

## Program/Service Information Report

# Vaccine Wastage Report

January-December 2025

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**To:** Board of Health

**Meeting Date:** April 1, 2026

**Report No.:** BH.01.APR0126.C07

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## Key Points

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- **Vaccine Distribution & Storage:** Wellington-Dufferin-Guelph Public Health (WDGPH) ensures compliance with cold chain protocols (2°C–8°C) for vaccine storage. In 2025, all 267 fridge inspections were completed, with 20 cold chain incidents, primarily due to power outages.
- **Vaccine Wastage (Excluding COVID-19):** In 2025, the overall wastage rate was 4.0%, an increase from 1.6% in 2024.
- **COVID-19 Vaccine Wastage:** In 2025, 49,037 COVID-19 vaccine doses were administered in WDGPH, internal/external wastage of 11,160 doses (excluding pharmacies).
- **Wastage Reduction Strategies:**
  - Limiting provider orders to two-week supplies
  - Improved inventory monitoring and adjusted distribution
  - Stock management education
  - Cross-train staff in vaccine handling to maintain operations, protect cold chain integrity, and minimize vaccine wastage from errors or temperature issues.

## Program Requirements

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### Compliance with OPHS and Accountability Indicators:

In compliance

Not in compliance. If not in compliance, provide additional information about the variance and how it will be addressed.

## Highlights

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### Introduction

Wellington-Dufferin-Guelph Public Health (WDGPH) is responsible for distributing publicly funded vaccines to local healthcare providers, ensuring their safe storage and administration and reporting vaccine wastage to the Ontario Ministry of Health. This report outlines vaccine wastage statistics for 2025, factors contributing to wastage and strategies employed to minimize loss.

### Vaccine Distribution

WDGPH receives weekly shipments of publicly funded vaccines from the Ontario Government Pharmacy (OGP) and distributes them to healthcare providers, including physician's offices, hospitals, long-term care homes and community clinics. Pharmacies receive influenza vaccines directly from a Ministry-designated distributor, while COVID-19 vaccines are supplied either through WDGPH or a Ministry distributor. WDGPH is also responsible for monitoring vaccine storage and handling, providing annual cold chain education and inspecting vaccine refrigerators to ensure compliance with provincial guidelines. From January to December 2025, WDGPH distributed \$14,711,510.55 worth of vaccine (excluding COVID vaccine) to community partners in Wellington, Dufferin, and Guelph.

### Cold Chain Management

Cold Chain refers to the system of transporting and storing vaccines within a specific temperature range to ensure their potency and effectiveness are maintained.<sup>1</sup> Cold chain is crucial for maintaining vaccine efficacy by ensuring vaccines remain at temperatures between 2°C and 8°C throughout storage and transportation.<sup>1</sup> Breakdowns in cold chain, such as power outages or improper storage, can compromise vaccine effectiveness and contribute to wastage. In 2025, WDGPH completed 100% of its required 267 vaccine refrigerator inspections and responded to 20 cold chain excursions, primarily caused by power outages. See Appendix A for further cold chain excursion details.

### Vaccine Wastage (Excluding COVID-19 Vaccine)

- Minimizing vaccine wastage is a priority for WDGPH. The Ontario Ministry of Health mandates that annual wastage rates do not exceed 5% for any individual vaccine. In 2025, the overall vaccine wastage rate for WDGPH was 4.0%, an increase from 1.6% in 2024, with a total estimated value of \$574,920.43 this year.

## Key Factors in Vaccine Wastage:

- **Short-dated vaccines:** Some vaccines received from the Ministry have short expiry dates, limiting the time they can be used before they must be discarded.
- **Program transitions:** In 2024, the pneumococcal vaccination program phased out Pneu-C-13 (Pneumovax®13) and Pneu-P-23 (Pneumovax®23). However, health care providers continued to return these vaccines in 2025 following their discontinuation.
- **H5N1 Vaccine:** In the spring of 2025, a specific vaccine for H5N1 (Arepanrix™ H5N1) was offered in Ontario for people with ongoing occupational exposure to known infected birds or mammals such as wildlife officers, veterinarians, and researchers. Each vial contains 10 doses that must be used within **24 hours** leading to wastage when not all doses were used at once.
- **Cold Chain Excursions:** Refers to any event in which a vaccine is exposed to temperatures outside its recommended storage range during transport or storage.
- **Unreturned expired vaccines:** Some expired vaccines are not returned to WDGPH in the same calendar year they were distributed, complicating wastage tracking.
- **Seasonal demand fluctuations:** Influenza vaccines are frequently wasted due to their short usability window and variability in provider demand.

