



# Special Focus: COVID-19 and Age

OTTAWA PUBLIC HEALTH. Report compiled on August 20, 2020, 11:00 am

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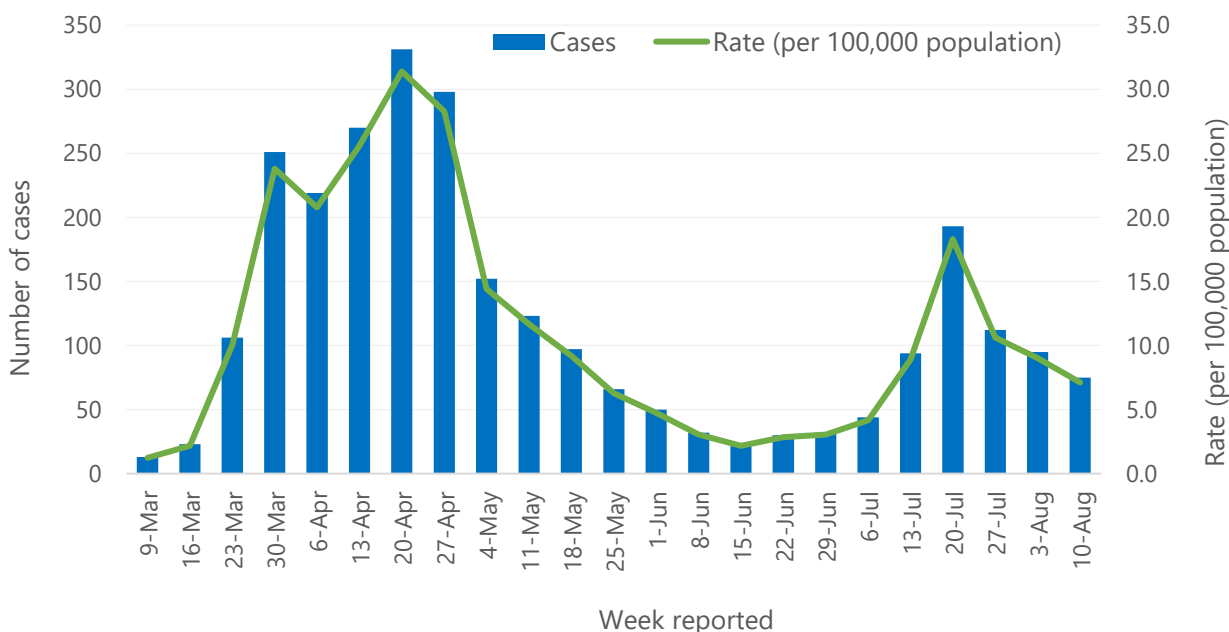
## Introduction

The highest number of cases of confirmed COVID-19 among Ottawa residents occurring in a week was reported during the week of April 20-26 (331 cases), and by mid-June, the weekly reported cases of COVID-19 among Ottawa residents decreased substantially to fewer than 25 cases between June 15 and June 21, 2020. However, an increasing number of cases were reported in the weeks that followed, with a notable peak in the third week of July 20-26 (193 cases).

In the early months of the pandemic, the province had to limit testing to priority groups at higher risk (i.e. recent travel, contact with a case, healthcare workers, and older age groups). Expanded testing guidelines in Ontario came into effect on May 25. Since only a small fraction of all the persons who were infected with the COVID-19 virus were able to get tested, the number of reported confirmed cases underestimates the actual number of infections, especially prior to May 25. This may have had an impact on the number of cases before and after the change in guidelines.

Since mid-June 2020, there was an increase in the number of COVID-19 cases reported in children and young adults. As September approaches and educational facilities prepare to re-open, exploring age differences in COVID-19 transmission and severity of illness in Ottawa helps us better understand age-specific transmission.

