



COVID-19 Epidemiology Update

OTTAWA PUBLIC HEALTH. Report compiled on May 17, 2020, 11:00 am

Contents

Purpose	1
Summary	1
Cases Over Time.....	1
Case Characteristics.....	4
Severity of Cases.....	6
Hospitalizations among Ottawa residents with COVID-19	6
Exposure Settings of Confirmed COVID-19 Cases.....	8
Outbreaks	9
Data Notes & Sources	10
Data Tables	11

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

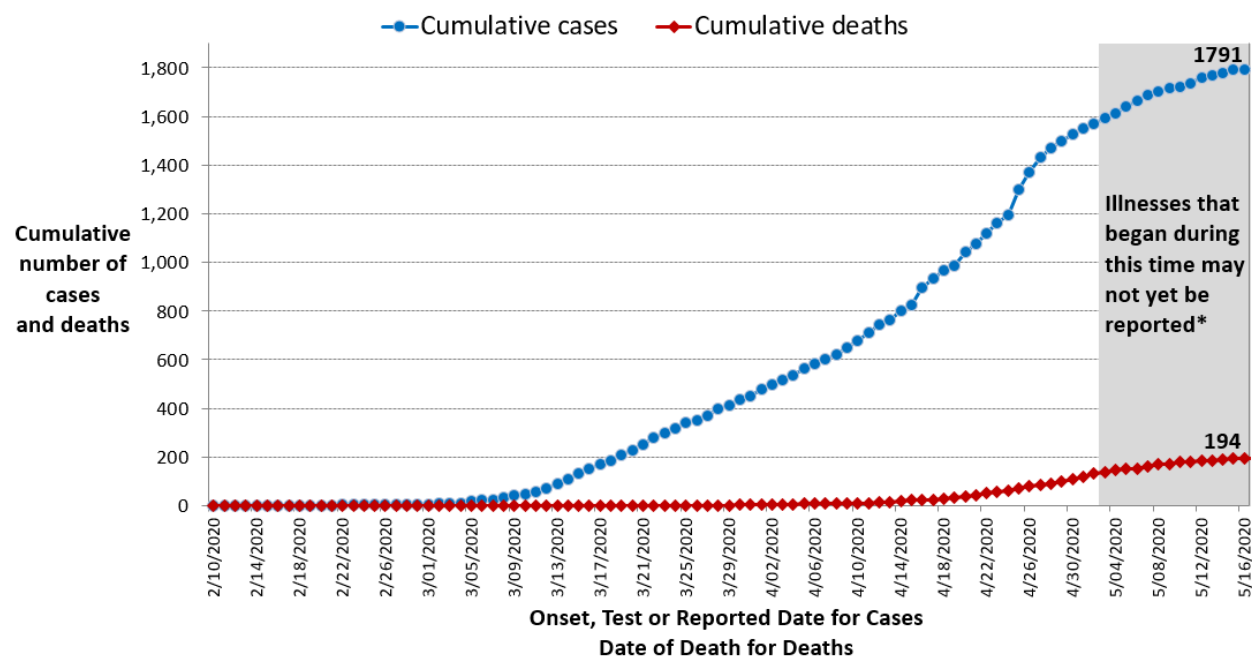
This daily report provides an epidemiologic summary of COVID-19 activity in Ottawa to date. The report includes the most current information available from the COVID-19 Ottawa Database (COD) as of 2:00 pm May 16, 2020 and the integrated Public Health Information System (iPHIS) as of 4:00 p.m. May 16, 2020.

