



COVID-19 Epidemiology Update

OTTAWA PUBLIC HEALTH. Report compiled on May 22, 2020, 11:00 am

Contents

Purpose	1
Summary	1
Cases Over Time.....	1
Case Characteristics.....	4
Severity of Cases.....	6
Exposure Settings of Confirmed COVID-19 Cases.....	9
Outbreaks	10
Data Notes & Sources	11
Data Tables	12

Ottawa Public Health (OPH) has transitioned to a new case management and reporting system. This transition will position OPH to better manage COVID-19 case volumes, facilitate remote work options for the case management team, and continue to uphold provincial reporting obligations. To support the transition, OPH is currently conducting quality assurance to validate the data in the new system.

Purpose

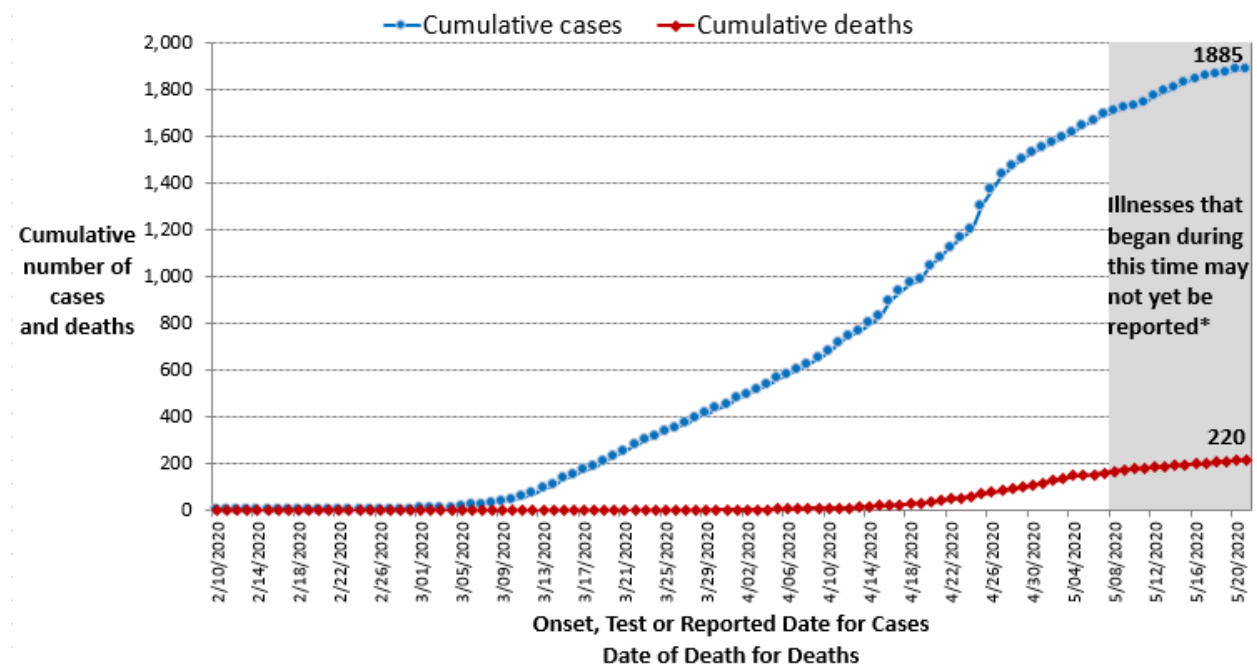
This daily report provides an epidemiologic summary of COVID-19 activity in Ottawa to date. The report includes the most current information available from the COVID-19 Ottawa Database (COD) as of 2:00 pm May 21, 2020 and the integrated Public Health Information System (iPHIS) as of 4:00 p.m. May 21, 2020.

Summary

- 1,885 laboratory-confirmed cases, including 220 deaths, have been reported in Ottawa.
- This includes 17 new cases and 9 new deaths since the previous report.
- 44 Ottawa residents with COVID-19 are currently hospitalized.
- There are 20 ongoing outbreaks in [institutions](#).

