

## Trend Analysis of 6<sup>th</sup> and 7<sup>th</sup> COVID-19 waves

The 6<sup>th</sup> COVID-19 wave occurred from mid-March until the end of April as we saw our indicators start to rise in mid-March, peak, and then fall by the end of April. Our indicators then leveled off throughout May and June but have started rising again since the beginning of July.

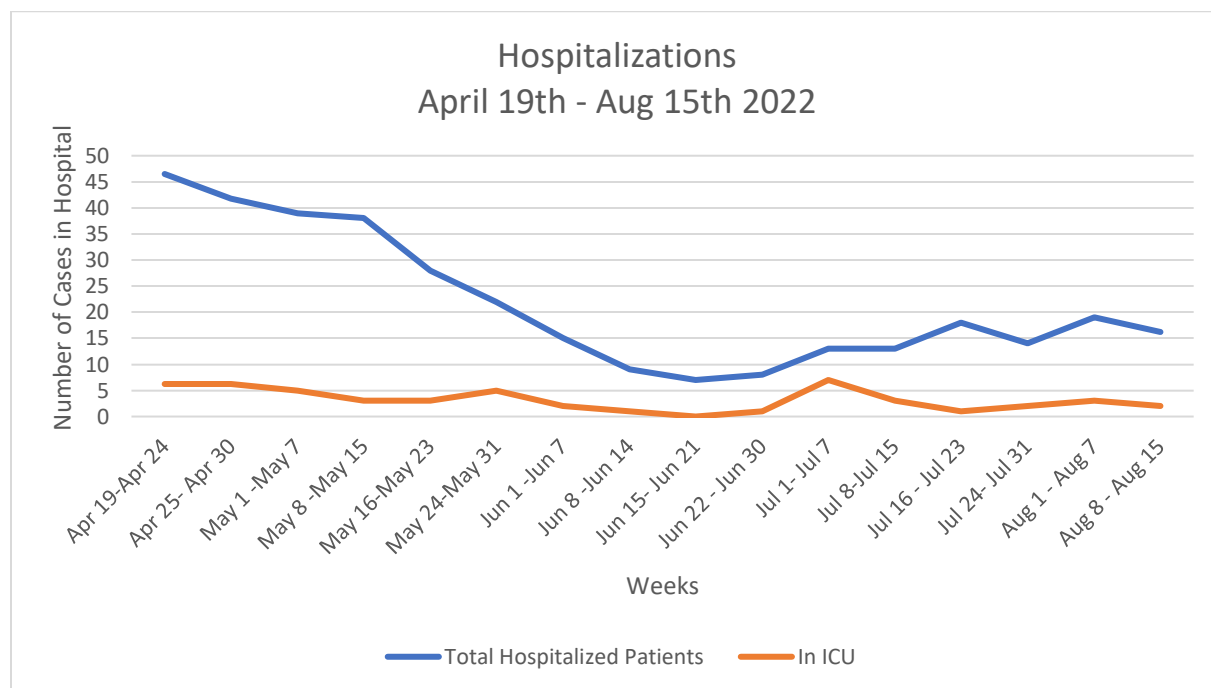
This indicates that we are in a 7<sup>th</sup> wave. However, the indicators are not as high as during the 5<sup>th</sup> wave, the Tsunami driven by Omicron from Dec 2021-Feb 2022 nor as high as the 6<sup>th</sup> wave. Therefore, although the summer of 2022 is more severe than the summers of 2020 & 2021, the numbers are still within feasible ranges.

When compared with the provincial trends, we see the same pattern. The numbers peaked in mid-late April, dropped through May- June, and started increasing as of the beginning of July. (See hospitalized cases below)

### Hospitalizations

#### *EOHU cases*

From a high of 52 on April 19<sup>th</sup>, our hospitalized cases continually decreased both in hospital and in ICU throughout May/June after which they started to increase again. At the beginning of August, we reached 19 hospitalized cases so far although our ICU numbers have remained low at 3 cases.

