COVID-19 Hospital Capacity

Tuesday, January 4, 2022

Ontario Hospital Association

Hospital Capacity: Critical Care

Data source: Critical Care Information System
All data as of **January 3, 2022**

Total Funded* ICU Bed Capacity				Critical Care Census**				% ICU occupancy	Funded* ICU Bed Capacity Remaining
2343	(Adult)	1599	Vented	1715	(Adult)	260	CRCI	73.2% (Adult)	628 (Adult)
		744	Non-Vented			1455	NON-CRCI		
93	(Paediatric)	77	Vented	62	(Paediatric)	3	CRCI	66.7% (Paediatric)	31 (Paediatric)
		16	Non-Vented			59	NON-CRCI		

Dec 16 Ontario Science Table COVID-19 ICU Occupancy Projections for December 31, 2021		
	Low range	241-244
	"Circuit breaker" high range	326
	No intervention high range	637

7-day average CRCI patients in ICU (Adult)	216
7-day average New CRCI Admits (Adult)	29
7-day average New CRCI Admits (Paediatric)	1

% pts in ICU with CRCI
15.2% (Adult)
6.9% (Paediatric)

% of CRCI pts on vents
48.8% (Adult)
33.3% (Paediatric)

Region	Adult Funded* beds	Current Adult CRCI census	% Adult pts in ICU with CRCI	% Adult ICU occupancy	Funded* Adult ICU Bed Capacity Remaining	(+/- change from previous day)
West	694	103	10.2%	81.6%	128	-4
Central	477	70	9.6%	72.3%	132	-6
Toronto	464	24	3.3%	64.4%	165	12
East	574	51	5.2%	70.4%	170	-1
North	134	12	5.0%	75.4%	33	5

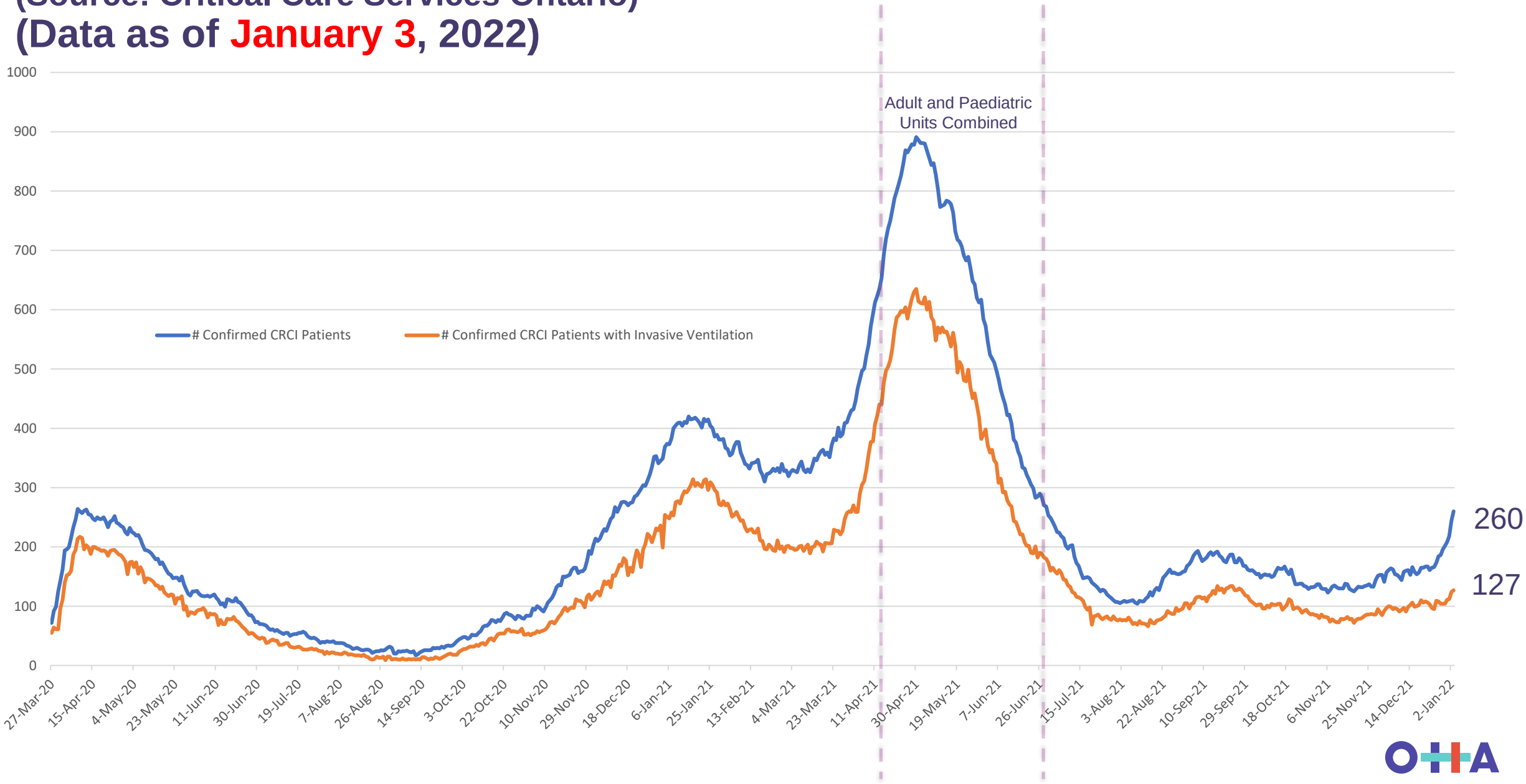
Definition: COVID-19 pts are represented by CRCI (COVID-Related Critical Illness and is defined as: Admission to the ICU because of a clinical syndrome consistent with COVID, AND the patient has had a positive test that is consistent with acute COVID illness)
*Staffing pressures may reduce funded bed capacity. Please see view the OHA resource page for more details.
There were 3 paediatric CRCI cases, **1 vented. There were no neonatal CRCI cases.