Cases Over Time

Figure 1. Cumulative epidemiological curve of Ottawa residents with confirmed COVID-19, by the EARLIEST of symptom onset date, test and reported date or date of death

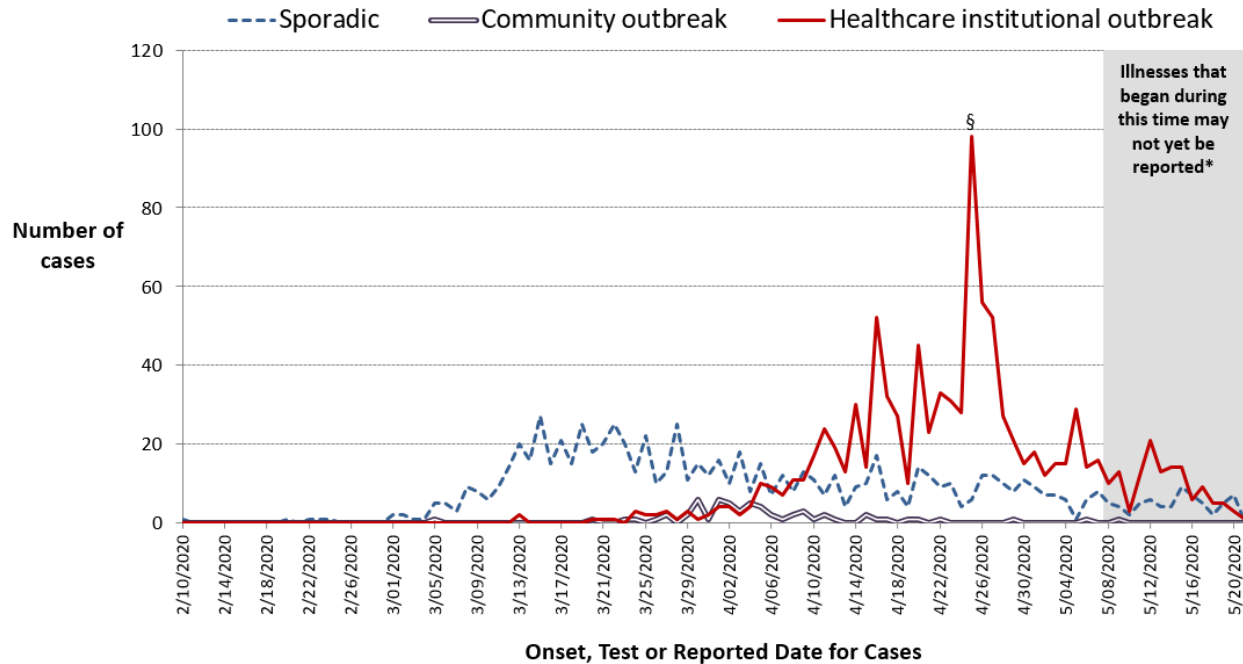


Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. As the case is investigated and more information is available, the dates in the graph are updated.
3. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.
4. A patient's exposure may have occurred up to 14 days prior to onset of symptoms.
5. *Symptomatic cases occurring in approximately the last 14 days are likely under-reported due to the time for individuals to seek medical assessment, availability of testing, and receipt of test results.
6. ERRATA: In reports before May 11, 2020, the death data were graphed to the earliest of onset date, test and reported date. As of May 11, 2020, the death data are graphed to the date of death. Since data represent a snapshot in time and case investigations are in progress, there may be some instances where a date of death is not yet entered in the COD database. In these instances, the date of death is captured as the reported date.