**Figure 1: Weekly cases of confirmed COVID-19 among Ottawa residents (n=2,729)**



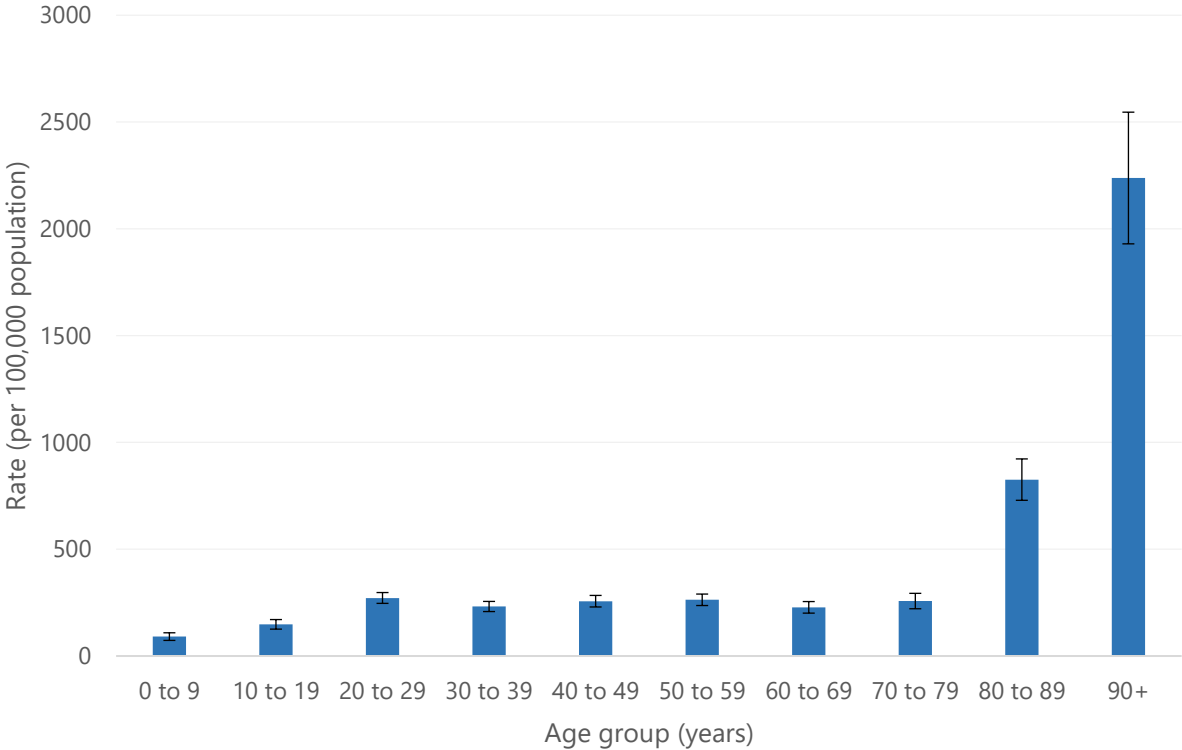
**Notes:**

1. Data on cases are from the COD as of 2:00 p.m. on August 18, 2020.
2. Case counts are presented by reported date. Counts from the latest week should be interpreted with caution due to potential lags in reporting.



The rate of reported cases since the beginning of the pandemic has increased with increasing age, although the rates were similar overall for those aged 20 to 79 years (Figure 2). The rate of COVID-19 cases differed significantly by age-group. Those aged 0 to 19 years had lower rates than those aged 20-79, and those aged 80 and older had much higher rates compared to the other age groups. The higher rate in the older age groups is also influenced by a much smaller population as well as greater testing in these age groups at the start of the pandemic.