OHA

Adult Critical Care Units COVID Related Critical Illness (CRCI) Patients

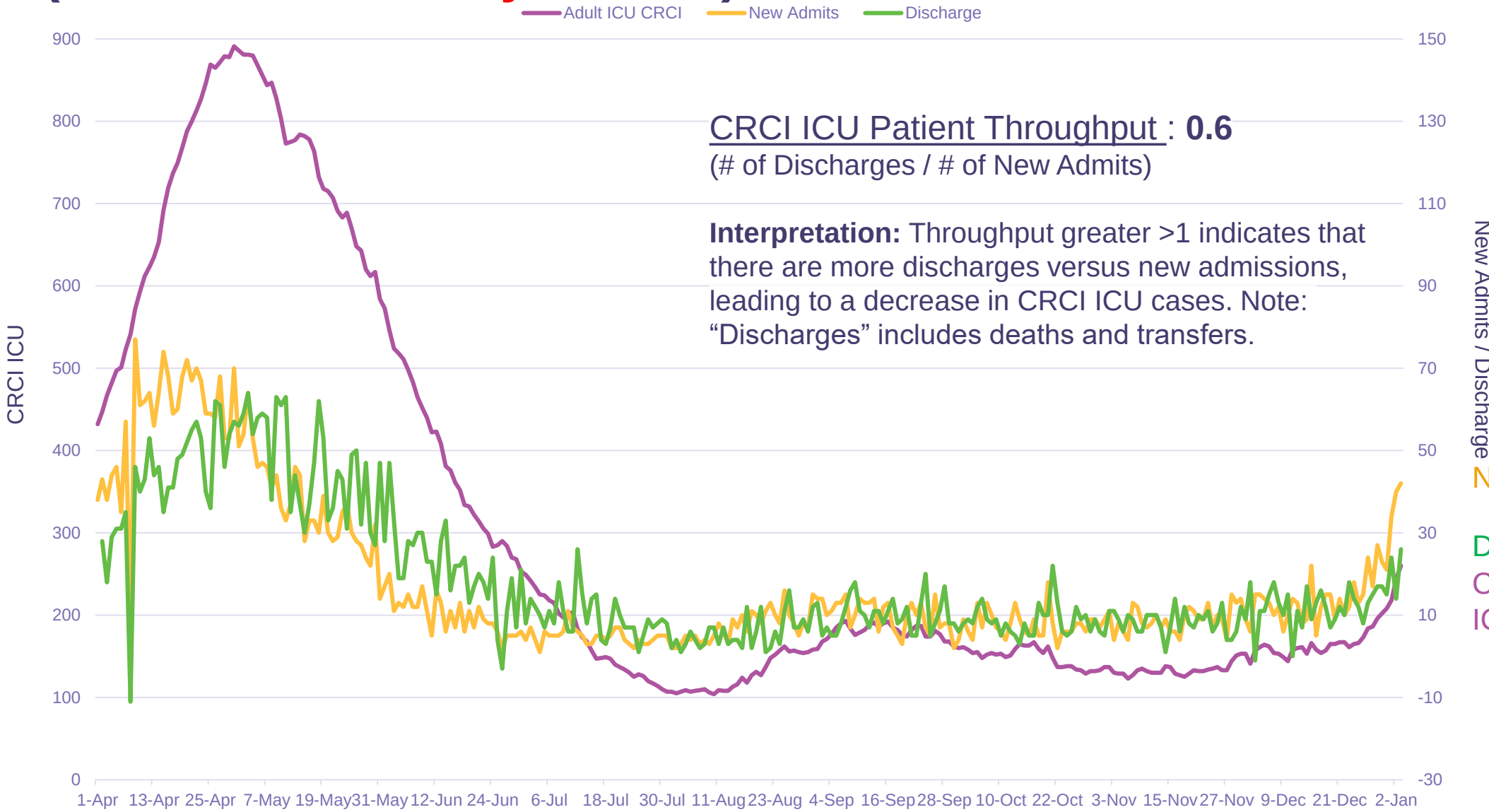
(Source: Critical Care Services Ontario)

