COVID-19 Hospital Capacity

Thursday, December 30, 2021

Ontario Hospital Association

Hospital Capacity: Critical Care

Data source: Critical Care Information System
All data as of **December 29**

Total Funded* ICU Bed Capacity			Critical Care Census**		% ICU occupancy	Funded* ICU Bed Capacity Remaining
2343 (Adult)	1599	Vented	1648 (Adult)	196 CRCI	70.3% (Adult)	695 (Adult)
	744	Non-Vented		1452 NON-CRCI		
93 (Paediatric)	77	Vented	67 (Paediatric)	3 CRCI	72.0% (Paediatric)	26 (Paediatric)
	16	Non-Vented		64 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)	176
7-day average New CRCI Admits (Adult)	18
7-day average New CCRI Admits (Paediatric)	1

% pts in ICU with CRCI
11.9% (Adult)
4.5% (Paediatric)

% of CRCI pts on vents
53.1% (Adult)
0.0% (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	88	16.2%	78.4%	150	-2
Central	477	41	12.7%	67.7%	154	-7
Toronto	464	18	5.9%	66.2%	157	12
East	574	41	10.8%	66.0%	195	-17
North	134	8	8.4%	70.9%	39	-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

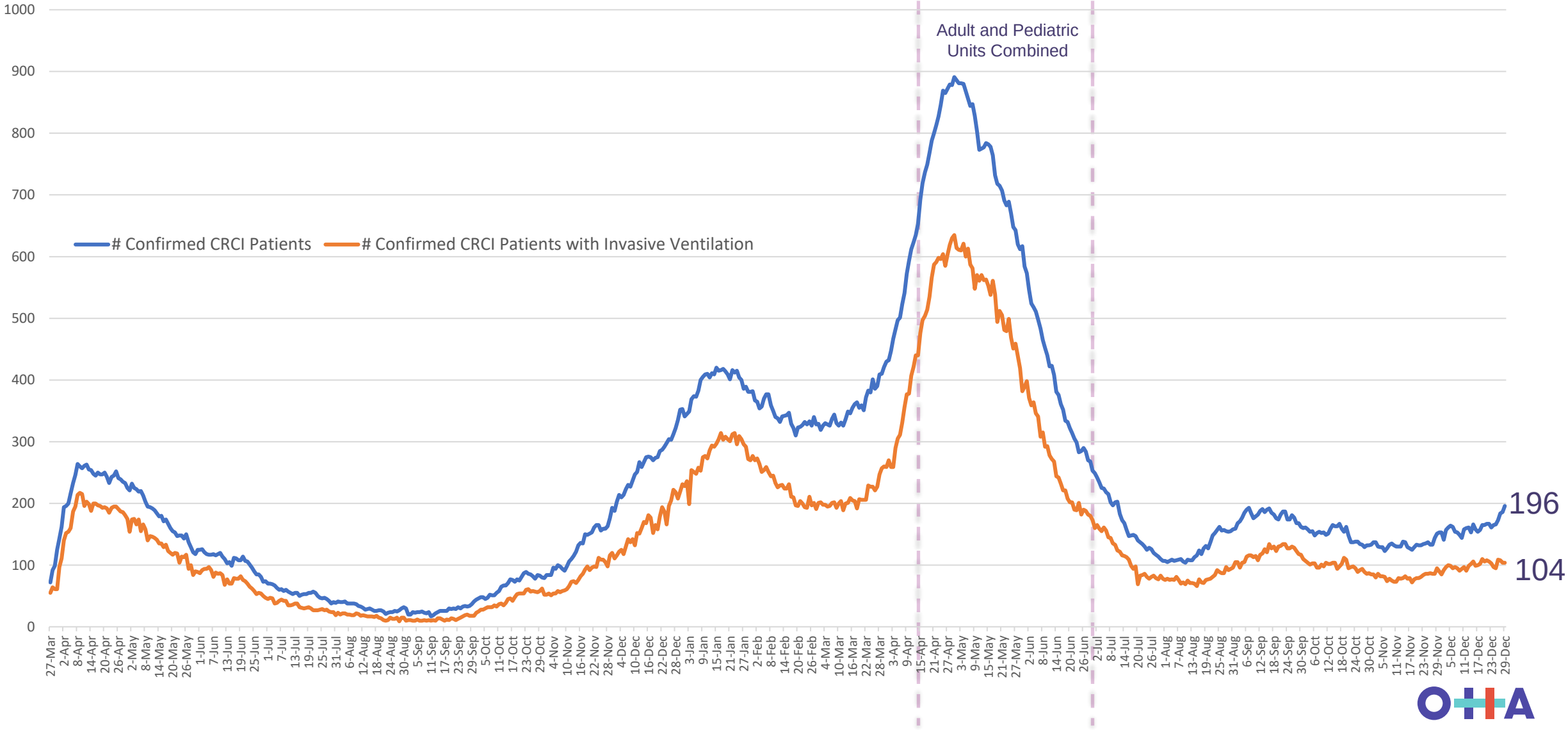
*Staffing pressures may reduce funded bed capacity. Please see the OHA resource page for important context.

