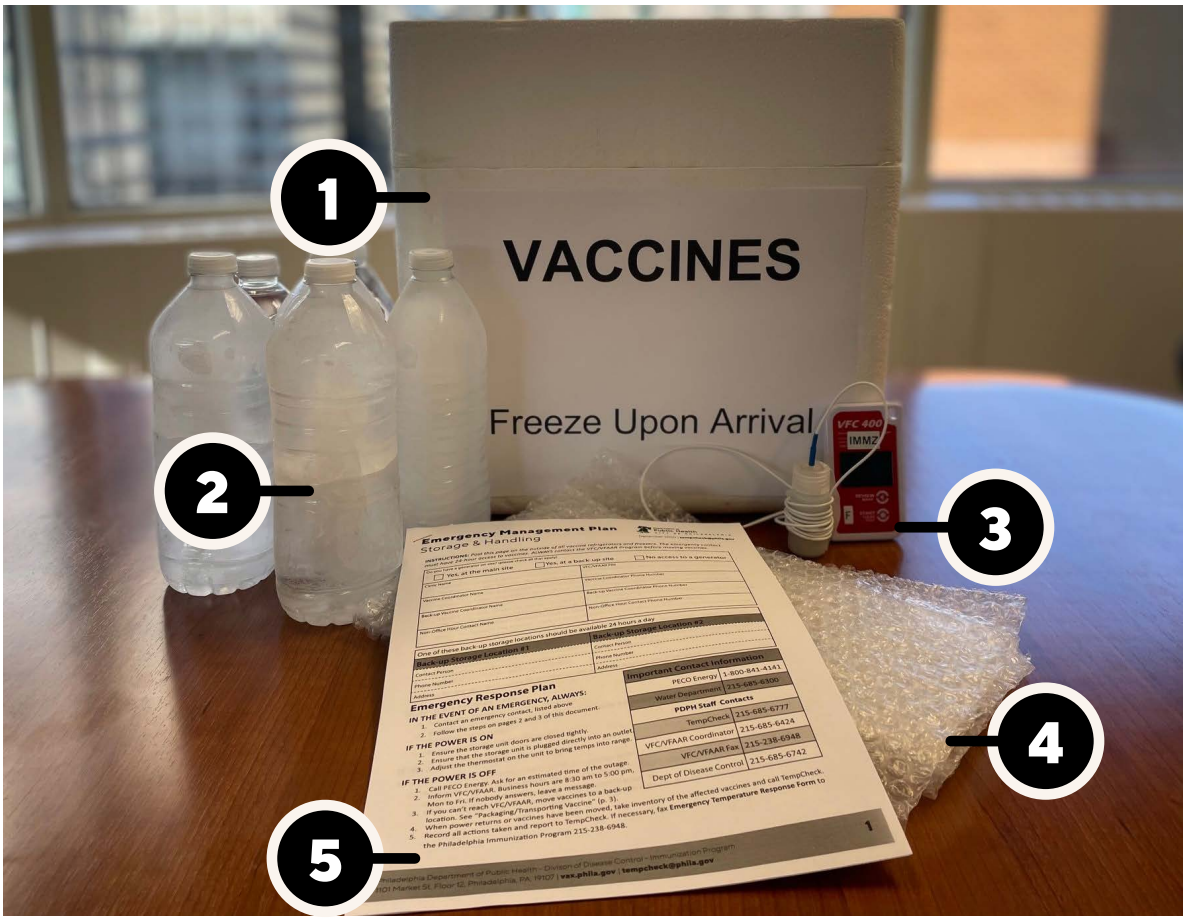
Emergency Frozen Vaccine Transport Guide

Use this emergency guide to transport frozen vaccine without risking vaccine wastage. Have questions or need assistance? Contact our Storage & Handling team by emailing **tempcheck@phila.gov**.

Assemble Packing Supplies And Documents

Before you transport your frozen vaccine, you need to assemble the following supplies and documents.
DO NOT begin packing and transporting frozen vaccine until all of the following materials are collected.

1. **Hard-sided cooler**.
2. **Frozen water bottles**. NEVER USE DRY ICE. Keep enough frozen bottles in your vaccine freezer to make two layers in the transport cooler.
3. **Digital Data logger (DDL)**. Retrieve your device's buffered probe and its digital display.
4. **Insulating cushioning material**. Use 2-inches of bubble wrap to prevent vaccines from shifting. Do NOT use packing peanuts or other loose material that might shift during transport.
5. **Vaccine management plan**. Find the alternate vaccine storage location in your practice's vaccine management plan.



Pack Vaccines and Prepare For Transport

Once you have assembled all the necessary packing supplies and documents, follow the steps to properly pack your frozen vaccine for transport. **Remember to note the time you began moving the vaccine**.

1

Frozen water bottles

Place a layer of water bottles to completely cover the bottom of the cooler. NEVER USE DRY ICE.

2

Vaccines

Layer vaccine boxes directly on top of the frozen water bottles.

3

Buffered probe

Place the buffered probe with the top layer of vaccines.

4

Frozen water bottles

Spread another layer of frozen water bottles to completely cover the vaccines.

5

Bubble wrap

Layer bubble wrap to cover all the remaining empty space and close the cooler.

6

Transport log and display

Record the time and temperature of vaccine in cooler before departure.

Attach the DDL to the outside of the cooler.

Drive the vaccines to your back-up location.