(Data as of January 3, 2022)



CRCI ICU Patient Throughput (starting April 2021 onward) (Data as of January 3, 2022)

Data source: Critical Care Information System



CRCI ICU Patient Throughput : **0.6**
(# of Discharges / # of New Admits)

Interpretation: Throughput greater >1 indicates that there are more discharges versus new admissions, leading to a decrease in CRCI ICU cases. Note: "Discharges" includes deaths and transfers.

New Admits: 42

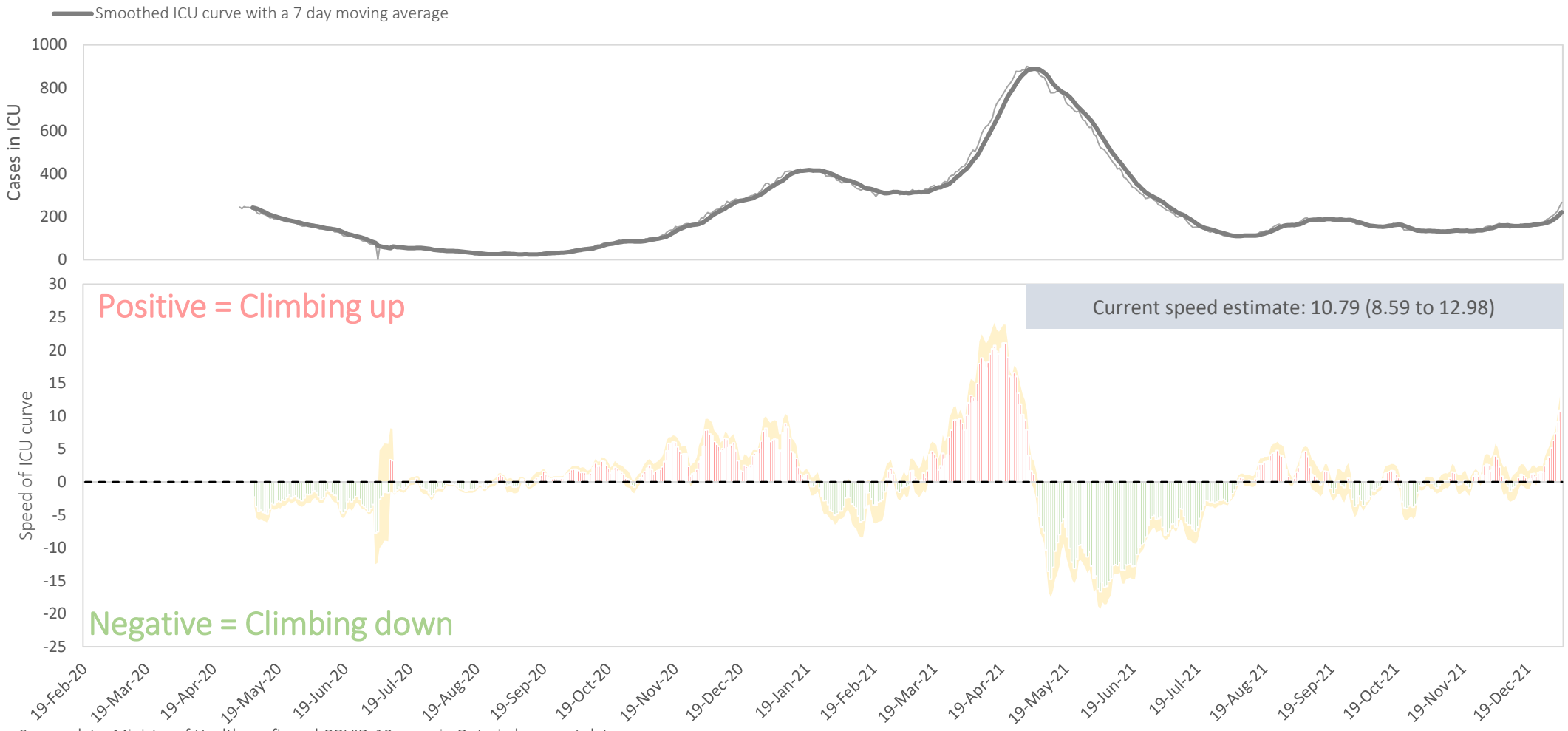
Discharge: 26

CRCI Patients in ICU: **260**