**There were 3 paediatric COVID-19 cases, 0 vented. There were no neonatal COVID-19 cases.

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

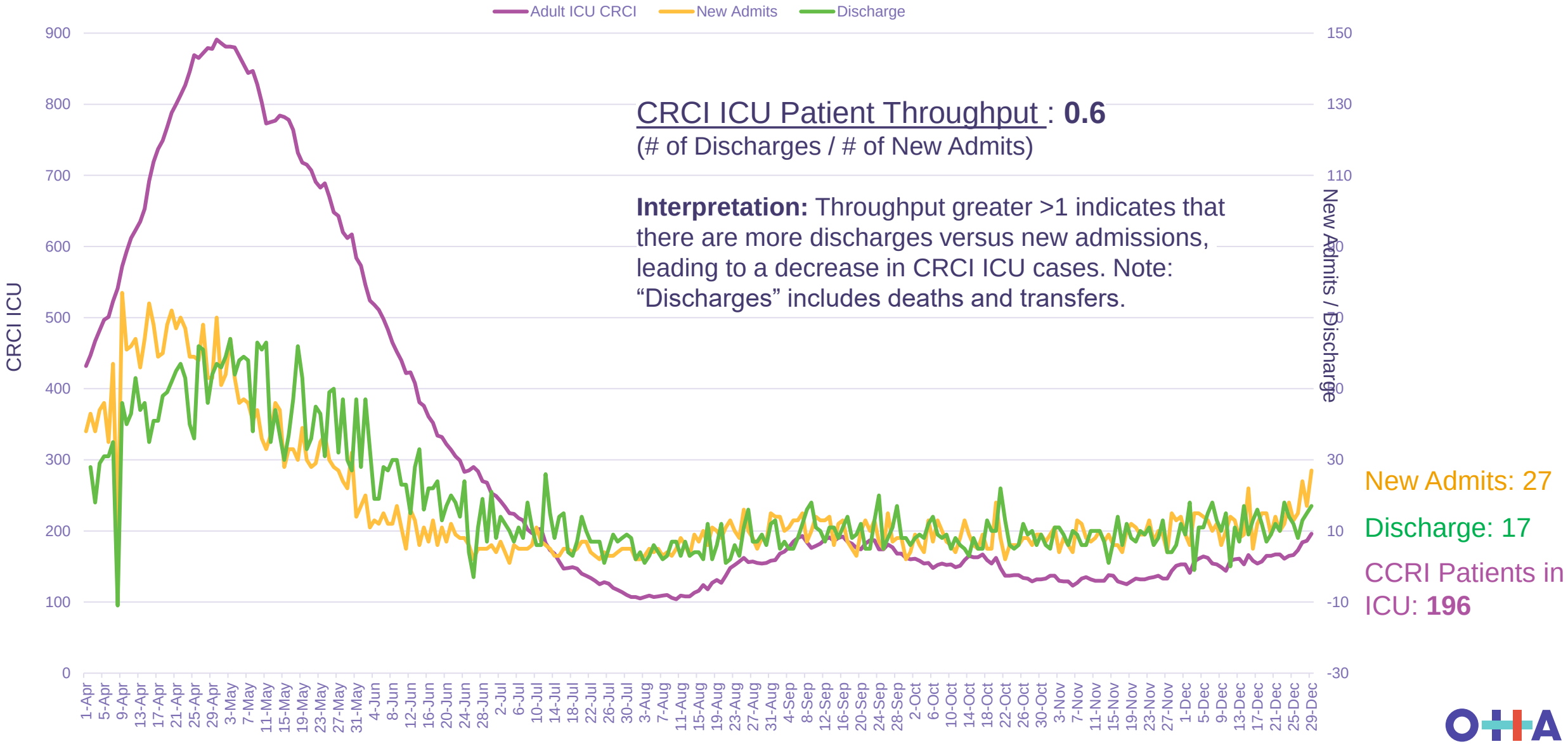
(Source: Critical Care Services Ontario)