Figure 2. Epidemiological curve of Ottawa residents with confirmed COVID-19, by the EARLIEST of onset, test, and reported date, by outbreak association† (n=1,885)



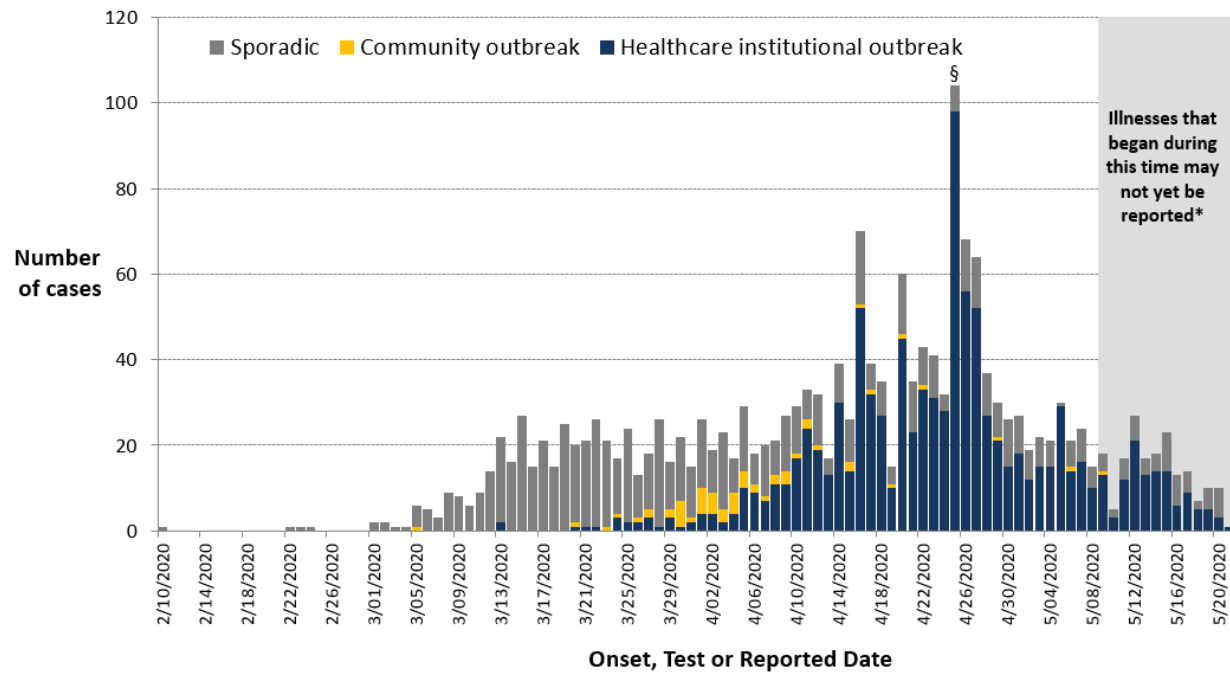
Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. As the case is investigated and more information is available, the dates in the graph are updated.
3. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.
4. †Cases are associated with a specific, isolated community outbreak; a healthcare institutional outbreak; or no known outbreak (i.e., sporadic).
5. A patient’s exposure may have occurred up to 14 days prior to onset of symptoms.
6. * Symptomatic sporadic cases occurring in approximately the last 14 days are likely under-reported due to the time for individuals to seek medical assessment, availability of testing, and receipt of test results.
7. Healthcare institutions include long term care facilities, retirement homes, and hospitals.
8. § Surveillance testing for COVID-19 began in long term care facilities on April 25, 2020.
9. The province has had to limit testing to priority groups. Since only a small fraction of all the persons who were infected with the COVID-19 virus were tested, the number of reported confirmed community cases underestimates the actual number of infections. Information on overall infection rates in Canada will not be available until large studies on COVID-19 antibody presence in blood serum are conducted. Based on available information, the actual number of infections may lie from 5 to 30 times or more than the reported number of cases.¹

¹ Richterich P. Severe underestimation of COVID-19 case numbers: Effect of epidemic growth rate and test restrictions. *medRxiv*. April 2020: 2020.04.13. doi.org/10.1101/2020.04.13.20064220