Technical Note: Patient Throughput based on Ontario Health - CCO methodology

COVID-19 ICU curve and speed of ICU curve: as of January 3, 2022 in Ontario

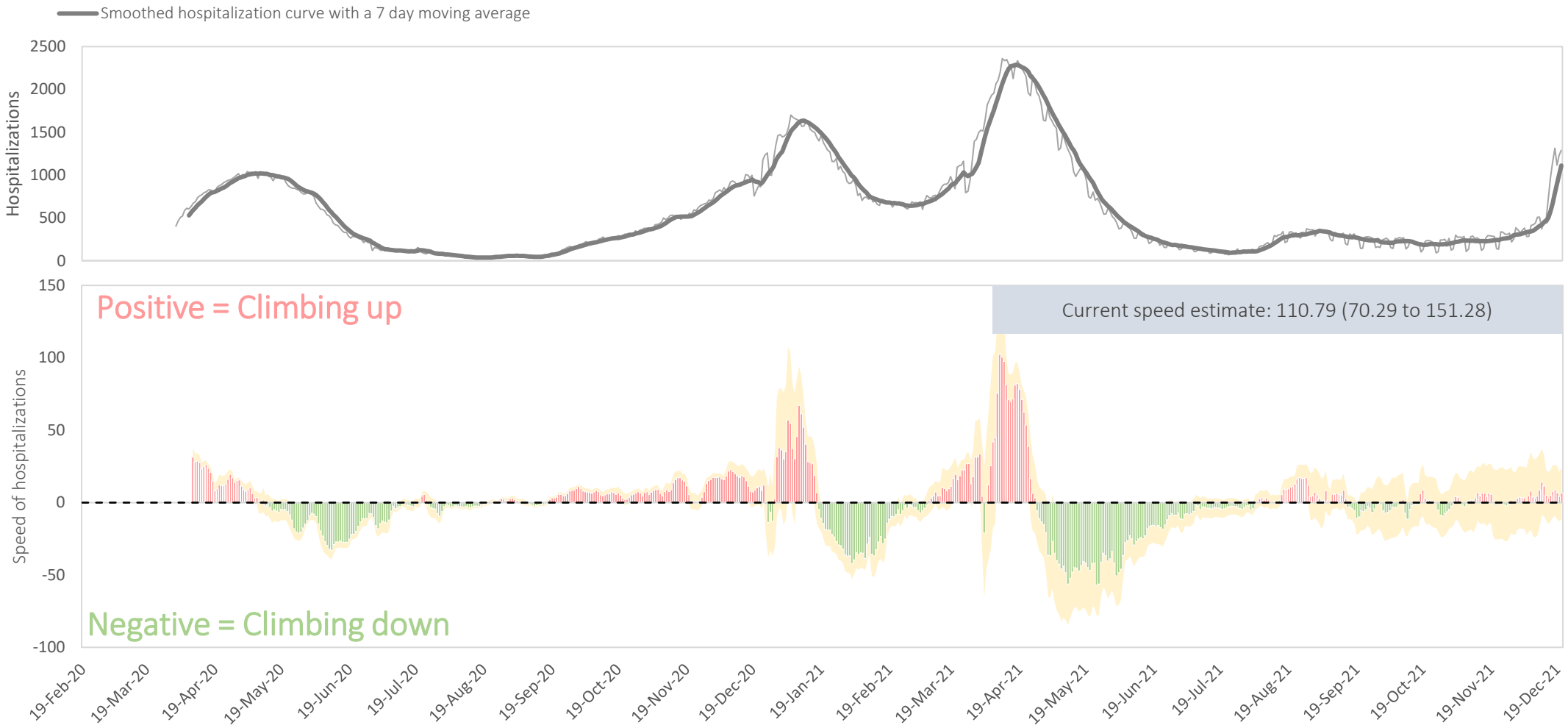
The speed of COVID-19 spread is measured as the slope of the ICU curve. When the **speed > 0**, then the trend of cases in ICU is speeding up. When the **speed < 0**, then trend of cases in ICU is slowing down. When **speed = 0**, then the cases in ICU have plateaued. The goal is to drive cases in ICU down to zero.