**Figure 2: Cumulative rates of confirmed COVID-19 for Ottawa residents (n=2,729), by age group updated**



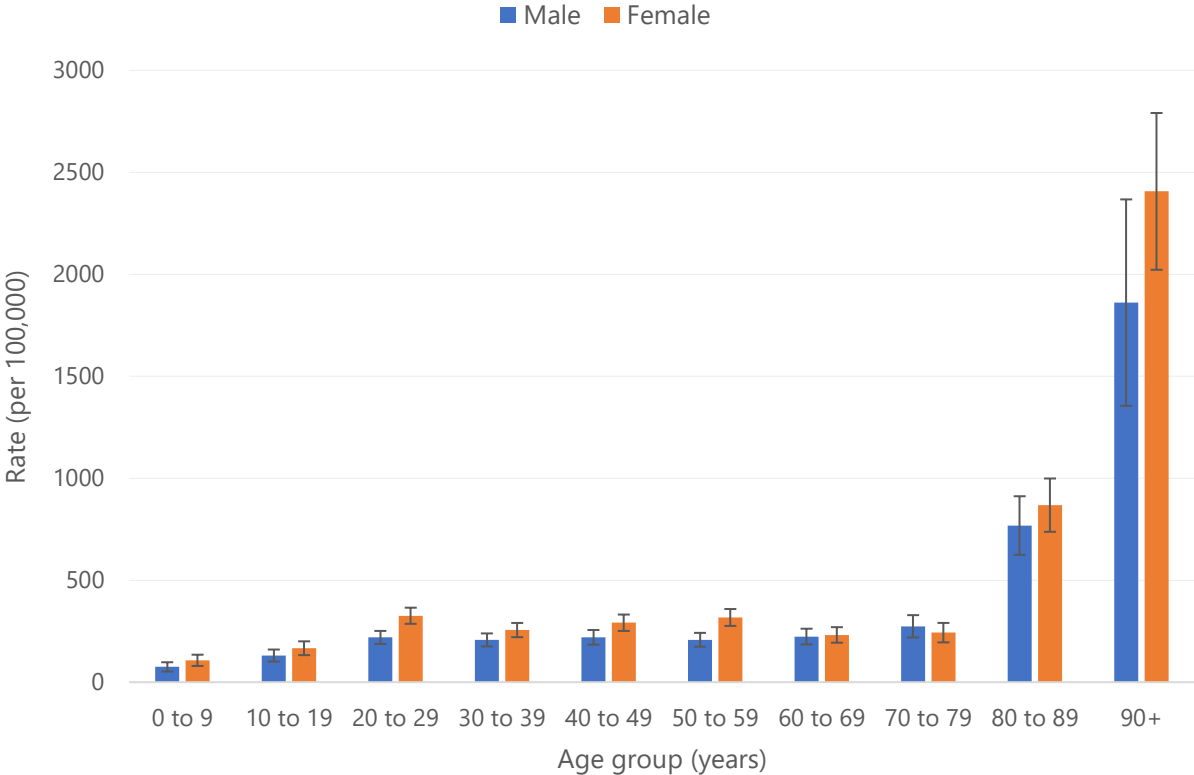
**Notes:**

1. Data on cases are from the COD as of 2:00 p.m. on August 18, 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. June 23, 2020 version 8.0.
3. Rates per 100,000 were calculated using Ottawa population projection data for 2020 from Ontario Ministry of Health, IntelliHEALTH Ontario, extracted on November 26, 2019.



We have previously [reported](#) that the rate of laboratory confirmed COVID-19 infections was higher among females; this trend persisted across nearly all age-groups (Figure 3). The rate of reported cases was significantly higher for females aged 20-29 and 50-59 compared to males of the same age group.

**Figure 3: Rates of confirmed COVID-19 for Ottawa residents (n=2,729), by age group and gender**



**Notes:**

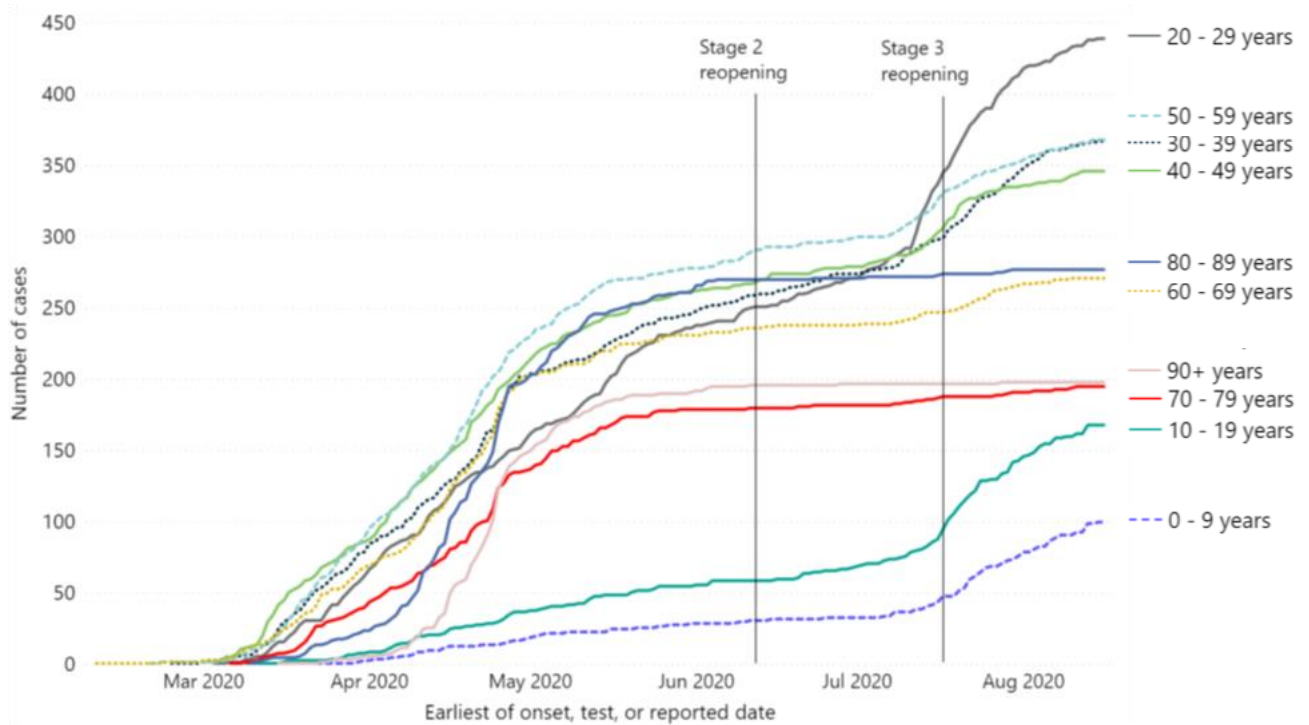
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## Changes over Time