(Data as of December 29, 2021)



CRCI ICU Patient Throughput (starting April 2021 onward) (Data as of December 29, 2021)

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: 27

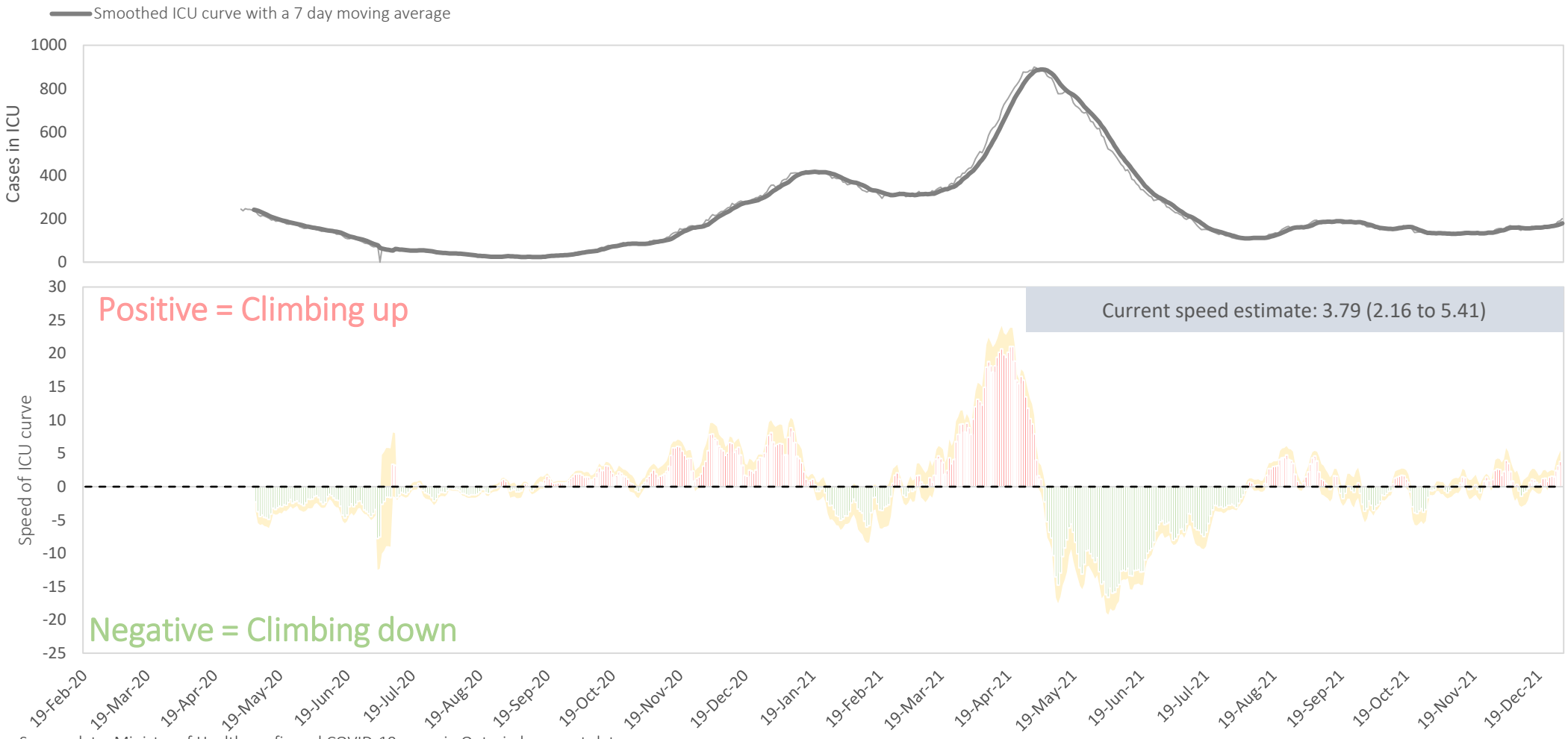
Discharge: 17

CCRI Patients in ICU: **196**

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