Summary

- 1,791 laboratory-confirmed cases, including 194 deaths, have been reported in Ottawa.
- This includes 17 new cases and 0 new deaths since the previous report.
- 47 Ottawa residents with COVID-19 are currently hospitalized.
- There are 22 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

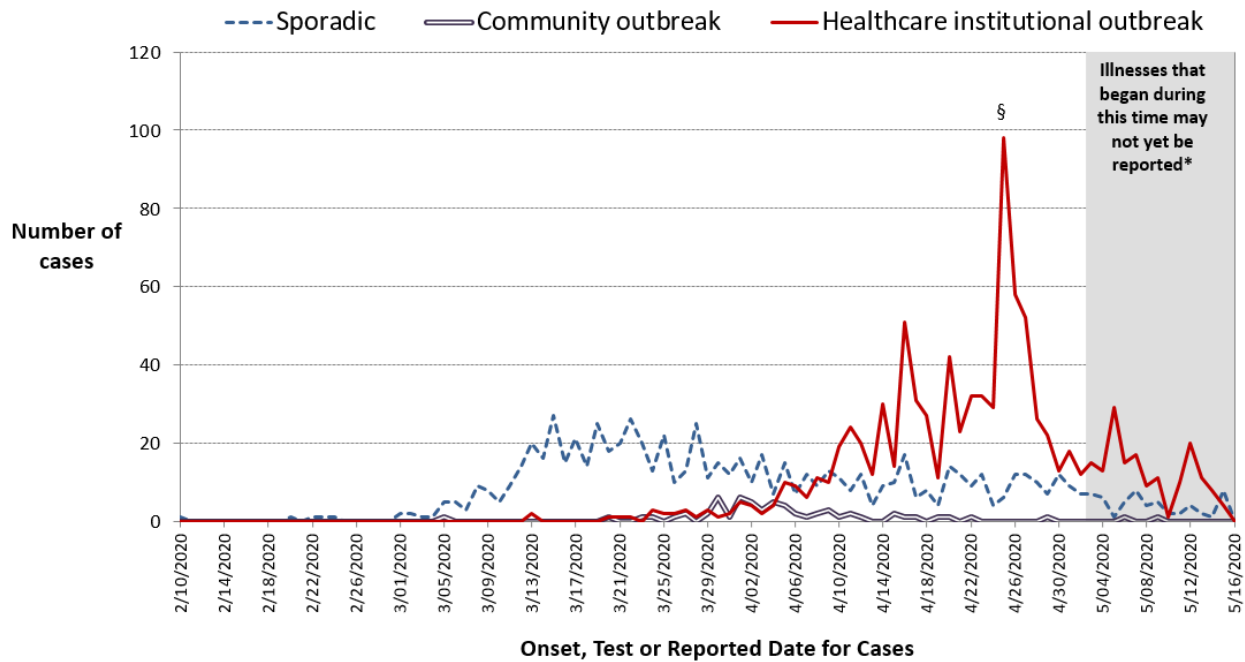


Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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=1,791)



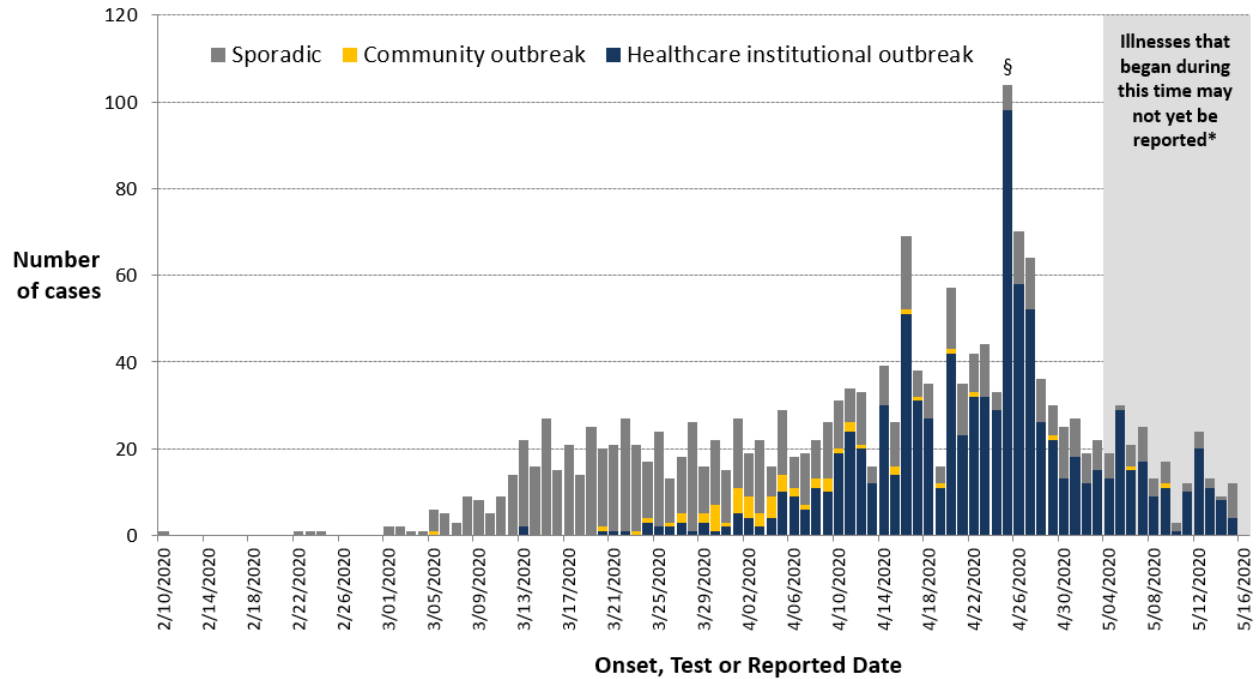
Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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=1,791)



Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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	1,791	-
Change from previous report	17	1% increase
Age, median (range)	57 years (4m-105y)	-
Age		
0-9 years	22	1%
10-19 years	45	3%
20 to 29 years	185	10%
30 to 39 years	226	13%
40 to 49 years	238	13%
50 to 59 years	263	15%
60 to 69 years	224	13%
70 to 79 years	166	9%
80 to 89 years	242	14%
90+ years	180	10%
Unknown	0	0%
Gender		
Female	1,065	59%
Male	726	41%
Unknown	0	0%
Health care workers and first responders	473	26%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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	1,791	
Cumulative deaths	194	11%
Change from previous report	0	0% increase
Age, median (range)	87 years (39-105)	
Age		Percent of deaths within each 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	12	6%
70 to 79 years	29	17%
80 to 89 years	78	32%
90+ years	68	38%
Unknown	0	0%
Gender		
Female	105	10%
Male	89	12%
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 16, 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.



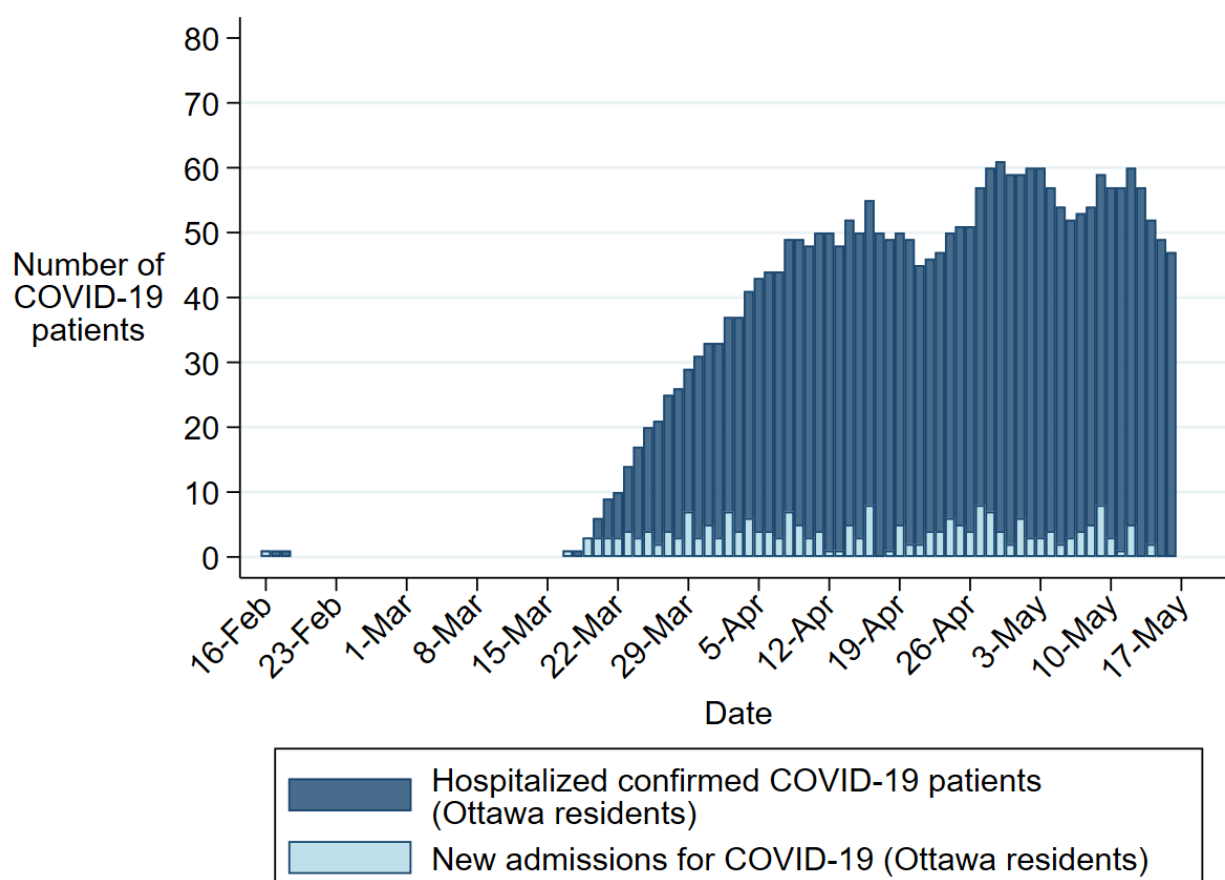
Severity of Cases

Hospitalizations among Ottawa residents with COVID-19

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.

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 16, 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](#)
4. 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.

5. 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	1,791	
Cumulative hospitalized	220	12%
Currently in hospital*	47	3%
Cumulative intensive care	57	3%
Deaths	194	11%
Resolved ⁴	1,379	77%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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=1,791)

Measure	Cumulative Hospitalized		Cumulative Intensive Care	
	Number	Percentage	Number	Percentage
Case count	220	12%	57	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	8	4%	3	1%
40 to 49 years	15	6%	6	3%
50 to 59 years	36	14%	15	6%
60 to 69 years	47	21%	15	7%
70 to 79 years	45	27%	11	7%
80 to 89 years	45	19%	6	3%
90+ years	22	12%	1	1%

Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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

