

Technical Notes for Halton COVID-19 Snapshot Indicators

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Preamble

This document provides an overview of the indicators presented on the “Snapshot” tab of the Halton COVID-19 dashboard. The indicators are intended to provide an overall snapshot of current local data on the COVID-19 pandemic, to keep the community informed and assist with local decision-making. The indicators fall into two categories:

- **Virus Spread and Severity:** Indicators to monitor incidence and impact of COVID-19 on Halton residents, including severity of outcomes and presence of COVID-19 in vulnerable settings.
- **Health System Capacity:** Indicators to monitor the capacity of local hospitals to admit new patients with COVID-19.

The data shown may differ from data seen in other sources, due to differences in extraction times and methods. The data are subject to change and are refreshed for each indicator twice a week (Tuesday and Friday) unless otherwise specified, to reflect the latest information available. Data definitions and thresholds are subject to change as the pandemic evolves. This document provides an explanation of each indicator, as well as the target goal for each indicator, and the thresholds used to assign a green, orange, or red colour. Please note the indicators within each category are weighted to assign an overall colour value to each category.

Indicator Overview

Indicator Category	ID	Indicator	Description	Data Source	Refresh Cycle
Virus Spread and Severity	1a	Number of active institutional outbreaks	The number of ongoing COVID-19 outbreaks in Halton institutions (long-term care homes, hospitals, and retirement homes). Outbreaks are considered active on all days between and including the date the outbreak was declared and the date the outbreak was declared over.	CCM ¹	Tuesday & Friday
	1b	New hospitalizations among COVID-19 cases, 7-day moving average	The average number of confirmed Halton COVID-19 cases admitted to hospital per day over the past seven days. Hospitalizations are assigned to a date based on the date of the case's admission to hospital, which may have occurred before the case was reported to public health. If cases are hospitalized more than once or transferred to another hospital, only the first hospitalization is counted. This indicator is subject to significant undercounting and delays, as it requires Public Health to be notified by an external party that the case has been hospitalized. Public Health is typically not notified when a Halton resident is hospitalized outside Halton.	CCM	Tuesday & Friday (rolling week)
	1c	New ICU admissions among COVID-19 cases, 7-day moving average	The average number of confirmed Halton COVID-19 cases admitted to the ICU per day over the past seven days. ICU admissions are assigned to a date based on the date of the case's admission to hospital, which may have occurred before the case was reported to public health or prior to being moved into the ICU. Only the first admission to an ICU is counted. This indicator is subject to significant undercounting and delays, as it requires Public Health to be notified by an external party that the case has been admitted to ICU. Public Health is typically not notified when a Halton resident is in an ICU outside Halton.	CCM	Tuesday & Friday (rolling week)
	1d	Percent positivity	The percentage of tests for COVID-19 among Halton residents that had a positive result, for the most recent 7 days of complete data (based on test date). Percent positivity is only a valid indicator if lab testing volume is maintained at a high level within the population, defined by the WHO as 1 per 1,000 population per week – equivalent to 611 people tested per week in Halton. Percent positivity can be impacted by changes in testing practices, including increasing when it is restricted to only select populations at greater risk of testing positive.	MOH SAS Visual Analytics tool ²	Tuesday & Friday (rolling week)

Indicator Category	ID	Indicator	Description	Data Source	Refresh Cycle
	1e	Number of Halton treatment plants with increasing trend greater than 10% in wastewater signal	The number of wastewater treatment plants in Halton for which the concentration (signal) of COVID-19 in the wastewater is currently increasing based on the most recent trend analysis conducted by the MECP. There are six plants in Halton. Please note that the concentration of COVID-19 in the wastewater may still be relatively high, but may not necessarily be increasing.	MECP ³	Weekly
	1f	Percentage of new cases known to have BA.2	The percentage of new Halton resident cases reported during the specified week that were identified through genomic analysis as having Omicron BA.2 lineage. Data for this indicator are provided by Public Health Ontario's " SARS-CoV-2 Whole Genome Sequencing in Ontario " report, which is updated weekly. This indicator can be considered temporary and may be removed when it is no longer relevant to track the percentage of cases with BA.2.	Public Health Ontario ⁴	Weekly
Health System Capacity	2a	Acute care bed occupancy rate	The percentage of acute care beds in Halton hospitals that were occupied on the most recent day of available data. Acute care beds include medical, surgical, critical care, obstetrics, paediatric, and paediatric mental health beds. Halton hospitals include Joseph Brant Hospital, Oakville Trafalgar Memorial Hospital, Milton District Hospital, and Georgetown Hospital, excluding Joseph Brant's Pandemic Response Unit. Occupancy rates reflect patients who have been admitted for any reason, including but not limited to COVID-19. Due to time required for hospitals to report this data to the Ministry of Health, data are typically reported as of 11 AM two days prior.	MOH SAS Visual Analytics tool ⁵	Tuesday & Friday
	2b	ICU bed occupancy rate	The percentage of ICU beds in Halton hospitals that were occupied on the most recent day of available data. ICU beds include medical/surgical ICU beds; neonatal ICU beds and pandemic surge beds that could be operationalized if required are not included. Halton hospitals include Joseph Brant Hospital, Oakville Trafalgar Memorial Hospital, Milton District Hospital, and Georgetown Hospital, excluding Joseph Brant's Pandemic Response Unit. Occupancy rates reflect patients who have been admitted for any reason, including but not limited to COVID-19. Due to time required for hospitals to report this data to the Ministry of Health, data are typically reported as of 12:01 AM on the day prior to the dashboard refresh.	MOH SAS Visual Analytics tool	Tuesday & Friday