COVID-19 ICU curve and speed of ICU curve: as of December 29, 2021 in Ontario

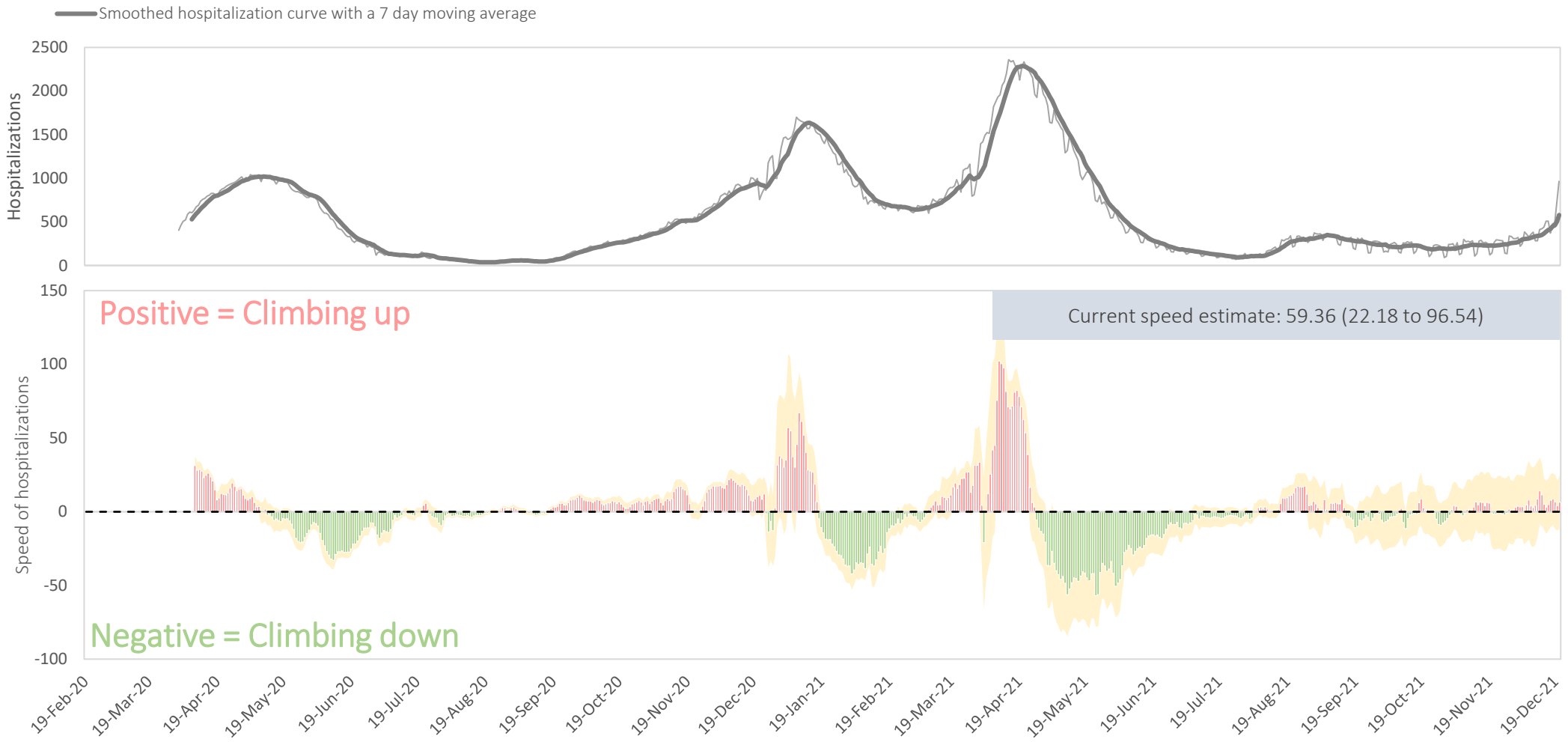
The speed of COVID-19 spread is measured as the slope of the ICU curve. When the **speed > 0**, then the trend of cases in ICU is speeding up. When the **speed < 0**, then trend of cases in ICU is slowing down. When **speed = 0**, then the cases in ICU have