There was a surge of COVID-19 cases beginning in the second week of July (Figure 4). This surge was greatest among children, youth, and young-middle age adults (Table 1). Overall, there was a doubling of cases week over week for almost all age groups between July 6 to July 29. Cases in older adults remained steady since early June.

**Figure 4: Cumulative confirmed cases of COVID-19 among Ottawa residents over time (n=2,729), by age group**



### Notes:

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**Table 1: Weekly changes in confirmed cases, and rates of COVID-19 among Ottawa residents, by age group**

Week	June 29 to July 5		July 6 to July 12		July 13 to July 19		July 20 to July 26		July 27 to August 2		August 3 to August 9		August 10 to August 16	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
0-19	6	2.7	9	4	18	8.1	47	21.1	39	17.5	27	12.1	26	11.6
20-39	15	4.7	22	6.9	46	14.7	83	25.6	40	12.5	38	11.9	30	9.4
Age 40-59	8	2.9	10	3.6	23	8.4	50	18.2	19	6.9	19	6.9	15	5.5
(years) 60-79	2	1	2	1	7	3.6	11	5.6	10	5.1	11	5.6	4	2.1
80+	1	2.4	1	2.4	0	0	2	4.7	4	9.4	0	0	0	0
Total	32	3	44	4.2	94	9	193	18.2	112	10.6	95	9.0	75	7.1