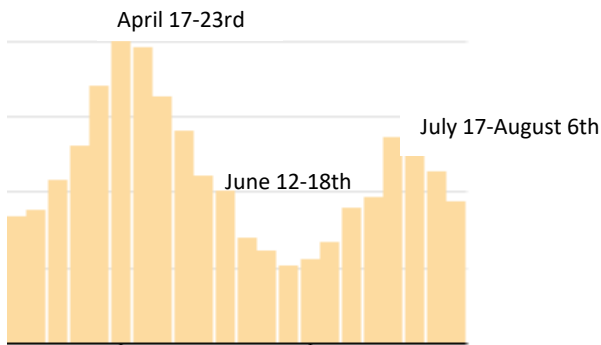


Source: Ontario Ministry of Health, Public Health Case and Contact Management Solution (CCM)

Week	Average Hospitalized Case Count per Week	In ICU
April 19-April 24	47	6
April 25- April 30	42	6
May 1 -May 7	39	5
May 8 -May 15	38	3
May 16-May 23	28	3
May 24-May 31	22	5
June 1 -June 7	15	2
June 8 -June 14	9	1
June 15- June 21	7	0
June 22 - June 30	8	1
July 1- July 7	13	7
July 8-July 15	13	3
July 16 - July 23	18	1
July 24- July 31	14	2
August 1 - August 7	19	3
August 8- August 15	16	2

When compared with the provincial trends, we see the same pattern. The numbers peaked mid-late April, dropped through May-June, and started increasing as of the beginning of July. Like the EOHU, we begin to see a decrease in this rate beginning of August.

#### *Provincial Trend of Hospitalized cases*



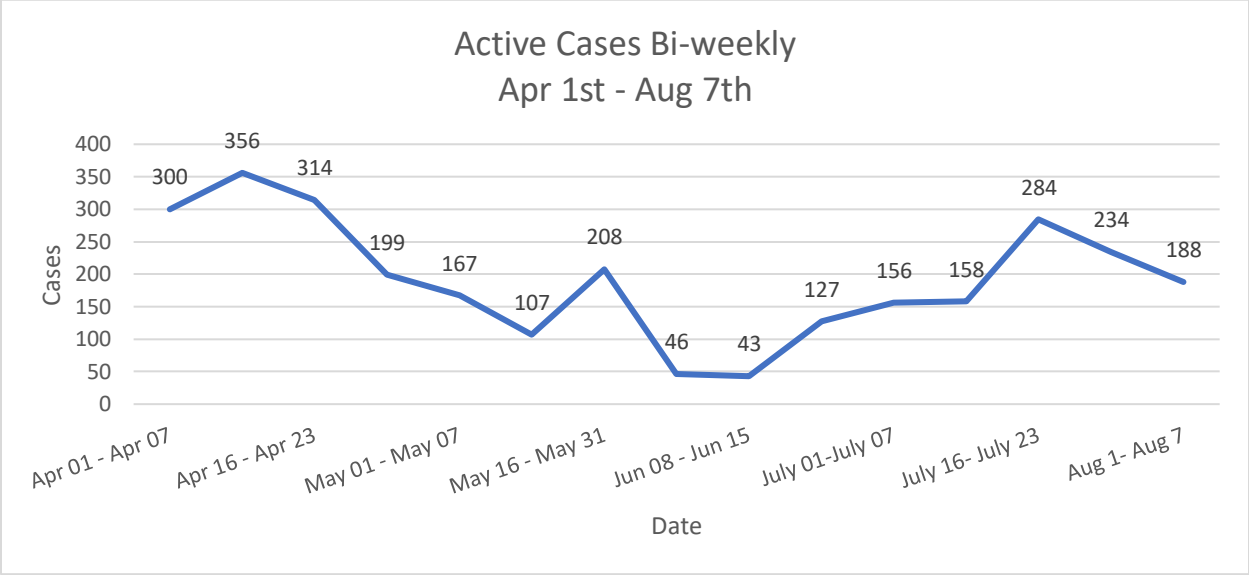
Source: Ontario COVID-19 Data Tool, <https://www.publichealthontario.ca/en/Data-and-Analysis/Infectious-Disease/COVID-19-Data-Surveillance/COVID-19-Data-Tool?tab=trends>

	Hospitalized Cases
March 6 – March 12	336
March 13 – Mar 19	351
March 20 – March 26	430
March 27 – April 2	524
April 3 – April 9	680