Figure 3. Epidemiological curve of Ottawa residents with confirmed COVID-19, by the EARLIEST of onset, test and reported date, by outbreak association† (n=1,885)



Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. As the case is investigated and more information is available, the dates in the graph are updated.
3. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.
4. †Cases are associated with a specific, isolated community outbreak; a healthcare institutional outbreak; or no known outbreak (i.e., sporadic).
5. A patient's exposure may have occurred up to 14 days prior to onset of symptoms.
6. *Symptomatic cases occurring in approximately the last 14 days are likely under-reported due to the time for individuals to seek medical assessment, availability of testing, and receipt of test results.
7. Healthcare institutions include long term care facilities, retirement homes, and hospitals.
8. § Surveillance testing for COVID-19 began in long term care facilities on April 25, 2020.
9. The province has had to limit testing to priority groups. Since only a small fraction of all the persons who were infected with the COVID-19 virus were tested, the number of reported confirmed community cases underestimates the actual number of infections. Information on overall infection rates in Canada will not be available until large studies on COVID-19 antibody presence in blood serum are conducted. Based on available information, the actual number of infections may lie from 5 to 30 times or more than the reported number of cases.²

² Richterich P. Severe underestimation of COVID-19 case numbers: Effect of epidemic growth rate and test restrictions. *medRxiv*. April 2020: 2020.04.13. doi.org/10.1101/2020.04.13.20064220



Case Characteristics

Table 1. Age, gender and occupation (health care worker or first responder) of Ottawa residents with confirmed COVID-19

Measure	Number	Percentage
Case count	1,885	-
Change from previous report	17	1% increase
Age, median (range)	56 years (4m-105y)	-
Age		
0-9 years	23	1%
10-19 years	49	3%
20 to 29 years	212	11%
30 to 39 years	235	12%
40 to 49 years	251	13%
50 to 59 years	274	15%
60 to 69 years	229	12%
70 to 79 years	175	9%
80 to 89 years	251	13%
90+ years	186	10%
Unknown	0	0%
Gender		
Female	1124	60%
Male	761	40%
Unknown	0	0%
Health care workers and first responders	510	27%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.



Table 2. Age, gender and occupation (health care worker or first responder) of Ottawa residents with confirmed COVID-19 who have died

Measure	Number	Percentage
Cumulative cases	1,885	
Cumulative deaths	220	12%
Change from previous report	9	4% increase
Age, median (range)	86 years (39-105)	
Age		Percent of deaths within each age subgroup*
0-9 years	0	0%
10 to 19 years	0	0%
20 to 29 years	0	0%
30 to 39 years	1	<1%
40 to 49 years	0	0%
50 to 59 years	6	2%
60 to 69 years	14	6%
70 to 79 years	35	20%
80 to 89 years	89	35%
90+ years	75	40%
Unknown	0	0%
Gender		
Female	116	10%
Male	104	14%
Unknown	0	0%
Healthcare workers and first responders	1	<1%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. *The percent of deaths by age group uses the number of cases (Table 1) for each age group as the denominator. The percent of deaths by gender uses the number of cases in that gender group as the denominator. The percent of deaths by occupation is calculated using the total number of cases in that occupation as the denominator.
3. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.