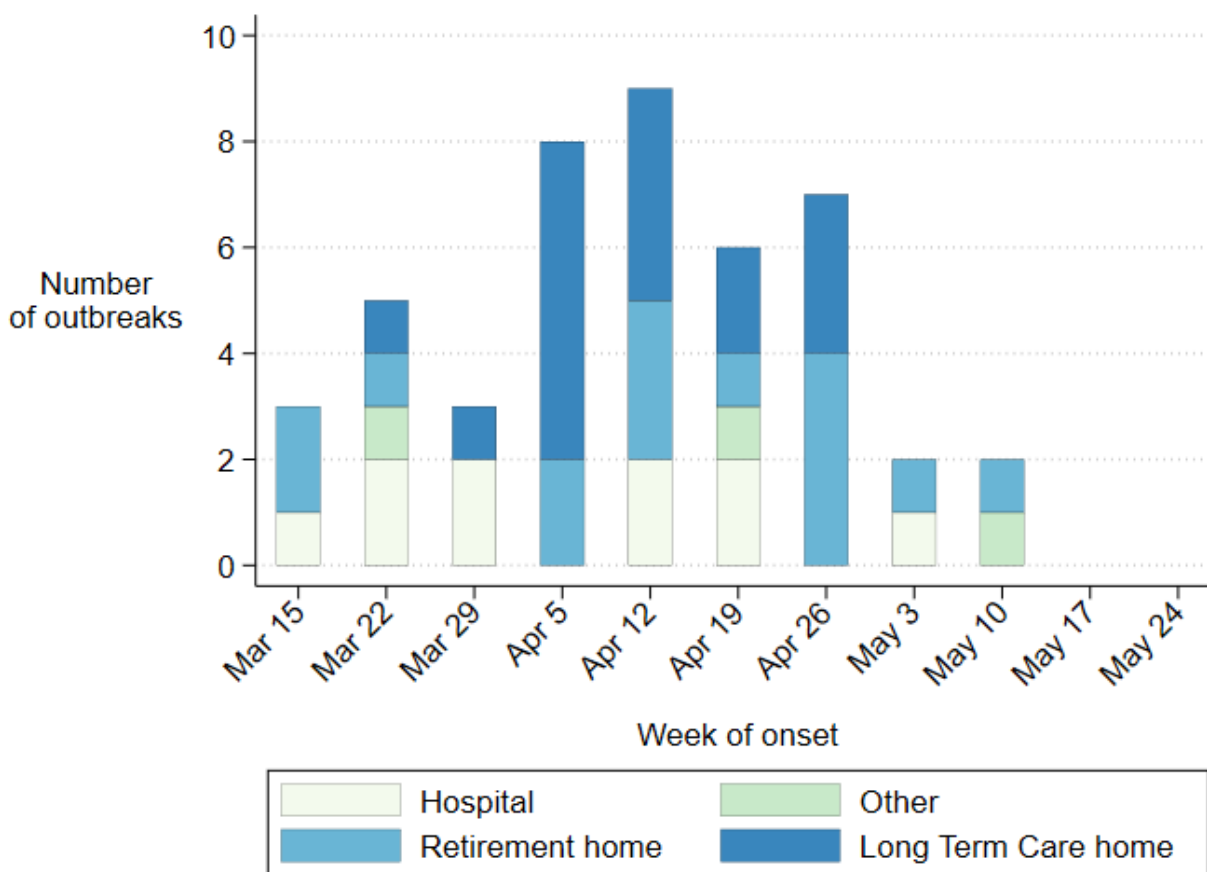
Exposure	Number	Percentage
Travel only	110	6%
Travel and contact with a case	41	2%
Contact with a case only	307	17%
Institutional	939	52%
Institutional and travel	3	<1%
No known exposure	338	19%
Undetermined	53	3%
TOTAL	1,791	

Notes:

1. Data are from the COD as of 2:00 p.m. on May 16, 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.



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



Notes:

1. Data from iPHIS as of 4:00 pm on May 16, 2020.
2. 23 outbreaks are closed and 22 are active. Investigation and data entry are ongoing.
3. Institutions include long-term care homes, retirement homes, group homes and assisted living (other) and public hospitals.



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. Data are from [Ontario Data Catalogue](#) of confirmed positive cases of COVID19 in Ottawa downloaded 10:30am on May 16, representing data pulled from the Ottawa Public Health COVID-19 Ottawa Database (COD) as of 2:00 p.m. on May 16, 2020.
- 2) Outbreak information
 - a. Ontario Ministry of Health, integrated Public Health Information System (iPHIS), extracted by Ottawa Public Health at 4:00 p.m. each day.

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 17, 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

Earliest of Onset, Test or Reported Date or Date of Death	Cumulative Number of Ottawa Residents with Confirmed COVID-19	Cumulative Number of Ottawa Residents with Confirmed COVID-19 who died
2/10/2020	1	0
2/11/2020	1	0
2/12/2020	1	0
2/13/2020	1	0
2/14/2020	1	0
2/15/2020	1	0
2/16/2020	1	0
2/17/2020	1	0
2/18/2020	1	0
2/19/2020	1	0
2/20/2020	2	0
2/21/2020	2	0
2/22/2020	3	0
2/23/2020	4	0
2/24/2020	5	0
2/25/2020	5	0
2/26/2020	5	0
2/27/2020	5	0
2/28/2020	5	0
2/29/2020	5	0
3/01/2020	7	0
3/02/2020	9	0
3/03/2020	10	0
3/04/2020	11	0
3/05/2020	17	0
3/06/2020	22	0
3/07/2020	25	0
3/08/2020	34	0
3/09/2020	42	0
3/10/2020	47	0