plateaued. The goal is to drive cases in ICU 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 December 29, 2021 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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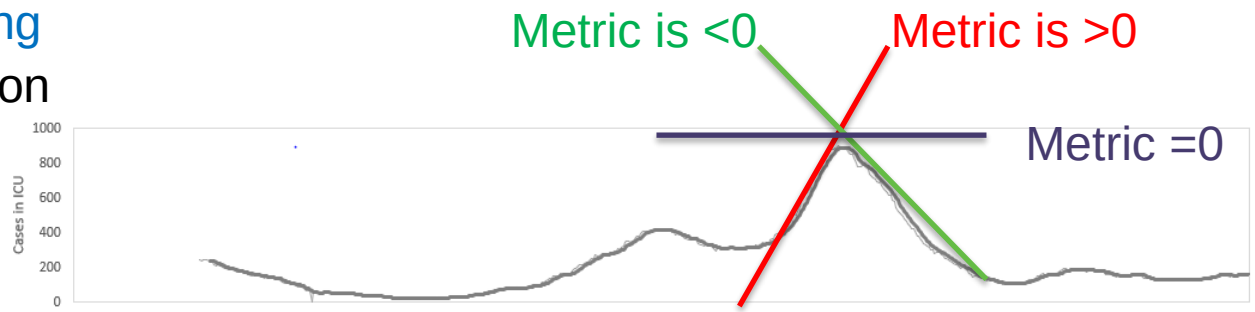
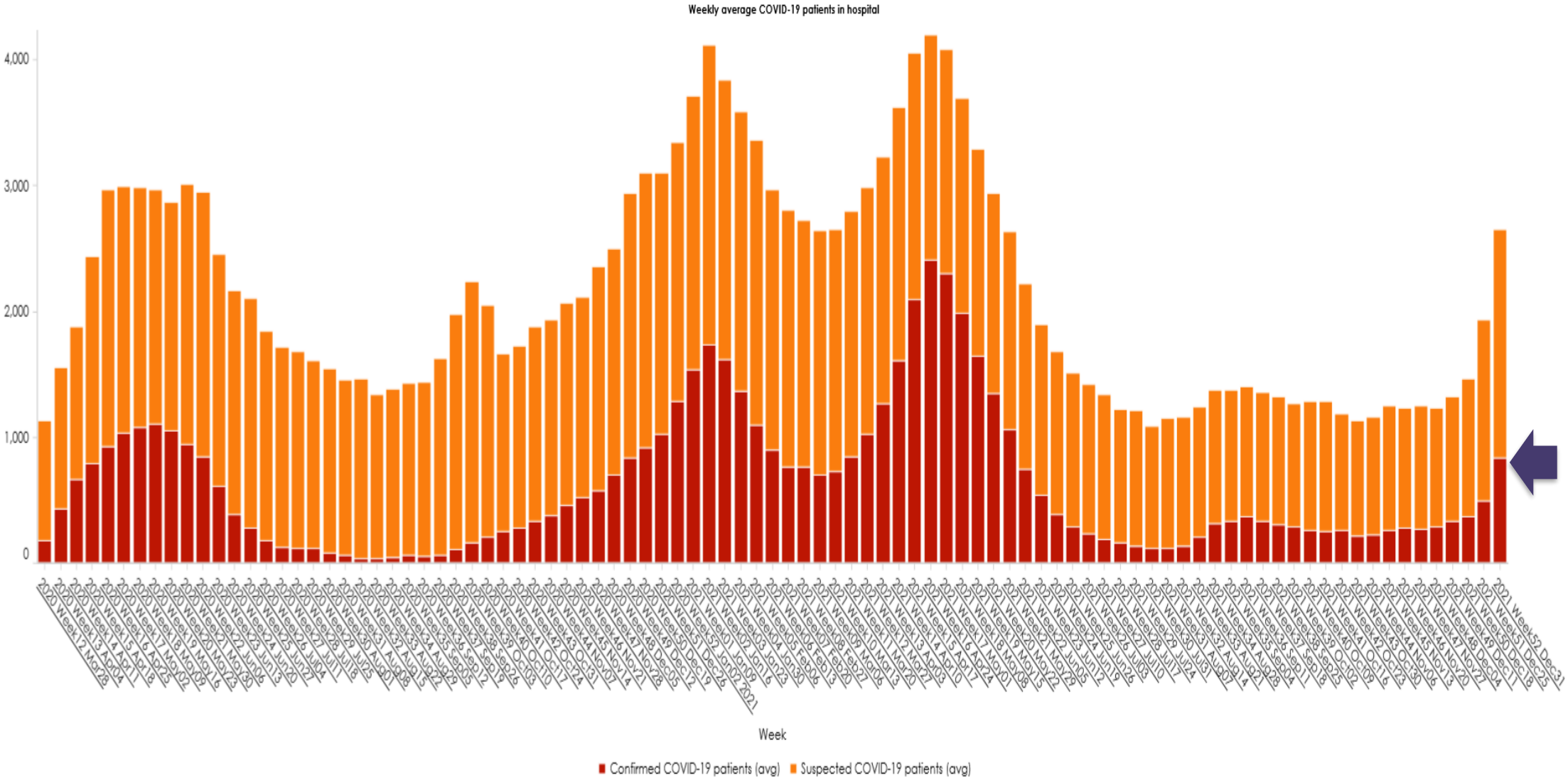
Interpretation of the “Speed Signal” Graphs