April 10 – April 16	800
April 17 – April 23	780
April 24- April 30	652
May 1 -May 7	561
May 8 – May 14	441
May 15 – May 21	404
May 22 – May 28	276
May 29- Jun 4	243
June 5 – June 11	206
June 12 – June 18	220
June 19 – June 25	269
June 26- July 2	355
July 3 – July 9	387
July 10- July 16	545
July 17 – July 23	524
July 24 – July 30	452
July 31-August 6	375

**EOHU Active Cases**

From a high of 356 cases the week of April 08-15<sup>th</sup>, our case numbers dropped to a low of 43 cases 2 months later - the week of Jun 08-15. By the end of July however, our numbers had risen to a high of 284 cases.

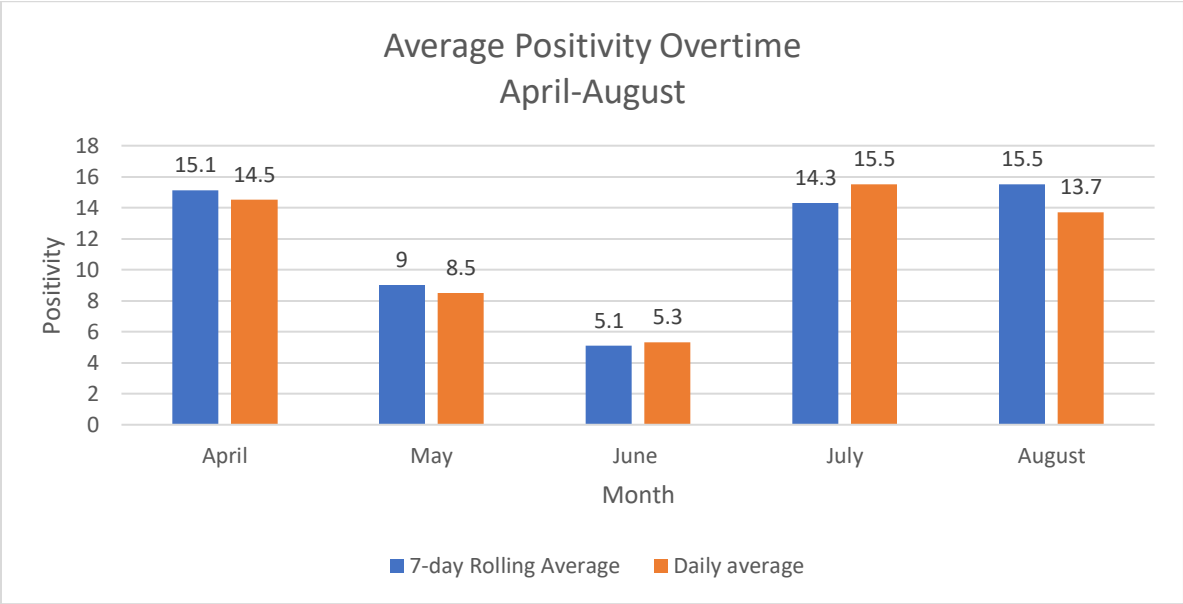


Source: Ontario Ministry of Health, Public Health Case and Contact Management Solution (CCM)

	Active Cases
Apr 01 - Apr 07	300
Apr 08 - Apr 15	356
Apr 16 - Apr 23	314
Apr 24 - Apr 30	199
May 01 - May 07	167
May 08 - May 15	107
May 16 - May 31	208
Jun 01 - Jun 07	46
Jun 08 - Jun 15	43
Jun 16 - Jun 30	127
July 01-July 07	156
Jul 8-Jul 15	158
Jul 16- Jul 23	284
Jul 24-Jul 31	234
Aug 1-Aug 7	188

**EOHU Positivity Rate: 7-day rolling average**

From a high of 17.2% on April 13<sup>th</sup> and an average of 15.1% for April, the 7-day rolling positivity rate dropped through May and June, to a low of 3.7% on June 19<sup>th</sup>, with an average monthly rate of 5.1% in June. However, it has since rebounded to a high of 17.4% on August 2<sup>nd</sup> with an average weekly rate so far for the month of August of 13.7%.

