

## SURVEILLANCE REPORT

# Enterovirus D68 Testing at Public Health Ontario

Published: October 2022

## Introduction

This report summarizes enterovirus D68 surveillance and clinical testing performed by Public Health Ontario (PHO) on samples received from July 31, 2022 to October 22, 2022.

## Highlights

- A total of 688 specimens were positive for enterovirus at PHO since July 31, 2022. Of these, 396 (57.6%) were tested for EV-D68.
- Of the 396 specimens tested, 238 (60.1%) were positive for EV-D68.
- The number and percent of specimens positive for EV-D68 was highest in week 39 (September 25 to October 1) at 64 (79.0%).
- Individuals less than 5 years of age had the highest number of specimens positive (139) and tested (220) for EV-D68.
- The number and percent of specimens positive for EV-D68 was highest among respiratory specimens at 229 (69.6%). EV-D68 was not identified in any cerebrospinal fluid specimens tested (n=12).

## Background

Enterovirus D68 (EV-D68) is a non-polio enterovirus which typically causes mild respiratory illness.<sup>1</sup> However, EV-D68 may cause acute flaccid myelitis (AFM) in young children. AFM is a serious but rare neurologic condition associated with weak muscles and reflexes that may lead to paralysis. AFM is a subset of acute flaccid paralysis (AFP). Confirmed cases of AFP in children under 15 years old are reportable.<sup>2</sup> No cases of AFP have been reported to Public Health Ontario in 2022.

To monitor the circulation of EV-D68 in Ontario, PHO tested a random subset of enterovirus-positive specimens identified since July 31, 2022. Testing for EV-D68 is performed by a specific PCR test that targets the EV-D68 virus from respiratory (nasal, nasopharyngeal, and throat), cerebrospinal fluid, stool, and other specimen sources. Results by time, age group, and specimen source are presented in this report.

## Test Results

**Table 1. Number and percent of specimens positive and tested for EV-D68, July 31, 2022 to October 22, 2022**

Specimen category	Number	Percent
Positive for EV-D68	238	60.1% (238/396)
Tested for EV-D68	396	57.6% (396/688)
Positive for enterovirus	688	NA

**Note:** Percent positive for EV-D68 was calculated as the number of specimens positive for EV-D68 divided by the number of specimens tested for EV-D68. Percent tested for EV-D68 was calculated as the number of specimens tested for EV-D68 divided by the number of specimens positive for enterovirus. Positive enterovirus specimens were identified from individuals requesting respiratory and/or gastro-intestinal virus testing. NA - Not applicable.

**Data source:** PHO Laboratory Information Management System

**Table 2. Number and percent of specimens positive for EV-D68 out of a subset of enterovirus-positive specimens by week, July 31, 2022 to October 22, 2022**

Week	Positive	Tested	Percent
31 (July 31 to August 6)	0	2	0.0%
32 (August 7 to August 13)	0	0	NA
33 (August 14 to August 20)	0	1	0.0%
34 (August 21 to August 27)	3	5	60.0%
35 (August 28 to September 3)	5	26	19.2%
36 (September 4 to September 10)	13	23	56.5%
37 (September 11 to September 17)	26	45	57.8%
38 (September 18 to September 24)	62	92	67.4%
39 (September 25 to October 1)	64	81	79.0%
40 (October 2 to October 8 )	30	56	53.6%
41 (October 9 to October 15 )	26	50	52.0%
42 (October 16 to October 22)	9	15	60.0%
<b>Total</b>	<b>238</b>	<b>396</b>	<b>60.1%</b>

**Note:** NA - not applicable since percent could not be calculated as no specimens were tested in that week. Weeks have been defined according to [FluWatch Canada](#).

**Data source:** PHO Laboratory Information Management System

**Table 3. Number and percent of specimens positive for EV-D68 out of a subset of enterovirus-positive specimens by age group, July 31, 2022 to October 22, 2022**

Age group	Positive	Tested	Percent
Ages: <5	139	220	63.2%
Ages: 5 – 19	40	60	66.7%
Ages: 20 – 29	8	20	40.0%
Ages: 30 – 39	11	22	50.0%
Ages: 40 – 49	5	9	55.6%
Ages: 50 – 59	9	14	64.3%
Ages: 60 – 69	10	13	76.9%
Ages: 70 and over	15	37	40.5%
Ages: Unknown	1	1	100.0%
<b>Total</b>	<b>238</b>	<b>396</b>	<b>60.1%</b>

**Data source:** PHO Laboratory Information Management System

**Table 4. Number and percent of specimens positive for EV-D68 out of a subset of enterovirus-positive specimens by specimen source, July 31, 2022 to October 22, 2022**

Specimen source	Positive	Tested	Percent
Respiratory	229	329	69.6%
Cerebrospinal Fluid	0	12	0.0%
Stool	1	11	9.1%
Other	8	44	18.2%
<b>Total</b>	<b>238</b>	<b>396</b>	<b>60.1%</b>

**Note:** Respiratory specimens include: Nasal, nasopharyngeal, throat and broncho-alveolar lavage. Other specimens include: mouth, tongue, lip, skin, blood etc.

**Data source:** PHO Laboratory Information Management System

# Technical Notes

## Data Sources

- Data were extracted from the PHO Laboratory Information Management System on October 24, 2022, at 10:00 a.m.

## Data Caveats

- Results may not be representative of Ontario overall as PHO performs a portion of enterovirus testing for the province. In addition, not all enterovirus-positive specimens at Public Health Ontario were tested for EV-D68.
- Specimens tested do not represent unique individuals as individuals may be tested multiple times.
- Data for the most recent week may be incomplete as not all testing was finalized.

## References

1. Center for Disease Control and Prevention (CDC). Enterovirus D68 [Internet]. Atlanta, GA: CDC; 2022 [cited 2022 Sep 26]. Available from: <https://www.cdc.gov/non-polio-enterovirus/about/ev-d68.html>
2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). List of reportable diseases and unit contact information [Internet]. Toronto, ON: Queen's Printer for Ontario; 2017 [cited 2022 Oct 19]. Available from: <https://www.publichealthontario.ca/-/media/documents/R/2017/reportable-disease-contact.pdf>

## Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Surveillance report: enterovirus - D68 testing at Public Health Ontario. Toronto, ON: King's Printer for Ontario; 2022.

## Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence at the time of publication. The application and use of this document is the responsibility of the user. PHO assumes no liability resulting from any such application or use. This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to PHO. No changes and/or modifications may be made to this document without express written permission from PHO.

## Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

For more information about PHO, visit [publichealthontario.ca](https://publichealthontario.ca).