- 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 December 28, 2021)



965 confirmed COVID-19 patients (December 28, 2021)

Source: MOH VA Tool

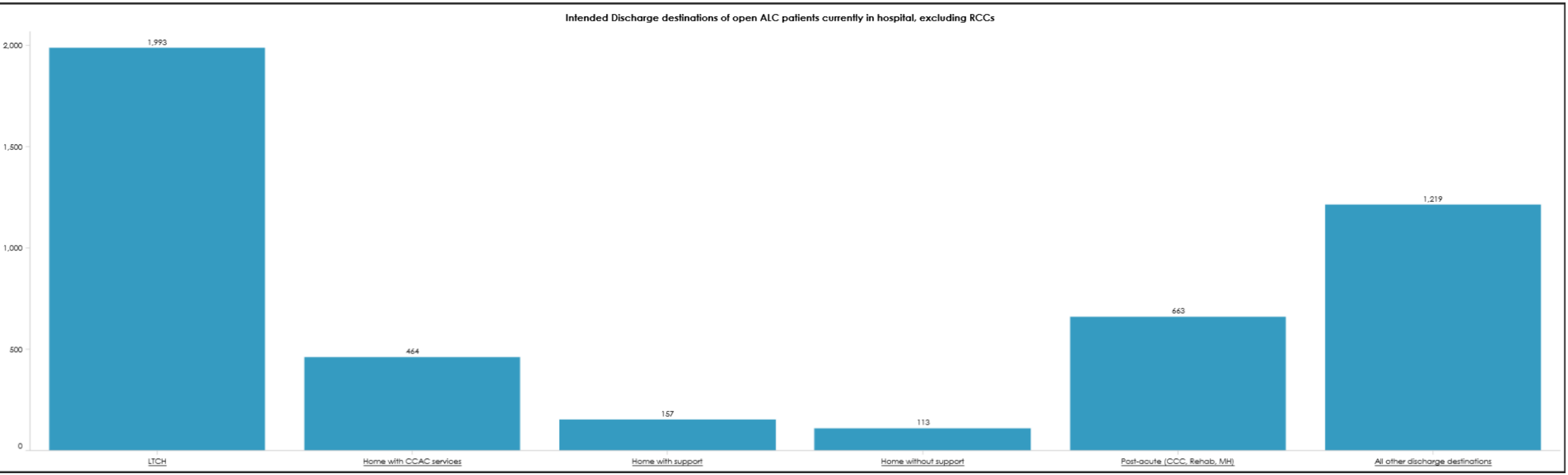
Hospital Occupancy (Data as of December 28, 2021)

