Ontario Critical Care Clinical Practice Rounds (OC3PR)

May 6, 2021
From 2:00 PM - 3:00 PM EDT

IPAC Measures Among Evolving COVID-19 Health System Pressures

Presenter: Dr. Susy Hota
Chaired by Dr. Dave Neilipovitz

Meeting Etiquette

- Due to attendee numbers, participants will be muted and will be able to submit questions to the panelist
- Please note, reproduction in part or in full of any of this presentation requires express permission from CCSO.

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Declarations of Interest

- Committees (all volunteer positions):
  - Member - Public Health Agency of Canada Canadian Pandemic Influenza Preparedness Task Group (Technical Task Group for COVID-19 Pandemic)
  - Member - Public Health Agency of Canada National Advisory Committee on Infection Prevention and Control (NAC-IPC)
  - Member - Canadian Standards Association Technical Subcommittee for Long Term Care IPAC and Operations
  - Member - Ontario Provincial Infectious Diseases Advisory Committee – Infection Prevention and Control
  - IPAC Lead – Ontario Health Toronto Region Hospital Operations Table
  - IPAC Lead – Ontario Health Greater Toronto Area Hospital Incident Management System
- Board of Directors Membership (volunteer):
  - Councilor – Association of Medical Microbiology and Infectious Diseases Canada

Toronto

Ontario transfers dozens more COVID-19 patients as GTA ICUs buckle under 3rd wave

Ornge transferred an unprecedented 80 patients on Thursday to relieve stress on crowded ICUs

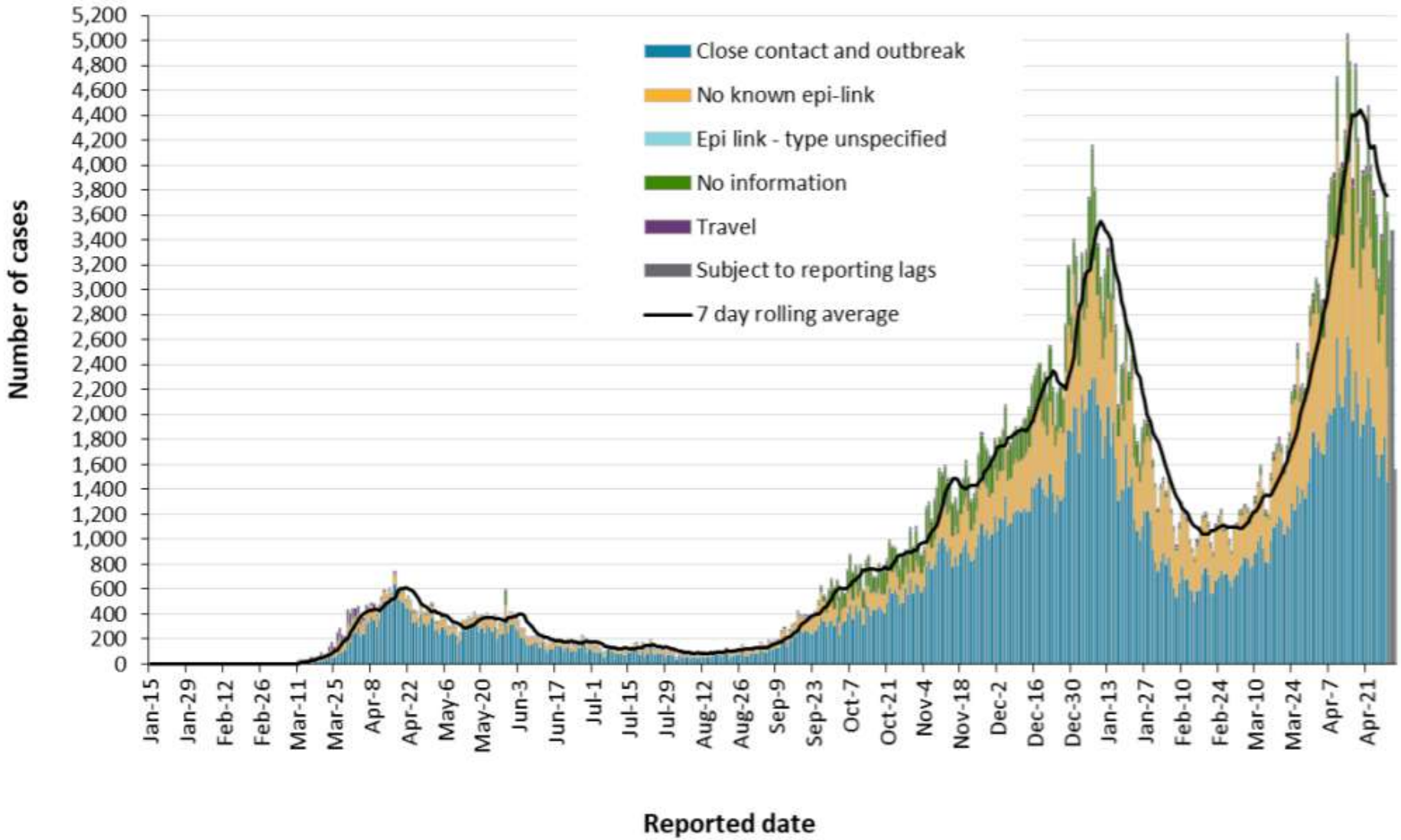
CBC News · Posted: Apr 24, 2021 4:00 AM ET | Last Updated: April 24