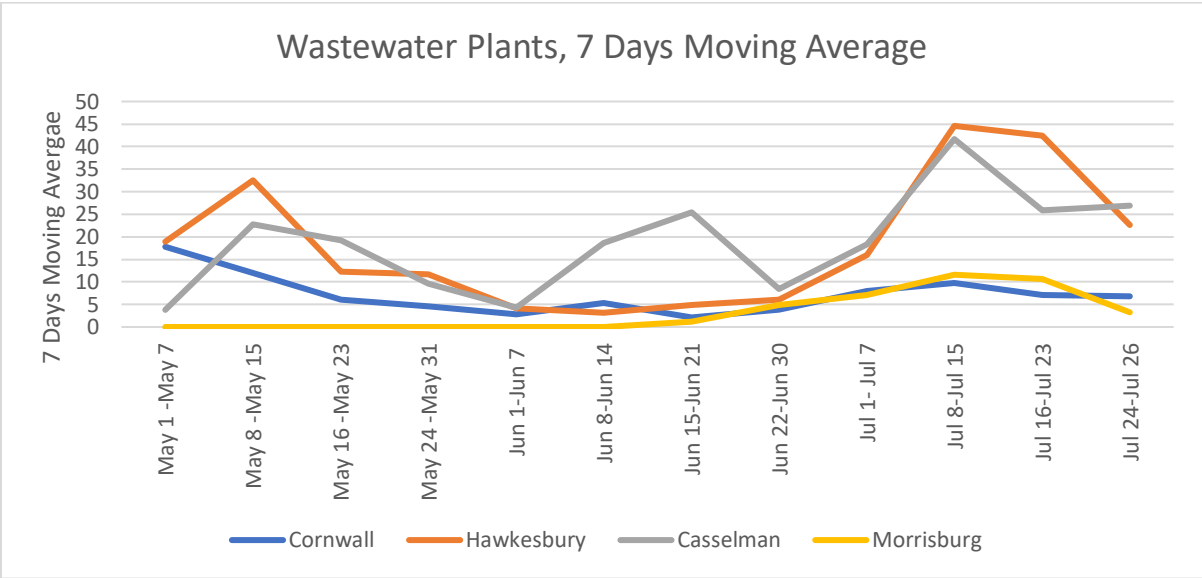


Source: MOH Capacity, Planning and Analytics Division

Month	7-day Rolling Average	Daily average
April	15.1	14.5
May	9	8.5
June	5.1	5.3
July	14.3	15.5
August	15.5	13.7

**EOHU Wastewater Plants**

The wastewater values reflect a similar pattern as the active cases. As the cases rise and fall, the virus found per unit of wastewater follows the same declining pattern from mid-May until the beginning of June for Cornwall, Hawkesbury, and Casselman reaching an average of 8.64 for the 7-day rolling the week of June 1<sup>st</sup>. Cornwall, Hawkesbury, and Morrisburg remain low most of June, while Casselman increased reaching a high of 25.43 for the 7-day rolling average during the week of June 15 to 30<sup>th</sup> and later dropped to a low of 8.44 the week of June 22<sup>nd</sup>. All sites experienced a rise at the end of June with the highest peak from Hawkesbury with an average of 44.58 followed by Casselman with an average of 41.67. Interestingly, Morrisburg and Cornwall remained low for the 7-day rolling average compared to Casselman and Hawkesbury sites.