Source data: Ministry of Health confirmed COVID-19 cases in Ontario by report date - https://data.ontario.ca/dataset/status-of-covid-19-cases-in-ontario
Collaboration with Jonathan Wang @wanghoaneng

COVID-19 hospitalizations curve and speed of hospitalizations: as of January 3, 2022 in Ontario

The speed of COVID-19 spread is measured as the slope of the hospitalization curve. When the **speed > 0**, then the trend of hospitalizations is speeding up. When the **speed < 0**, then trend of hospitalizations is slowing down. When **speed = 0**, then the hospitalizations have plateaued. The goal is to drive hospitalizations down to zero.



Source data: Ministry of Health confirmed COVID-19 cases in Ontario by report date - https://data.ontario.ca/dataset/status-of-covid-19-cases-in-ontario
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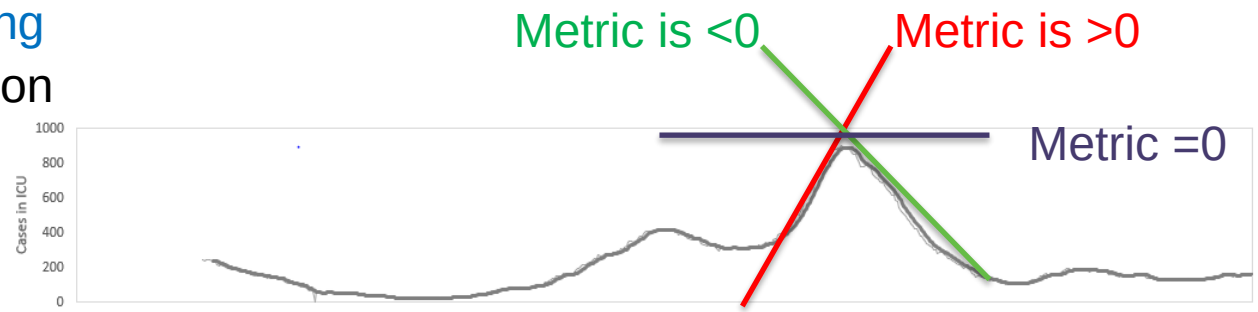