¹ Public Health Case and Contact Management (CCM) Solution, extracted each weekday morning to reflect cases reported by end of the previous day.

² Ministry of Health, SAS Visual Analytics Tool, COVID-19 Testing report, extracted Monday to Friday inclusive.

³ Ministry of Environment, Conservation and Parks, Ontario’s Wastewater Surveillance Data and Visualization Hub

⁴ Public Health Ontario, “Epidemiologic summary: SARS-CoV-2 Whole Genome Sequencing in Ontario”, retrieved from <https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-sars-cov2-whole-genome-sequencing-epi-summary.pdf>.

⁵ Ministry of Health, SAS Visual Analytics Tool, COVID Regional Hospital and Hospital Utilization reports, extracted Monday to Friday inclusive.

Thresholds for Indicators

Indicator Category	ID	Indicator	Goal Description	Red	Orange	Green
Virus Spread and Severity	1a	Number of active institutional outbreaks	A 14-day decline or a stable trend AND fewer than three active institutional outbreaks (based on 5% of healthcare institutions in Halton, which is estimated to be three facilities).	Increasing trend in the number of active institutional outbreaks AND ≥ 3 outbreaks OR ≥ 6 active institutional outbreaks	Stable/decreasing trend with 3+ outbreaks OR Increasing trend with <3 outbreaks	14 day decrease in the number of active institutional outbreaks OR Stable trend AND <3 active outbreaks
	1b	New hospitalizations among COVID-19 cases, 7-day moving average	A 14-day decline or a stable trend with less than a seven-day moving average of 0.5 hospitalizations per day	Increasing trend in the number of new hospitalizations per day AND ≥ 0.5 new hospitalizations per day OR ≥ 1 new hospitalizations per day	Stable/decreasing trend with 0.5+ new hospitalizations per day OR Increasing trend with <0.5 new hospitalizations per day	Stable trend AND < 0.5 new hospitalizations per day
	1c	New ICU admissions among COVID-19 cases, 7-day moving average	A 14-day decline or a stable trend with less than a seven-day moving average of 0.1 ICU admissions per day	Increasing trend in the number of new ICU admissions per day AND ≥ 0.1 new ICU admissions per day OR ≥ 0.2 new ICU admissions per day	Stable/decreasing trend with 0.1+ new ICU admissions per day OR Increasing trend with <0.1 new ICU admissions per day	Stable trend AND < 0.1 new ICU admissions per day
	1d	Percent positivity	$<0.5\%$	$\geq 2.5\%$ of people tested have positive results	0.5-2.4% of people tested have positive results	$<0.5\%$ of people tested have positive results

Indicator Category	ID	Indicator	Goal Description	Red	Orange	Green
	1e	Number of Halton treatment plants with increasing trend greater than 10% in wastewater signal	No wastewater treatment plants with an increasing trend in the COVID-19 concentration (signal) greater than 10% per day.	>=2 plants with increasing trend	1 plant with an increasing trend	0 plants with an increasing trend
	1f	Percentage of new cases known to have BA.2	N/A – No goal is set as the percentage of cases with BA.2 is likely to only increase.	N/A	N/A	N/A
Health System Capacity	2a	Acute care bed occupancy rate	<90%	>=90% of acute care beds are occupied	N/A	<90% of acute care beds are occupied
	2b	ICU bed occupancy rate	<90%	>=90% of ICU beds are occupied	N/A	<90% of ICU beds are occupied