COVID-19 Hospital Capacity

Friday, January 7, 2022
Hospital Capacity: Critical Care

All data as of January 6, 2022

Data source: Critical Care Information System

**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 4 paediatric CRCI cases, 0 vented. There were no neonatal CRCI cases.

<table>
<thead>
<tr>
<th>Total Funded* ICU Bed Capacity</th>
<th>Critical Care Census**</th>
<th>% ICU occupancy</th>
<th>Funded* ICU Bed Capacity Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>2343 (Adult)</td>
<td>1792 (Adult)</td>
<td>76.5% (Adult)</td>
<td>551 (Adult)</td>
</tr>
<tr>
<td>93 (Paediatric)</td>
<td>65 (Paediatric)</td>
<td>69.9% (Paediatric)</td>
<td>28 (Paediatric)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low range</th>
<th>241-244</th>
<th>Circuit breaker high range</th>
<th>326</th>
<th>No intervention high range</th>
<th>637</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-day average CRCI patients in ICU (Adult)</td>
<td>265</td>
<td>% pts in ICU with CRCI</td>
<td>18.5% (Adult)</td>
<td>% of CRCI pts on vents</td>
<td>53.0% (Adult)</td>
</tr>
<tr>
<td>7-day average New CRCI Admits (Adult)</td>
<td>41</td>
<td>6.2% (Paediatric)</td>
<td>0.0% (Paediatric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-day average New CRCI Admits (Paediatric)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Adult Funded* beds</th>
<th>Current Adult CRCI census</th>
<th>% Adult pts in ICU with CRCI</th>
<th>% Adult ICU occupancy</th>
<th>Funded* Adult ICU Bed Capacity Remaining</th>
<th>(+/- change from previous day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>694</td>
<td>135</td>
<td>23.6%</td>
<td>82.3%</td>
<td>123</td>
<td>9</td>
</tr>
<tr>
<td>Central</td>
<td>477</td>
<td>90</td>
<td>24.9%</td>
<td>75.7%</td>
<td>116</td>
<td>-12</td>
</tr>
<tr>
<td>Toronto</td>
<td>464</td>
<td>37</td>
<td>11.1%</td>
<td>71.8%</td>
<td>131</td>
<td>2</td>
</tr>
<tr>
<td>East</td>
<td>574</td>
<td>59</td>
<td>14.4%</td>
<td>71.6%</td>
<td>163</td>
<td>11</td>
</tr>
<tr>
<td>North</td>
<td>134</td>
<td>11</td>
<td>9.5%</td>
<td>86.6%</td>
<td>18</td>
<td>1</td>
</tr>
</tbody>
</table>

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 4 paediatric CRCI cases, 0 vented. There were no neonatal CRCI cases.
Adult Critical Care Units COVID Related Critical Illness (CRCI) Patients
(Source: Critical Care Services Ontario)
(Data as of January 6, 2022)
Adult ICU CRCI  
New Admits  
Discharge

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.

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

**Data source:** Critical Care Information System

**CRCI ICU Patient Throughput Graph**

- **New Admits:** 57
- **CRCI Patients in ICU:** 332
- **Discharge:** 35
COVID-19 ICU curve and speed of ICU curve: as of January 6, 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.

Current speed estimate: 18.00 (15.20 to 20.80)

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 6, 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.

Current speed estimate: 188.71 (111.03 to 266.40)

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
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 is $<0$, 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 5, 2022)

2497 confirmed COVID-19 patients (January 5, 2022)
Source: MOH VA Tool
Hospital Occupancy (Data as of January 5, 2022)

As of January 5, there are 362 ALC patients in RCC beds, approximately 2 out of 5 intended to be discharged to LTCH.

Source: MOH VA Tool
Highlights: COVID-19 Science Table Ontario Dashboard

Key Indicators
Effective Reproduction Number R(t) -
Estimated Number of COVID-19 Cases per Day, on 06-Jan-2022 19,183
Change per week +5,703
Doubling Time (Days) -
Estimated Percentage Caused by Omicron 96.5%
Test Positivity 30.0%
Change per week +1.0%
COVID-19 Hospital Occupancy, on 06-Jan-2022 2,291
Change per week +1312
COVID-19 ICU Occupancy, on 06-Jan-2022 319
Change per week +119
COVID-19 Deaths per Day, on 03-Jan-2022 13
Change per week +8
COVID-19 Cases per 1 Million per Day, on 06-Jan-2022 1,301.9
Among Unvaccinated People 1,588.0
Among People Vaccinated with at Least 2 Doses 1,252.8
Reduction Associated with at Least 2 Vaccine Doses -21.1%
COVID-19 Hospital Occupancy per 1 Million, on 06-Jan-2022 155.5
Among Unvaccinated People 576.8
Among People Vaccinated with at Least 2 Doses 116.7
Reduction Associated with at Least 2 Vaccine Doses -79.8%
COVID-19 ICU Occupancy per 1 Million, on 06-Jan-2022 21.7
Among Unvaccinated People 148.2
Among People Vaccinated with at Least 2 Doses 9.9
Reduction Associated with at Least 2 Vaccine Doses -93.3%

COVID-19 Vaccination, on 10-Jan-2022
Number of People Vaccinated With at Least 1 Dose 12,240,723
Change per week +19,544
Percent of People Aged 5+ Vaccinated With at Least 1 Dose 87.4%
Change per week +0.1%
Number of People Vaccinated With at Least 2 Doses 11,445,183
Change per week +17,391
Percent of People Aged 5+ Vaccinated With at Least 2 Doses 81.7%
Change per week +0.1%
Number of People Vaccinated With 3 Doses 4,232,672
Change per week +337,605
Percent of People Aged 5+ Vaccinated With 3 Doses 30.2%
Change per week +2.4%