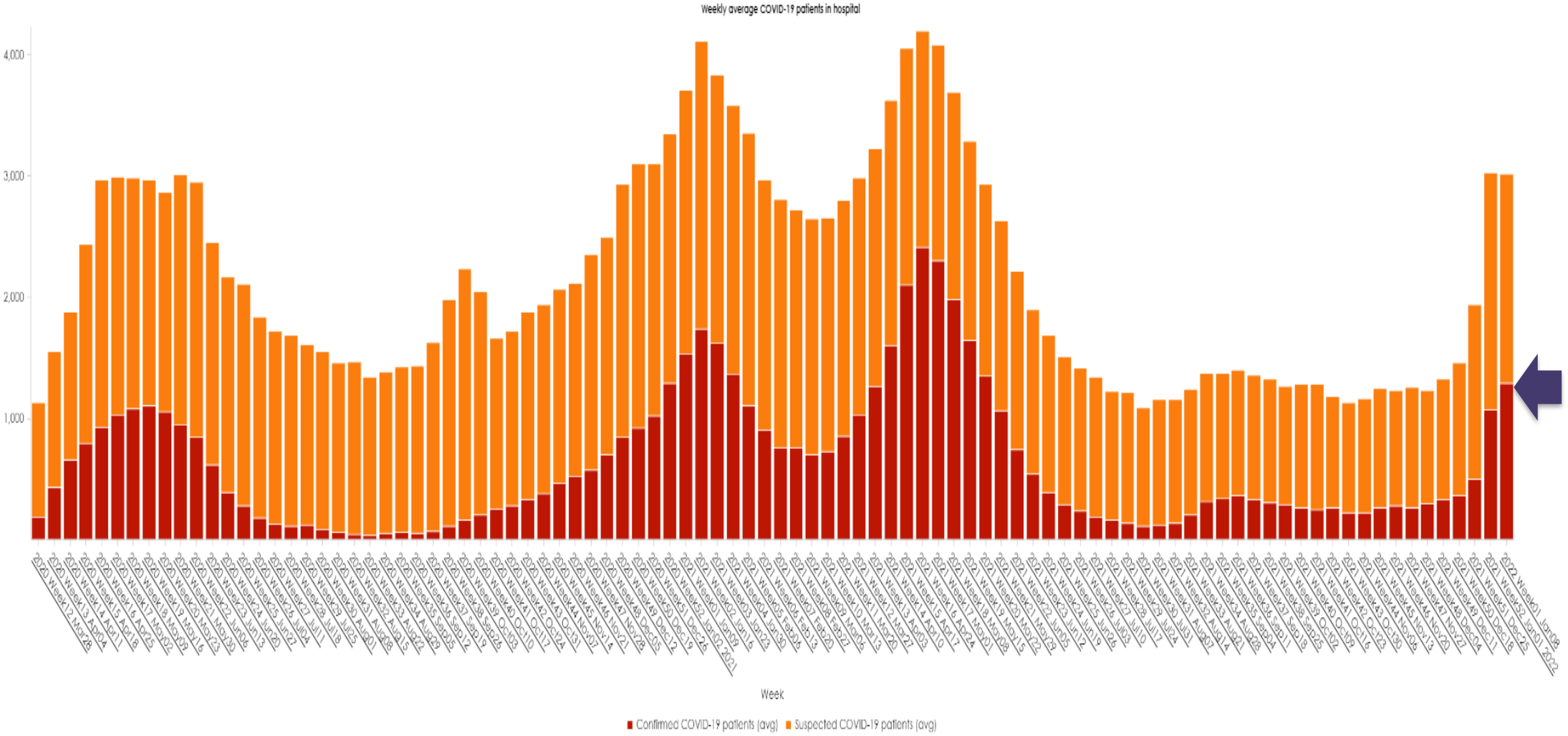
Interpretation of the “Speed Signal” Graphs

- The “speed signal” metric, developed by Jonathan Wang - Twitter: @wanghoaneng in 2020, is a simple calculation method with intuitive explanatory power for rates and spread.
- The speed signal can be considered as the number of hospitalization or ICU cases per day that can be expected if the current 7-day trend continues.
- The directionality (positive or negative) of the metric provides insight into the rate of increase of cases per day.
- This metric only provides information on the slope of the hospitalization/ICU curve and should be read in conjunction with the hospitalization or ICU case curve (i.e., zero slope does not mean there are no more daily cases, just that the rate of change in cases per day is zero over a 7-day period).
- The red bars in the graph show rates increasing and the green bars show rates decreasing.