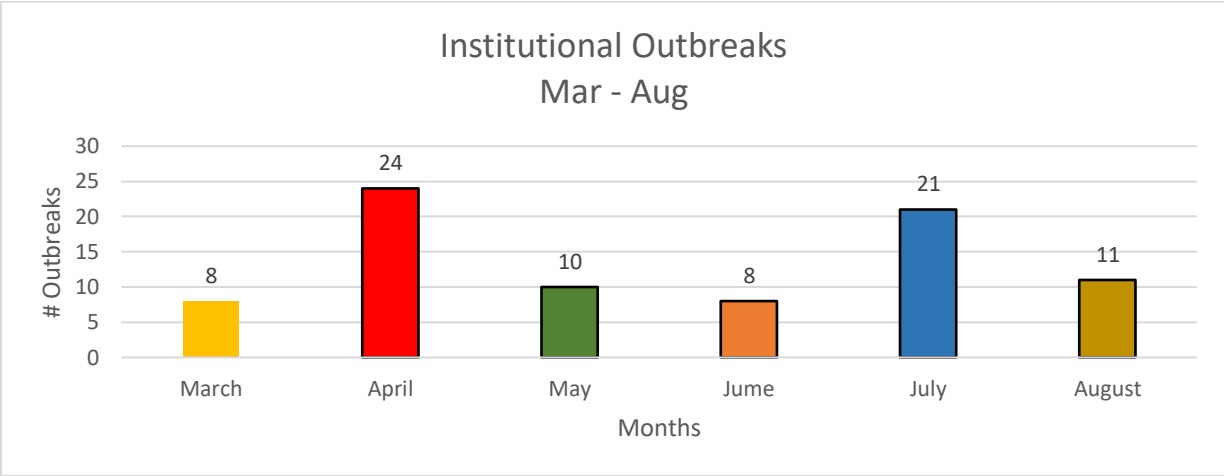


Source: Ontario Ministry of Health, Ontario Wastewater Surveillance Initiative Data Visualization Hub (BETA)

	7 Days Moving Average			
	Cornwall	Hawkesbury	Casselman	Morrisburg
May 1 -May 7	17.78	18.93	3.79	0.00
May 8 -May 15	11.99	32.54	22.71	0.00
May 16 -May 23	6.02	12.33	19.28	0.00
May 24 -May 31	4.59	11.69	9.64	0.00
Jun 1-Jun 7	2.76	4.07	4.26	0.00
Jun 8-Jun 14	5.26	3.15	18.56	0.00
Jun 15-Jun 21	2.12	4.94	25.43	1.11
Jun 22-Jun 30	3.88	6.12	8.44	4.83
Jul 1- Jul 7	8.04	15.90	18.36	7.13
Jul 8-Jul 15	9.76	44.58	41.67	11.59
Jul 16-Jul 23	7.10	42.45	25.85	10.61
Jul 24-Jul 26	6.77	22.65	26.85	3.29

**EOHU Institutional Outbreaks**

In March, we had a low of 8 outbreaks which climbed to 24 in April before falling to 10 in May and 8 in June. However, the numbers rebounded, and July saw a total of 20 outbreaks.