Severity of Cases

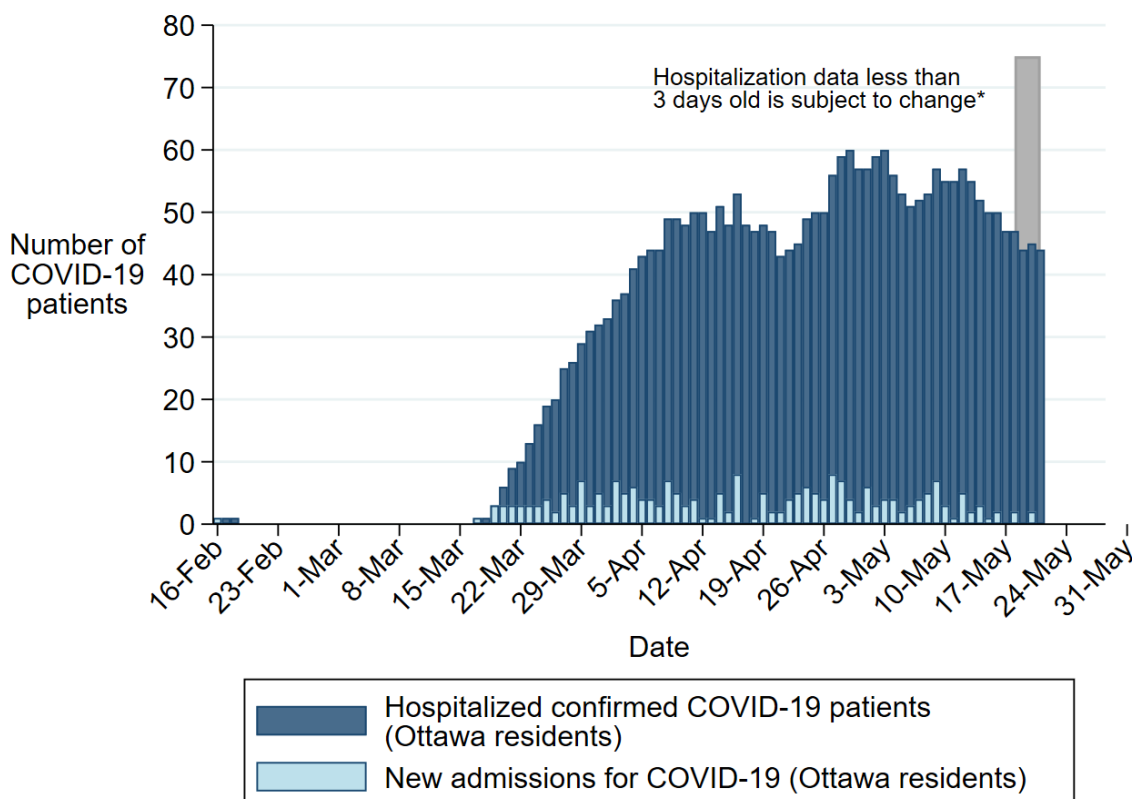
The data presented in Figure 4 and Tables 3-4 present information about Ottawa residents with COVID-19 who have been admitted to hospitals in Ottawa. These indicators help us monitor the level and severity of infection within the City.

Please consider the hospitalization data in this section to be preliminary. OPH is collaborating with local hospitals to receive daily electronic updates on hospitalizations for COVID-19 and we are conducting quality assurance work while incorporating this new data source. It is anticipated to provide more complete and accurate hospitalization data once it is fully incorporated.

The number of hospital admissions recorded in the past 3-5 days should be considered preliminary as hospital data are still being received and entered for this time period.



Figure 4. Number of Ottawa residents with confirmed COVID-19 newly admitted to hospital and number currently hospitalized, by day



Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario, March 25, 2020 version 6.0.
2. The dark blue bars represent the number of COVID-19 patients hospitalized. The light blue bars represent the number of newly hospitalized COVID-19 patients.
3. Data for this figure is available at [Open Data Ottawa](#) (Excel file).
4. There may be a data entry delay between the number of new admissions to hospital and the number of patients currently in hospital. Numbers may change based on the outcome of case investigations.
5. New admissions, discharges, deaths, and data entry lags contribute to daily fluctuations in the number of patients currently in hospital making comparisons to the previous day difficult. New hospital admissions and counts of currently in hospital may lag and are subject to change as the hospitalization information is tied to case investigation. Comparisons should not be made between the number of patients currently in hospital and new hospital admissions since hospitalization information is only updated once a patient is confirmed COVID-19 and admission information would then be updated retrospectively. For example, there can be a delay between when a patient is admitted to hospital, tested for COVID-19, and receive test results. If positive results are received, a case investigation begins and their hospitalization information is updated, resulting in a lag in the newly admitted and currently hospitalized information.
6. Patients who are admitted multiple times to hospital are only counted on their first admission date.