Source: MOH VA Tool

All Beds (Total)	Acute	Post-acute
85.1%	86.4%	82.7%
+/- from previous day 1.6	+/- from previous day 2.5	+/- from previous day -0.0
5,086 Available beds	2,938 Available beds	2,095 Available beds

4,609	10.1%	43.2%
ALC Open Cases	% waiting for homecare	% waiting for LTC
Excludes RCCs		

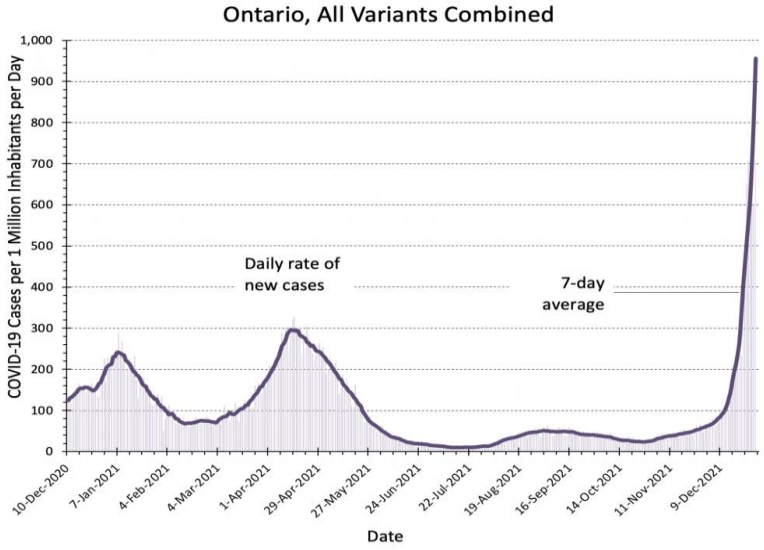
As of December 28, there are **374** ALC patients in RCC beds, approximately 2 out of 5 intended to be discharged to LTCH.



Highlights: COVID-19 Science Table Ontario Dashboard

Key Indicators	
Effective Reproduction Number R(t), on 26-Dec-2021	1.87
Estimated Number of COVID-19 Cases per Day, on 29-Dec-2021	14,081
Change per week	+8,142
Doubling Time (Days)	4.9
Estimated Percentage Caused by Omicron	96.2%
Test Positivity	24.6%
Change per week	+11.3%
COVID-19 Hospital Occupancy, on 29-Dec-2021	740
Change per week	+307
COVID-19 ICU Occupancy, on 29-Dec-2021	190
Change per week	+22
COVID-19 Deaths per Day, on 26-Dec-2021	5
Change per week	-0
COVID-19 Cases per 1 Million per Day, on 29-Dec-2021	955.7
Among Unvaccinated People	1,305.6
Among People Vaccinated with at Least 2 Doses	1,116.0
Reduction Associated with at Least 2 Vaccine Doses	-14.5%
COVID-19 Hospital Occupancy per 1 Million, on 29-Dec-2021	50.2
Among Unvaccinated People	300.9
Among People Vaccinated with at Least 2 Doses	29.0
Reduction Associated with at Least 2 Vaccine Doses	-90.4%
COVID-19 ICU Occupancy per 1 Million, on 29-Dec-2021	12.9
Among Unvaccinated People	106.7
Among People Vaccinated with at Least 2 Doses	4.9
Reduction Associated with at Least 2 Vaccine Doses	-95.4%
COVID-19 Vaccination, on 27-Dec-2021	
Number of People Vaccinated With at Least 1 Dose	12,186,402
Change per week	+67,182
Percent of People Aged 5+ Vaccinated With at Least 1 Dose	87.0%
Change per week	+0.5%
Number of People Vaccinated With at Least 2 Doses	11,400,095
Change per week	+32,649
Percent of People Aged 5+ Vaccinated With at Least 2 Doses	81.4%
Change per week	+0.2%
Number of People Vaccinated With 3 Doses	3,211,538
Change per week	+1,085,489
Percent of People Aged 5+ Vaccinated With 3 Doses	22.9%
Change per week	+7.7%

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



Current COVID-19 Risk in Ontario by Vaccination Status