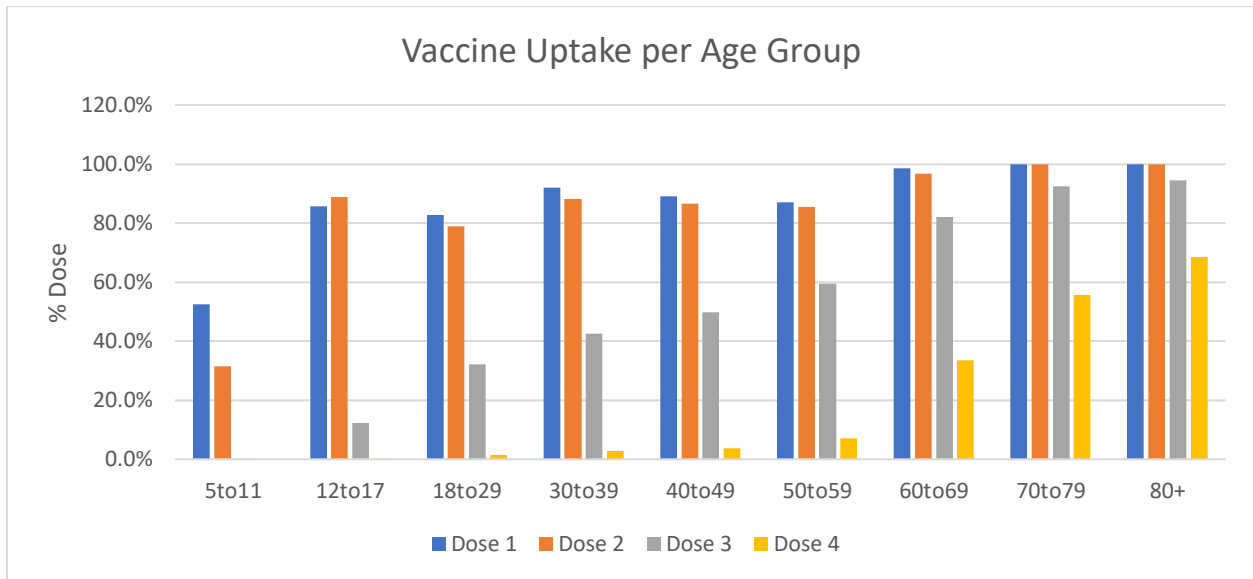


\*The outbreaks were identified by their reported date.  
Source: EOHU

Months	Outbreaks
March	8
April	24
May	10
June	8
July	21
August	11

## EOHU Vaccine Coverage

Initially, there was a great uptake for doses one and two of the vaccine against COVID in the youth and adult population (12+). However as indicated in the graph below, the booster dose (3<sup>rd</sup> dose) was not as popular with the younger population (under 60yrs). The younger age groups have not yet reached 60% coverage as compared to the 60+ population with an average of 89% coverage. In effect, the number of people with a 3<sup>rd</sup> dose plateaued in the spring and seems to have had an influence on the 6<sup>th</sup> and 7<sup>th</sup> wave.



Source: MOH Capacity, Planning and Analytics Division

Age	Dose 1	Dose 2	Dose 3	Dose 4
5 to 11	52.5%	31.5%	0.0%	0.0%
12 to 17	85.6%	88.8%	12.3%	0.0%
18 to 29	82.8%	79.0%	32.1%	1.5%
30 to 39	92.0%	88.1%	42.5%	2.9%
40 to 49	89.0%	86.6%	49.7%	3.7%
50 to 59	87.0%	85.5%	59.4%	7.2%
60 to 69	98.5%	96.9%	82.1%	33.4%
70 to 79	99.9%	99.9%	92.4%	55.7%
80+	99.9%	99.9%	94.6%	68.5%

## **Summary**

The 6<sup>th</sup> wave corresponded with the change in public health precautions. By the end of March, the provincial public health restrictions were completely lifted including the wearing a mask in indoor public places.

Once the weather turned nice in May and June, people started going outside more, and the numbers dropped. However, when the new Omicron variant B5 appeared, the lack of public health precautions and proximity of people as the summer season advanced allowed it to take hold.

Many of the people hospitalized have a variety of different co-morbidities and influencing factors. For many, the factor is age. However in our younger population (under 70 yrs of age), the following co-morbidities are common: Congestive heart failure, Heart Disease, Chronic Obstructive Pulmonary Disease (COPD), Diabetes, Obesity, Renal disease, different cancers. This highlights the importance of protecting ones self and loved ones if these co-morbidities are present.

Scientific literature has demonstrated that there is a waning of the vaccine protection after 6 months. Many specialists are of the opinion that over 50% of the population have been exposed to the virus and this, when combined with the vaccination rate, may explain why the 7<sup>th</sup> and subsequent waves may be less strong<sup>1</sup>. However, the virus still continues to circulate because of the low coverage of the booster shot (3<sup>rd</sup> dose). The literature shows that the first 2 doses were very effective against the virus up until and including the Delta variant (waves 1-4, prior to Dec 2021). However, 2 doses are less effective against Omicron (5<sup>th</sup>+wave) due mostly to the waning protection and to the variation in the spike protein. Thus the importance of the population receiving their booster as, with a 3<sup>rd</sup> dose, the waning coverage (less than 50%) roars back to 92%.

### **Recommendations:**

- ✓ If you only have your 2<sup>nd</sup> dose, consider getting the booster shot. This is especially important if you or people you are in touch with regularly have co-morbidities (see summary above).
  
- ✓ If you are in a crowded public space and you are not up-to-date with your vaccine coverage, consider wearing a mask.
  
- ✓ Ensure to wash or disinfect your hands as often as necessary.

### **Citation**

<sup>1</sup> "A lot of Ontarians have already been infected with the Omicron variant — seroprevalence studies suggest half the population has natural immunity, he said — and that combined with high vaccination rates and the fact that a new variant of concern has not yet emerged all bode well, Moore said." —Interview with Dr. Moore on August 5<sup>th</sup>, 2022, CTV News