Earliest of Onset, Test or Reported Date or Date of Death	Cumulative Number of Ottawa Residents with Confirmed COVID-19	Cumulative Number of Ottawa Residents with Confirmed COVID-19 who died
3/11/2020	56	0
3/12/2020	70	0
3/13/2020	92	0
3/14/2020	108	0
3/15/2020	135	0
3/16/2020	150	0
3/17/2020	171	0
3/18/2020	185	0
3/19/2020	210	0
3/20/2020	230	0
3/21/2020	251	0
3/22/2020	278	0
3/23/2020	299	0
3/24/2020	316	1
3/25/2020	340	1
3/26/2020	353	1
3/27/2020	371	1
3/28/2020	397	2
3/29/2020	413	2
3/30/2020	435	3
3/31/2020	450	3
4/01/2020	477	3
4/02/2020	496	5
4/03/2020	518	5
4/04/2020	534	6
4/05/2020	563	8
4/06/2020	581	9
4/07/2020	600	9
4/08/2020	622	11
4/09/2020	648	11
4/10/2020	679	11
4/11/2020	713	11



Earliest of Onset, Test or Reported Date or Date of Death	Cumulative Number of Ottawa Residents with Confirmed COVID-19	Cumulative Number of Ottawa Residents with Confirmed COVID-19 who died
4/12/2020	746	13
4/13/2020	762	16
4/14/2020	801	18
4/15/2020	827	23
4/16/2020	896	23
4/17/2020	934	25
4/18/2020	969	30
4/19/2020	985	34
4/20/2020	1042	38
4/21/2020	1077	45
4/22/2020	1119	52
4/23/2020	1163	55
4/24/2020	1196	63
4/25/2020	1300	71
4/26/2020	1370	80
4/27/2020	1434	86
4/28/2020	1470	92
4/29/2020	1500	100
4/30/2020	1525	107
5/01/2020	1552	119
5/02/2020	1571	131
5/03/2020	1593	137
5/04/2020	1612	149
5/05/2020	1642	151
5/06/2020	1663	154
5/07/2020	1688	161
5/08/2020	1701	169
5/09/2020	1718	173
5/10/2020	1721	180



Earliest of Onset, Test or Reported Date or Date of Death	Cumulative Number of Ottawa Residents with Confirmed COVID-19	Cumulative Number of Ottawa Residents with Confirmed COVID-19 who died
5/11/2020	1733	181
5/12/2020	1757	185
5/13/2020	1770	187
5/14/2020	1779	192
5/15/2020	1791	194
5/16/2020	1791	194



Data table for Figure 2 and Figure 3

Earliest of Onset, Test or Reported Date	Daily Total of Sporadic COVID-19 Cases	Daily Total of COVID-19 Cases Linked to Community Outbreaks	Daily Total of COVID-19 Cases Linked to Outbreaks in Health Care Institutions	Daily Total of Ottawa Residents with Confirmed COVID-19
2/10/2020	1	0	0	1
2/11/2020	0	0	0	0
2/12/2020	0	0	0	0
2/13/2020	0	0	0	0
2/14/2020	0	0	0	0
2/15/2020	0	0	0	0
2/16/2020	0	0	0	0
2/17/2020	0	0	0	0
2/18/2020	0	0	0	0
2/19/2020	0	0	0	0
2/20/2020	1	0	0	1
2/21/2020	0	0	0	0
2/22/2020	1	0	0	1
2/23/2020	1	0	0	1
2/24/2020	1	0	0	1
2/25/2020	0	0	0	0
2/26/2020	0	0	0	0
2/27/2020	0	0	0	0
2/28/2020	0	0	0	0
2/29/2020	0	0	0	0
3/01/2020	2	0	0	2
3/02/2020	2	0	0	2
3/03/2020	1	0	0	1
3/04/2020	1	0	0	1
3/05/2020	5	1	0	6
3/06/2020	5	0	0	5
3/07/2020	3	0	0	3
3/08/2020	9	0	0	9
3/09/2020	8	0	0	8
3/10/2020	5	0	0	5