- The speed of COVID-19 spread is measured as the slope of the hospitalization/ICU curve.
- When the **speed metric is > 0**, then the trend of hospitalizations/ICU cases is speeding up.
- When the **speed metric < 0**, then the trend of hospitalizations/ICU cases is slowing down.
- When **speed = 0**, then the hospitalizations/ICU cases have plateaued.
- The goal is to drive COVID-19 hospitalizations and ICU cases down to zero.

Weekly average COVID-19 patients in hospital (data as of January 2, 2022)



1290 confirmed COVID-19 patients (January 2, 2022)
Source: MOH VA Tool

Hospital Occupancy

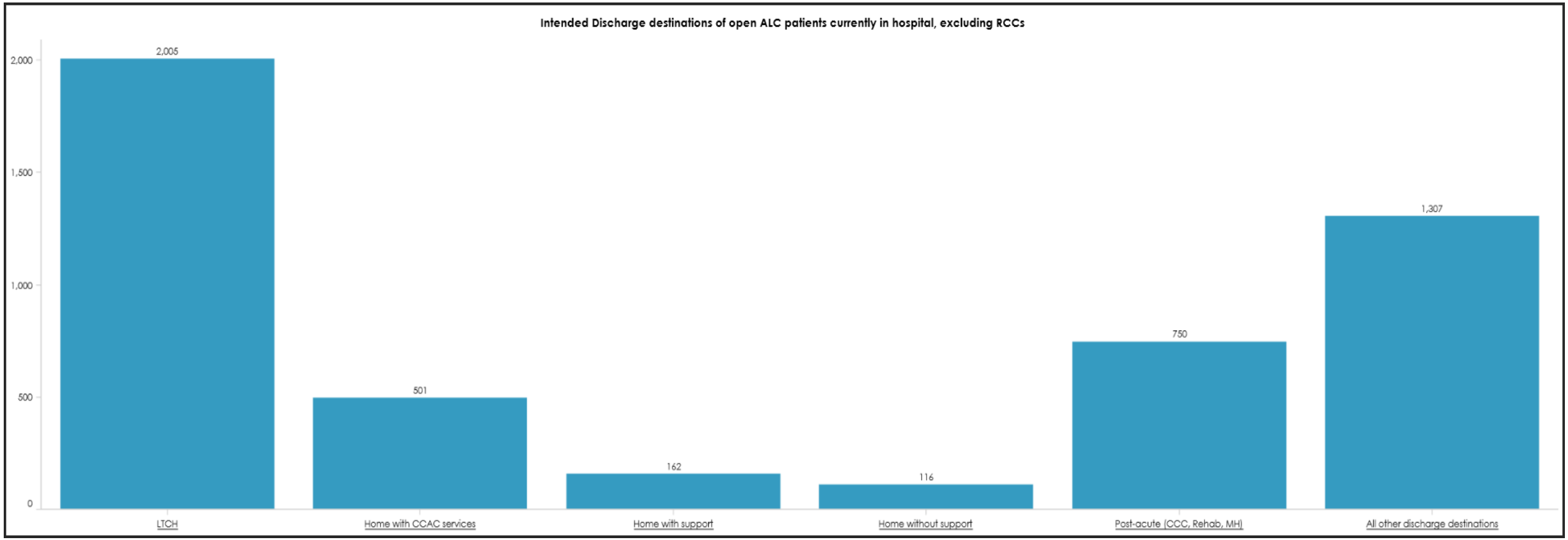
(Data as of January 2, 2022)

All Beds (Total)	Acute	Post-acute
87.4%	90.3%	82.0%
+/- from previous day 0.9	+/- from previous day 1.3	+/- from previous day 0.2
2,868 Available beds	1,425 Available beds	1,432 Available beds

(Data as of December 30, 2021)

4,841	10.3%	41.4%
ALC Open Cases	% waiting for homecare	% waiting for LTC
Excludes RCCs		

