

Rabies Program Evaluation

To: Chair and Members of the Board of Health

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Recommendations

It is recommended that the Board of Health receive this report for information.

Key Points

- Rabies is a fatal human infection. Human rabies is rare in Canada due to excellent prevention and control programs.¹
- Wellington-Dufferin-Guelph Public Health's (WDGPH) internal processes were evaluated for efficiency, process variation, potential for human error, effectiveness, and compliance with the Ontario Public Health Standards (OPHS).
- The evaluation sought external partner feedback but was not able to obtain sufficient response for a valid analysis. As a result, the evaluation focused primarily on internal processes. A second phase of the evaluation project with an external-facing focus is planned for late 2024 / early 2025.
- The evaluation concluded that the WDG Public Health Rabies Program was well run and met the requirements of the OPHS Rabies Prevention and Control Protocol (ORPCP).^{2,3}

- Six opportunities for improvement were identified and work has started to drive innovation and collaboration within WDG Public Health and with community partners to improve program efficiency, effectiveness, and community impact.

Background

What is Rabies?

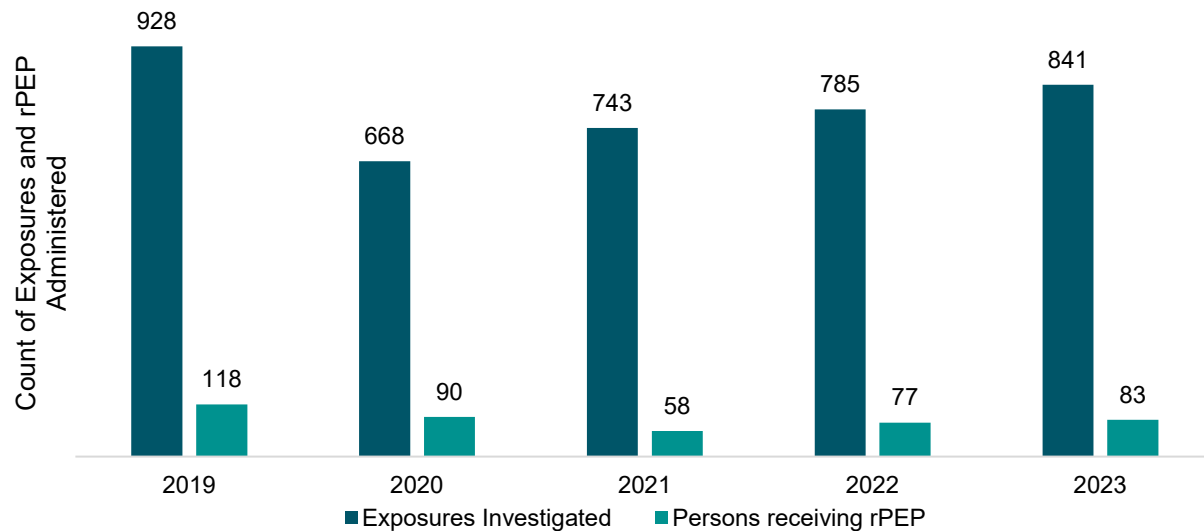
Rabies is a viral infection that causes inflammation of the brain and spinal cord, which is almost always fatal.⁴ Rabies is usually transmitted to humans from the bite of an infected animal. Bats, skunks, foxes, and raccoons are the most common animals to have rabies in Canada; however, human rabies cases are very rare. Following exposure to a potential rabid animal, individuals should thoroughly wash the wound and seek immediate medical attention to assess the need for post-exposure vaccination.

Ontario's last domestic case of human rabies occurred in 1967. Between 2013 and 2022, no domestic cases or cases linked to travel outside of Canada have been reported in Ontario.⁴ Because rabies is a fatal disease, it is important to keep the rabies program relevant, efficient, and innovative to ensure residents are protected from the risk of infection.

Rabies at Wellington-Dufferin-Guelph Public Health

In 2023, there were 841 potential rabies exposures reported at WDGPH with 83 persons (10% of investigations) that received rabies post-exposure prophylaxis (rPEP). Reported exposures have trended upward since 2020, with the drop in 2020 most likely related to the COVID-19 pandemic. Figure 1 shows trends in exposure reports and rPEP administration. From 2015 to date, 17 animals have been identified with rabies.

Figure 1. Rabies Exposures Investigated and rPEP Administered 2019-2023



Evaluation Methodology

Evaluation methods were used to collect data both internally and externally. These methods were used to collect feedback and practices to improve the WDGPH rabies program processes.

Environmental Health Public Health Inspectors Feedback

Nineteen of twenty-five Public Health Inspectors (PHI) and PHI students participated in two informal in-person focus groups. These were facilitated by the lead Health Promotion Specialist (HPS) to gather feedback from PHIs across all three offices about their experiences with the rabies program.

Clinical Services, Vaccine Preventable Diseases, Client and Community Support, and Health Analytics Feedback

The rabies program impacts many other teams within WDGPH which necessitates a coordinated and cross-function approach with the Environmental Health (EH) team. Feedback on experiences and processes was obtained from Vaccine Preventable Diseases (VPD), Client and Community Support (CCS), Clinical Services (CS), and Health Analytics teams.

Rabies Prevention and Control Protocol Checklist

To support this evaluation, a checklist based on the ORPCP was created to review if the EH team was meeting all the requirements set by the ORPCP. The subject matter expert used the checklist to review and reflect on what the team is currently doing and where there might be a need for updates.