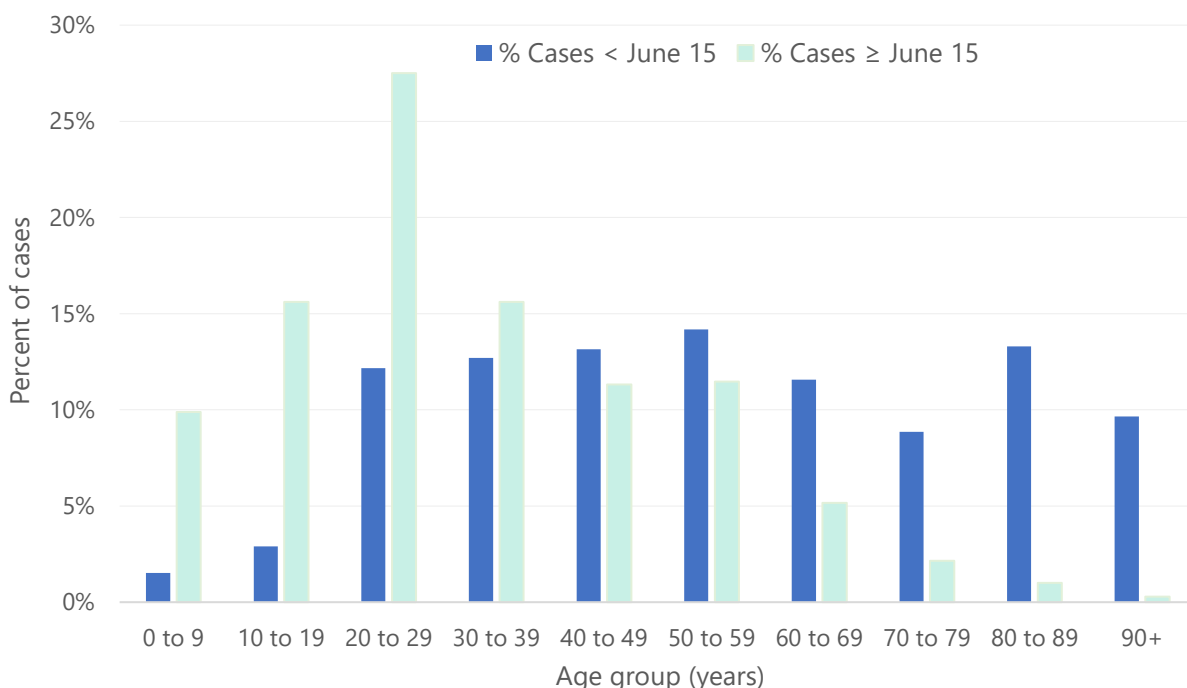
**Notes:**

1. Data on cases are from the COD as of 2:00 p.m. on August 18, 2020.
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The figure below shows the age distribution of cases that were reported prior to, and after mid-June 2020. In the earlier months of the pandemic, children and youth (0-9 and 10-19 years) made up only 5% of cases combined, and most cases were distributed fairly evenly across young, middle and older adult age groups. However, after mid-June the age distribution of cases shifted substantially, and younger age groups made up a much larger percent of recently reported cases. The expansion in testing eligibility on May 25 may partially explain the shift in age distribution of cases.

**Figure 5: Confirmed COVID-19 cases among Ottawa residents reported prior to, and on or after June 15, 2020 (n=2,729), by age group**



**Notes:**

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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. June 23, 2020 version 8.0.



## Source of Infection

Sporadic cases refer to cases that are not linked to a known outbreak. Community outbreaks refer to cases that are linked by a common exposure setting that are not in institutions such as healthcare or childcare establishments.

Younger age-groups are significantly more likely to be sporadic cases of COVID-19 compared to older age groups ( $p < 0.001$ ). The proportion of cases attributed to outbreaks at healthcare and childcare establishments increases significantly with increasing age. Overall, few cases are associated with community outbreaks.

**Table 3: Source of infection for Ottawa residents with confirmed COVID-19, by age group (n=2,729)**

Age Group (years)	Source		
	Sporadic Number of cases (% within age group)	Community Outbreaks Number of cases (% within age group)	Healthcare and Childcare Outbreaks Number of cases (% within age group)
0-9	88 (88.0)	2 (2.0)	10 (10.0)
10-19	155 (92.3)	4 (2.4)	9 (5.4)
20-29	342 (77.9)	21 (4.8)	76 (17.3)
30-39	250 (68.1)	16 (4.4)	101 (27.5)
40-49	212 (61.3)	18 (5.2)	116 (33.5)
50-59	219 (59.5)	17 (4.6)	132 (35.9)
60-69	140 (51.7)	6 (2.2)	125 (46.1)
70-79	82 (42.1)	2 (1.0)	111 (56.9)
80-89	30 (10.8)	0	247 (89.2)
90+	5 (2.5)	0	193 (97.5)
<b>Total</b>	<b>1,523 (55.8)</b>	<b>86 (3.2)</b>	<b>1,120 (41.0)</b>