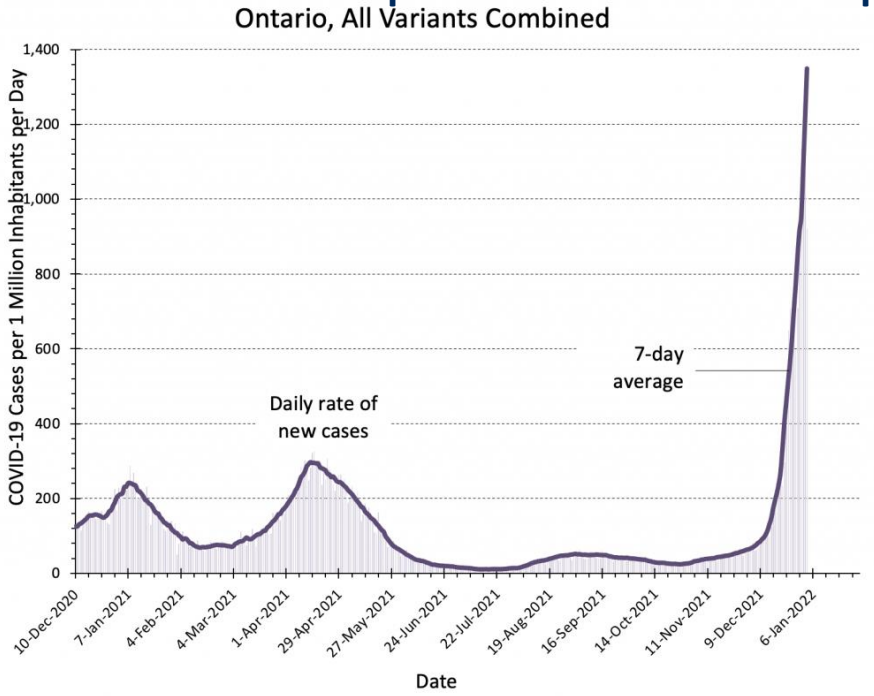
As of December 30, there are **358** ALC patients in RCC beds, approximately 2 out of 5 intended to be discharged to LTCH.



Highlights: COVID-19 Science Table Ontario Dashboard

Key Indicators	
Effective Reproduction Number R(t), on 31-Dec-2021	1.53
Estimated Number of COVID-19 Cases per Day, on 03-Jan-2022	19,883
Change per week	+9,555
Doubling Time (Days)	7.4
Estimated Percentage Caused by Omicron	97.2%
Test Positivity	28.0%
Change per week	+10.8%
COVID-19 Hospital Occupancy, on 03-Jan-2022	1,327
Change per week	+808
COVID-19 ICU Occupancy, on 03-Jan-2022	248
Change per week	+72
COVID-19 Deaths per Day, on 31-Dec-2021	7
Change per week	+1
COVID-19 Cases per 1 Million per Day, on 03-Jan-2022	1,349.4
Among Unvaccinated People	1,526.4
Among People Vaccinated with at Least 2 Doses	1,336.8
Reduction Associated with at Least 2 Vaccine Doses	-12.4%
COVID-19 Hospital Occupancy per 1 Million, on 03-Jan-2022	90.1
Among Unvaccinated People	384.0
Among People Vaccinated with at Least 2 Doses	64.5
Reduction Associated with at Least 2 Vaccine Doses	-83.2%
COVID-19 ICU Occupancy per 1 Million, on 03-Jan-2022	16.8
Among Unvaccinated People	135.0
Among People Vaccinated with at Least 2 Doses	6.4
Reduction Associated with at Least 2 Vaccine Doses	-95.3%
COVID-19 Vaccination, on 01-Jan-2022	
Number of People Vaccinated With at Least 1 Dose	12,220,028
Change per week	+52,169
Percent of People Aged 5+ Vaccinated With at Least 1 Dose	87.2%
Change per week	+0.4%
Number of People Vaccinated With at Least 2 Doses	11,416,121
Change per week	+25,955
Percent of People Aged 5+ Vaccinated With at Least 2 Doses	81.5%
Change per week	+0.2%
Number of People Vaccinated With 3 Doses	3,767,928
Change per week	+848,738
Percent of People Aged 5+ Vaccinated With 3 Doses	26.9%
Change per week	+6.1%

Estimated Rate of COVID-19 Cases per 1 Million Inhabitants per Day in Ontario



Current COVID-19 Risk in Ontario by Vaccination Status