Earliest of Onset, Test or Reported Date	Daily Total of Sporadic COVID-19 Cases	Daily Total of COVID-19 Cases Linked to Community Outbreaks	Daily Total of COVID-19 Cases Linked to Outbreaks in Health Care Institutions	Daily Total of Ottawa Residents with Confirmed COVID-19
3/11/2020	9	0	0	9
3/12/2020	14	0	0	14
3/13/2020	20	0	2	22
3/14/2020	16	0	0	16
3/15/2020	27	0	0	27
3/16/2020	15	0	0	15
3/17/2020	21	0	0	21
3/18/2020	14	0	0	14
3/19/2020	25	0	0	25
3/20/2020	18	1	1	20
3/21/2020	20	0	1	21
3/22/2020	26	0	1	27
3/23/2020	20	1	0	21
3/24/2020	13	1	3	17
3/25/2020	22	0	2	24
3/26/2020	10	1	2	13
3/27/2020	13	2	3	18
3/28/2020	25	0	1	26
3/29/2020	11	2	3	16
3/30/2020	15	6	1	22
3/31/2020	12	1	2	15
4/01/2020	16	6	5	27
4/02/2020	10	5	4	19
4/03/2020	17	3	2	22
4/04/2020	7	5	4	16
4/05/2020	15	4	10	29
4/06/2020	7	2	9	18
4/07/2020	12	1	6	19
4/08/2020	9	2	11	22
4/09/2020	13	3	10	26
4/10/2020	11	1	19	31



Earliest of Onset, Test or Reported Date	Daily Total of Sporadic COVID-19 Cases	Daily Total of COVID-19 Cases Linked to Community Outbreaks	Daily Total of COVID-19 Cases Linked to Outbreaks in Health Care Institutions	Daily Total of Ottawa Residents with Confirmed COVID-19
4/11/2020	8	2	24	34
4/12/2020	12	1	20	33
4/13/2020	4	0	12	16
4/14/2020	9	0	30	39
4/15/2020	10	2	14	26
4/16/2020	17	1	51	69
4/17/2020	6	1	31	38
4/18/2020	8	0	27	35
4/19/2020	4	1	11	16
4/20/2020	14	1	42	57
4/21/2020	12	0	23	35
4/22/2020	9	1	32	42
4/23/2020	12	0	32	44
4/24/2020	4	0	29	33
4/25/2020	6	0	98	104
4/26/2020	12	0	58	70
4/27/2020	12	0	52	64
4/28/2020	10	0	26	36
4/29/2020	7	1	22	30
4/30/2020	12	0	13	25
5/01/2020	9	0	18	27
5/02/2020	7	0	12	19
5/03/2020	7	0	15	22
5/04/2020	6	0	13	19
5/05/2020	1	0	29	30
5/06/2020	5	1	15	21
5/07/2020	8	0	17	25
5/08/2020	4	0	9	13
5/09/2020	5	1	11	17



Earliest of Onset, Test or Reported Date	Daily Total of Sporadic COVID-19 Cases	Daily Total of COVID-19 Cases Linked to Community Outbreaks	Daily Total of COVID-19 Cases Linked to Outbreaks in Health Care Institutions	Daily Total of Ottawa Residents with Confirmed COVID-19
5/10/2020	2	0	1	3
5/11/2020	2	0	10	12
5/12/2020	4	0	20	24
5/13/2020	2	0	11	13
5/14/2020	1	0	8	9
5/15/2020	8	0	4	12
5/16/2020	0	0	0	0

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	0	1	0
May 10	0	1	1	0