See Appendix B for details of overall vaccine wastage.

## COVID-19 Vaccine Wastage

WDGPH reports all COVID-19 vaccine wastage through COVAX, the provincial vaccination repository. COVAX provides data on COVID-19 vaccine wastage for WDGPH and all healthcare providers, excluding pharmacies. This report does not include the number of doses wasted in pharmacies, as this data is not available through COVAX. In 2025, 49,037 COVID-19 vaccine doses were administered in WDG region with 11,160 doses (excluding pharmacies) reported as internal/external wastage.

In 2025, demand for the COVID-19 vaccine at WDGPH run clinics declined significantly. As a result, only one or two doses were often administered from each vial, and any remaining doses had to be discarded if not used within the required timeframe after puncturing. This became the primary driver of vaccine wastage in 2025.

In June 2025, all Moderna KP.2 products reached their expiry date, and any remaining inventory was required to be destroyed.

On August 18, 2025, Pfizer Canada directed all custodians of the Comirnaty KP.2 product to quarantine existing stock and begin the withdrawal and destruction of any remaining inventory.

See **Appendix C** for details of overall COVID-19 vaccine wastage.

## Challenges and Strategies for Wastage Reduction

Managing vaccine supply and demand remains a challenge due to fluctuating provider needs. Healthcare providers are instructed to order a maximum of two weeks' worth of vaccine supply to reduce excess stock and potential wastage. Additional strategies include:

- Monitoring provider orders and requiring accurate vaccine inventory counts.
- Adjusting distribution quantities based on reported inventory levels.
- Conducting education sessions on cold chain management, vaccine stock management, and forecasting.

## Conclusion

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The Ontario Ministry of Health's Vaccine Storage and Handling Protocol (2018) provides a framework for minimizing vaccine wastage through proper storage, handling, and monitoring.<sup>1</sup> WDGP adheres to these guidelines through regular inspections, education initiatives, and inventory management strategies. In 2025, WDGP achieved a 100% completion rate for required fridge inspections and continued efforts to enhance cold chain compliance and minimize wastage. Moving forward, WDGP will focus on further refining inventory control measures to optimize vaccine utilization and reduce unnecessary loss.

## References

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1. Vaccine Storage and Handling Protocol, 2018

[https://www.health.gov.on.ca/en/pro/programs/publichealth/oph\\_standards/docs/protocols\\_guidelines/Vaccine\\_Storage\\_and\\_Handling\\_Protocol\\_2018\\_en.pdf](https://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Vaccine_Storage_and_Handling_Protocol_2018_en.pdf)

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## Appendix A

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**Figure 1. Cold Chain Excursions**

Reason for Excursion	Number of Excursions
Human Error – Fridge door left ajar	1
Human Error – Electricity disconnected	1
Malfunction – Refrigerator/Freezer	4
Unknown	3
Power Outage	11

## Appendix B

**Figure 2. Annual comparisons of overall wastage**

Year	Value Wasted (\$)	Wastage Rate (%)
2020	\$40,381.78	0.6%
2021	\$151,999.10	4.2%
2022	\$481,191.48	8.4%
2023	\$255,225.19	3.1%
2024	\$190,520.43	1.6%
2025	\$574,920.43	4.0%

**Figure 3. Reasons for overall vaccine wastage (%)**

Reason for Wastage	Percentage
Excessive Quantity	0.4%
Cold Chain Incident – Human Error	0.05%
Cold Chain Incident - Malfunction: Refrig/Equip	0.3%
Cold Chain Incident – Power Outage	0.5%
Shipping Error	0.01%
Discontinued Product	0.06%
Expired Product	2.7%
Shipping Error	0.02%
<b>Total wastage %</b>	<b>4.0%</b>

## Appendix C

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**Figure 4. Reasons for overall COVID-19 vaccine wastage (doses)**

Reason for Wastage	Doses
Vaccine Administration Issue	1
Unused Predrawn Syringe	1,256
Vaccine vial puncture and not used beyond use time	39
Fridge Stable (2-8 degrees C) Vaccine vial refrigerated beyond use time	1,992
Dose(s) Remaining in a Multi-Dose Vial	146
Vaccine vial stored in ult/freezer/fridge temperatures beyond expiry date	3,596
Other	4,130
<b>Total wastage</b>	<b>11,160</b>