Table 3. Severity of disease for Ottawa residents with confirmed COVID-19

Measure	Number	Percentage
All cases	1,885	
Cumulative hospitalized	231	12%
Currently in hospital*	44	2%
Cumulative intensive care	58	3%
Deaths	220	12%
Resolved ⁴	1,465	77%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.
3. Intensive care patients are a subset of hospitalized patients.
4. As per provincial practice, cases that are 14 days past symptom onset (if available) or 14 days past the episode date are classified as resolved for non-fatal cases that are not currently listed as hospitalized. Cases are also classified as resolved if the case is reported as “recovered” in the COD. This represents a change from reports prior to May 1, 2020 that relied solely on the classification in the COD/iPHIS and increases the number classified as Resolved.
5. * New admissions, discharges, deaths, and data entry lags contribute to daily fluctuations in the number of patients currently in hospital making comparisons to the previous day difficult. New hospital admissions and counts of currently in hospital may lag and are subject to change as the hospitalization information is tied to case investigation. Comparisons should not be made between the number of patients currently in hospital and new hospital admissions since hospitalization information is only updated once a patient is confirmed COVID-19 and admission information would then be updated retrospectively. For example, there can be a delay between when a patient is admitted to hospital, tested for COVID-19, and receive test results. If positive results are received, a case investigation begins and their hospitalization information is updated, resulting in a lag in the newly admitted and currently hospitalized information.



Table 4. Age of Ottawa residents with confirmed COVID-19 that have been hospitalized (cumulative) and in intensive care (cumulative) (n=1,885)

Measure	Cumulative Hospitalized		Cumulative Intensive Care	
	Number	Percentage	Number	Percentage
Case count	231	12%	58	3%
Age, median (range)	71 years (24 to 102)		65 years (32 to 91)	
Age	% within age group*		% within age group*	
0 to 9 years	0	0%	0	0%
10 to 19 years	0	0%	0	0%
20 to 29 years	2	1%	0	0%
30 to 39 years	9	4%	3	1%
40 to 49 years	15	6%	6	2%
50 to 59 years	38	14%	15	6%
60 to 69 years	49	21%	16	7%
70 to 79 years	46	26%	11	6%
80 to 89 years	47	19%	6	2%
90+ years	25	13%	1	<1%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. * The percent of cumulative hospitalizations and cumulative intensive care admissions by age group uses the number of cases in the respective age group as the denominator.
3. Intensive care patients are a subset of hospitalized patients.
4. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. March 25, 2020 version 6.0.

Exposure Settings of Confirmed COVID-19 Cases

Table 5. Exposures of Ottawa residents with confirmed COVID-19

Exposure	Number	Percentage
Travel only	124	7%
Travel and contact with a case	42	2%
Contact with a case only	357	19%
Institutional	995	53%
Institutional and travel	4	<1%
No known exposure	313	17%
Undetermined	50	3%
TOTAL	1,885	