**Notes:**

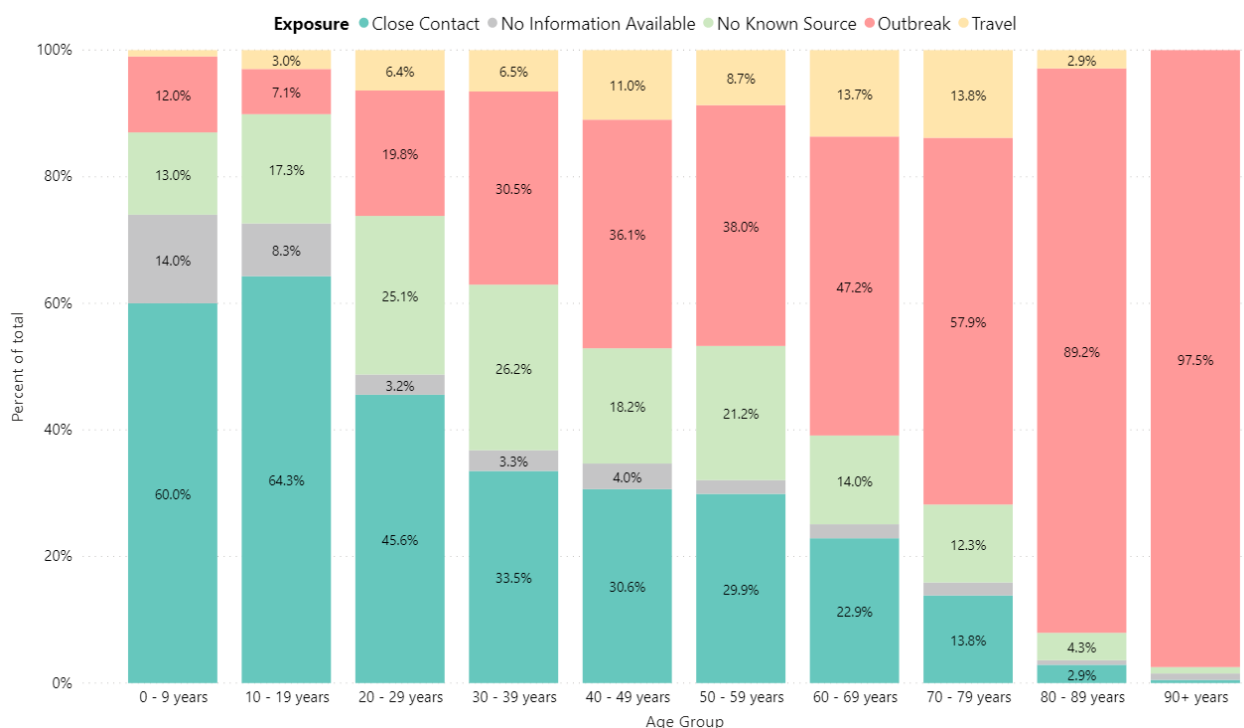
1. P-value from chi-square test.
2. Data on cases are from the COD as of 2:00 p.m. on August 18, 2020.
3. Confirmed cases are those with a confirmed COVID-19 laboratory result as per the Ministry of Health Public health management of cases and contacts of COVID-19 in Ontario. June 23, 2020 version 8.0.





Most cases in younger age groups are not associated with outbreaks. Of these sporadic cases, the proportion of cases due to close contact with a case for those aged 0 to 19 years is double that of those aged 30 to 59 years (approximately 63% compared to 30%).

**Figure 6: Exposures reported for Ottawa residents with confirmed COVID-19 (n=2,729), by age group**



**Notes:**

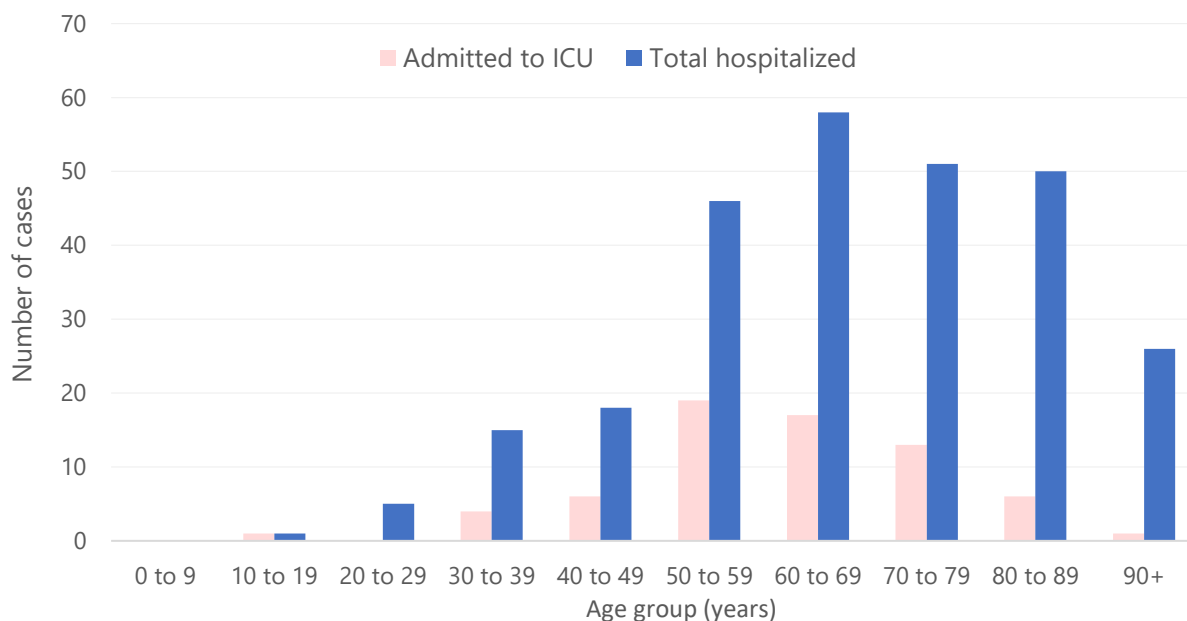
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## Severity of Disease