Public Health Unit Interviews

To gain a better understanding of how the WDGPH rabies program can be improved, three health units were interviewed to understand their respective process. These included Hamilton Public Health, Kingston, Frontenac, Lennox & Addington Public Health, and Waterloo Region Public Health.

Animal Bite Exposure Reporting Methods Ontario Public Health Units Scan

The HPS conducted an environmental scan of Public Health Unit rabies web pages across the province to better understand the various methods available to collect animal bite exposure reports.

Rabies Program Evaluation Partner Survey

A short survey was developed to gather feedback about WDGPH's community partners' experience working with WDG on a rabies investigation. This survey was promoted to health care providers and hospitals through the annual physician's advisory (Local Rabies Risk & Duty to Report Animal Bites and Incidents).

Discussion

Results

Efforts to collect external feedback did not elicit sufficient responses for a valid analysis. As a result, the Rabies Program evaluation focused primarily on internal processes. Note, a second phase of the evaluation project with an external-facing focus is planned for late 2024 / early 2025.

Focusing internally, the evaluation concluded that overall, the WDG Rabies Program was well-run and met all 23 operational roles and responsibilities of the Ontario Public Health Standards (OPHS) for Rabies, serving to protect WDG residents effectively and efficiently. Four categories outlining opportunities for improvement were identified.

- 1. Time.** Participants reported many Rabies Program processes are overly time-consuming. For example, participants stated there are many ‘micro-steps’ involved in scheduling a client for their remaining vaccines and ensuring CS, CCS, and the EH team are all notified. This process requires processing, storing, and managing physical paperwork. It was also reported that a lot of time is spent following up with healthcare providers regarding vaccine dispensing documentation. A time-consuming effort that impacts the Health Analytics team in reporting all elements of rabies PEP in iPHIS database, which is the provincial system to keep track of rabies PEP treatments.
- 2. Repetitive Data Entry.** Participants reported that entering and updating some information on the Hedgehog Inspection Software platform can be repetitive as the platform does not allow for certain fields to be easily copied from the “animal involved” and “person exposed/bitten” pages.
- 3. Human Error.** Participants reported that several process steps and activities are prone to human error. For example, the WDG Public Health Rabies Exposure Report is often faxed in with incomplete or incorrect information.
- 4. Access to Information.** Participants reported that access to more resources, guides, or information on the program and its processes would help them with completing their work.

Recommendations

From the four categories above, six recommendations were made to help drive innovation and collaboration within WDGPH and community partners to improve the program’s efficiency, effectiveness, and community impact.

Recommendation 1. Implement an online animal bite reporting form to directly upload information to InputHealth, Hedgehog, or other internal databases.

Recommendation 2. Refine the process regarding clients calling CCS about animal bites.

Recommendation 3. Establish a consistent process between EH and Health Analytics.

Recommendation 4. Better tracking of detailed indicators for dashboard development.

Recommendation 5. Conduct an annual program review to ensure standards are met.

Recommendation 6. Share more information about rabies investigations with the public and partners to promote understanding of the WDGPH rabies program including a communications campaign with updated WDGPH webpage resources.

Implementation

Implementation of these recommendations began in 2024; some recommendations have already been implemented. Others, such as changes to the WDGPH Rabies webpage, Rabies Dashboards, Communications Campaign, and client-facing integrated reporting platform are currently underway with various WDGPH teams. The roadmap summarizes key milestones related to the implementation of recommendations (Figure 2).

Figure 2. Rabies Program Evaluation Recommendations Implementation Roadmap



Conclusion

Rabies is a fatal human infection. Human rabies is rare in Canada due to excellent prevention and control programs.¹ As part of an innovative commitment to quality improvement, internal processes were evaluated for efficiency, process variation, potential for human error, effectiveness, and compliance with relevant OPHS requirements. The evaluation concluded that the WDGPH Rabies Program is well run and meets the requirements of the OPHS for

Rabies and the ORPCP, serving to protect WDG residents effectively and efficiently. Six specific recommendations were made. Work has commenced in 2024 to implement the six recommendations. The recommendations will help drive innovation and collaboration within WDG Public Health and with its community partners and are designed to improve program efficiency, effectiveness, and community impact. A second phase of the evaluation project with an external-facing focus is planned for late 2024 / early 2025.

Ontario Public Health Standards

Foundational Standards

- Population Health Assessment
- Health Equity
- Effective Public Health Practice
- Emergency Management

Program Standards

- Chronic Disease Prevention and Well-Being
- Food Safety
- Healthy Environments
- Healthy Growth and Development
- Immunization
- Infectious and Communicable Diseases Prevention and Control
- Safe Water
- School Health
- Substance Use and Injury Prevention

2024-2028 WDGPH Strategic Goals

More details about these strategic goals can be found in [WDGPH's 2024-2028 Strategic Plan](#).

- Improve health outcomes
- Focus on children's health
- Build strong partnerships
- Innovate our programs and services
- Lead the way toward a sustainable Public Health system

References

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3. Government of Ontario. Rabies Prevention and Control Protocol (ORPCP). [Internet]. 2023. [cited March 13, 2024]. Available from: <https://files.ontario.ca/moh-rabies-prevention-control-protocol-en-2023.pdf>.
4. Public Health Ontario. Vector-Borne and Zoonotic Diseases: Rabies. [Internet]. 2023. [cited March 13, 2024]. Available from: <https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/vector-borne-zoonotic-diseases/rabies>.

Appendices

N/A