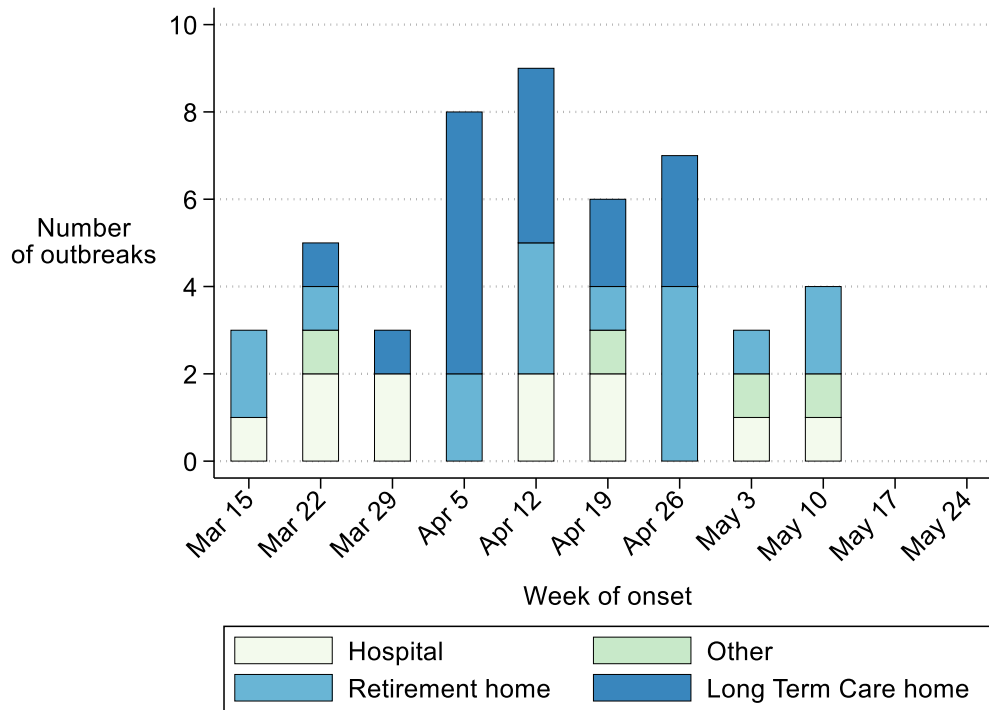
Notes:

1. Data are from the COD as of 2:00 p.m. on May 21, 2020.
2. "Institutional" exposures are assigned to residents/patients and staff associated with outbreaks in long term care facilities, retirement homes, group homes, and hospitals.
3. The number of cases with travel history has been revised downward since the last report on April 29 after additional chart review.



Outbreaks

Figure 5. Total number of COVID-19 outbreaks in Ottawa institutions³



Notes:

1. Data from iPHIS as of 4:00 pm on May 21, 2020.
2. 28 outbreaks are closed and 20 are active. Investigation and data entry are ongoing.
3. Institutions include long-term care homes, retirement homes, public hospitals, and other institutions (e.g. group homes, shelters, assisted living).



Data Notes & Sources

Data extracted represent a snapshot at the time of extraction and may differ in previous or subsequent reports. These data sources are used:

- 1) Case information
 - a. Ottawa Public Health COVID-19 Ottawa Database (COD), extracted by Ottawa Public Health at 2:00 p.m. the day before posting.
- 2) Outbreak information
 - a. Ontario Ministry of Health, integrated Public Health Information System (iPHIS), extracted by Ottawa Public Health at 4:00 p.m. the day before posting.

iPHIS and the COD are dynamic disease reporting systems that allow for ongoing updates to data previously entered. Data extracted from these databases represent a snapshot at the time of extraction and can be different in previous or subsequent reports.

Please use the following citation when referencing this document:

Ottawa Public Health. COVID-19 Epidemiology Update. May 22, 2020. Ottawa (ON): Ottawa Public Health; 2020.

For further information about COVID-19 in Ottawa, visit ottawapublichealth.ca.



Data Tables

Data Table for Figure 1

Data for Figure 1 is now available at [Open Data Ottawa](#) (Excel file).

Data table for Figure 2 and Figure 3

Data for Figures 2 and 3 are now available at [Open Data Ottawa](#) (Excel file).

Data Table for Figure 5

Week of symptom onset	Number of outbreaks in Ottawa hospitals	Number of outbreaks in other Ottawa institutions	Number of outbreaks in Ottawa retirement homes	Number of outbreaks in Ottawa long term care homes
Mar 15	1	0	2	0
Mar 22	2	1	1	1
Mar 29	2	0	0	1
Apr 05	0	0	2	6
Apr 12	2	0	3	4
Apr 19	2	1	1	2
Apr 26	0	0	4	3
May 03	1	1	1	0
May 10	1	1	2	0
May 17	0	0	0	0