Most hospitalizations among confirmed cases of COVID-19 in Ottawa residents occurred in middle-age and older adults (Figure 7). There were no hospitalizations for children 0-9 years with confirmed COVID-19 reported up to August 16, 2020.

**Figure 7: Cumulative hospitalizations and ICU admissions (n=270), by age group**



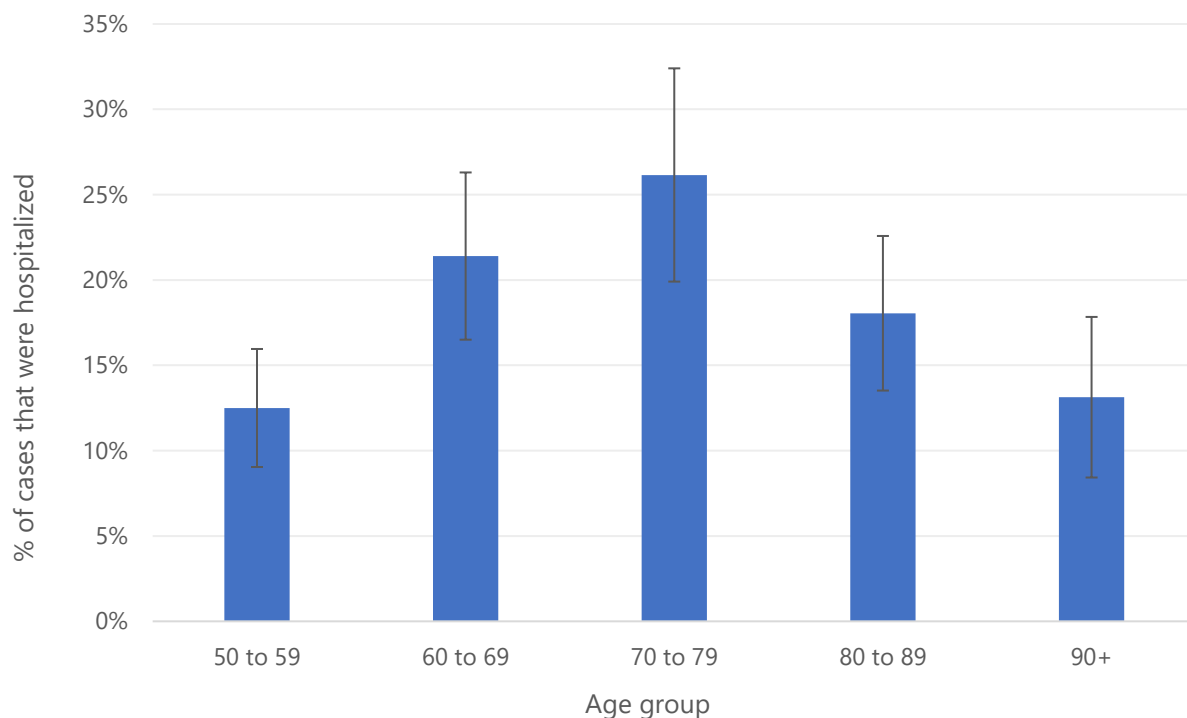
**Notes:**

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3. ICU admissions are a subset of hospitalizations.



Adults age 70 to 79 years had the highest percent of cases that were hospitalized (27%) (Figure 8). The percent of hospitalizations in those aged 70 to 79 years was significantly higher than adults aged 50 to 59 years and adults aged 90 years and older.

**Figure 8: Percent of confirmed COVID-19 cases that were hospitalized for Ottawa residents aged 50 years and older (n=231)**



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To date, we have not seen the same number of hospitalizations in younger age groups as we did for older individuals at the beginning of the pandemic. With schools reopening in a few weeks, it will be important to track the severity of disease in younger age groups particularly in institutional settings such as schools and daycare facilities.



**Please use the following citation when referencing this document:**

Ottawa Public Health. COVID-19 Epidemiology Special Focus: COVID-19 and Age. August 20, 2020. Ottawa (ON): Ottawa Public Health; 2020.

**For further information about COVID-19 in Ottawa,** visit [ottawapublichealth.ca](https://ottawapublichealth.ca).



## Data Tables

Data table for Figure 1.

Week reported	Cases	Rate (per 100,000 population)
9-Mar	13	1.2
16-Mar	23	2.2
23-Mar	106	10.1
30-Mar	251	23.8
6-Apr	219	20.8
13-Apr	270	25.6
20-Apr	331	31.4
27-Apr	298	28.3
4-May	152	14.4
11-May	123	11.7
18-May	97	9.2
25-May	66	6.3
1-Jun	50	4.7
8-Jun	32	3.0
15-Jun	23	2.2
22-Jun	30	2.8
29-Jun	32	3.0
6-Jul	44	4.2
13-Jul	94	8.9
20-Jul	193	18.3
27-Jul	112	10.6
3-Aug	95	9.0
10-Aug	75	7.1
<b>Total</b>	<b>2729</b>	<b>258.8</b>

Data table for Figures 2 and 3.

Age Group (years)	Female		Male		Total	
	Cases (% within age group)	Rate (per 100,000)	Cases (% within age group)	Rate (per 100,000)	Cases (% of total cases)	Rate (per 100,000)
0-9	58 (58.0)	107	42 (42.0)	75	100 (3.7)	91
10-19	93 (55.4)	167	75 (44.6)	131	168 (6.2)	148
20-29	259 (59.0)	326	180 (41.0)	219	439 (16.1)	272
30-39	206 (56.1)	256	161 (43.9)	207	367 (13.4)	232
40-49	201 (58.1)	292	145 (41.9)	220	346 (12.7)	257
50-59	224 (60.9)	317	144 (39.1)	208	368 (13.5)	263
60-69	142 (52.4)	232	129 (47.6)	224	271 (9.9)	228
70-79	99 (50.8)	243	96 (49.2)	274	195 (7.1)	257
80-89	168 (60.6)	868	109 (39.4)	768	277 (10.2)	826
90+	147 (74.2)	2,407	51 (25.8)	1,861	198 (7.3)	2,238
<b>Total</b>	<b>1,597 (58.5)</b>	<b>297</b>	<b>1,132 (41.5)</b>	<b>219</b>	<b>2,729 (100.0)</b>	<b>259</b>



Data table for Figure 5.

Age Group (years)	Cases reported up to June 15		Cases reported June 15 - August 9	
	Cases	% of all cases	Cases	% of all cases
0 to 9	31	2%	69	10%
10 to 19	59	3%	109	16%
20 to 29	247	12%	192	28%
30 to 39	258	13%	109	16%
40 to 49	267	13%	79	11%
50 to 59	288	14%	80	11%
60 to 69	235	12%	36	5%
70 to 79	180	9%	15	2%
80 to 89	270	13%	7	1%
90+	196	10%	2	0%
<b>Total</b>	<b>2031</b>	<b>100%</b>	<b>698</b>	<b>100%</b>

Data table for Figure 7 and 8.

Age Group (years)	Hospitalizations	ICU		Cases	% Hospitalized
		Admissions			
0 to 9	0	0		100	0%
10 to 19	1	1		168	1%
20 to 29	5	0		439	1%
30 to 39	15	4		367	4%
40 to 49	18	6		346	5%
50 to 59	46	19		368	13%
60 to 69	58	17		271	21%
70 to 79	51	13		195	26%
80 to 89	50	6		277	18%
90+	26	1		198	13%
<b>Total</b>	<b>270</b>	<b>67</b>		<b>2729</b>	<b>10%</b>

## Data Notes

This report includes information about cases with report dates up to and including August 16, 2020. The report includes the most current information available from the COVID-19 Ottawa Database (COD) as of 2:00 p.m. August 18, 2020.