Paramedics with Ornge ambulance service load a patient outside Scarborough General Hospital on April 8, 2021. (Evan Mitsui/CBC)

Objectives

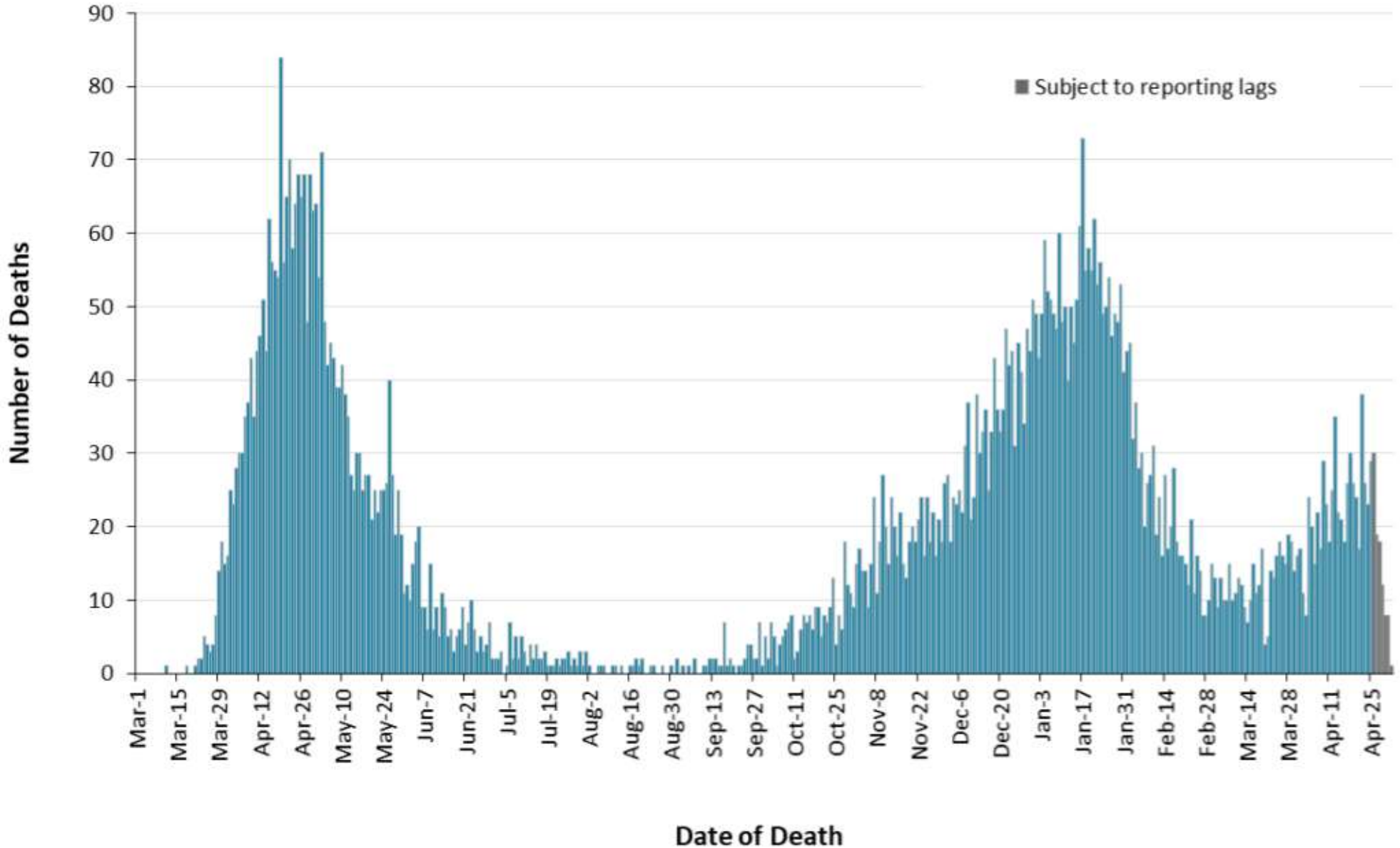
1. Describe the current epidemiology of COVID-19 in Ontario
2. Describe how to achieve consistencies across institutions
3. Describe strategies for isolation measures and use of unconventional spaces during major hospital surge
4. Describe strategies for quarantine of healthcare workers depending on the level of surge

Figure 1. Confirmed cases of COVID-19 by likely acquisition and public health unit reported date: Ontario, January 15, 2020 to May 2, 2021

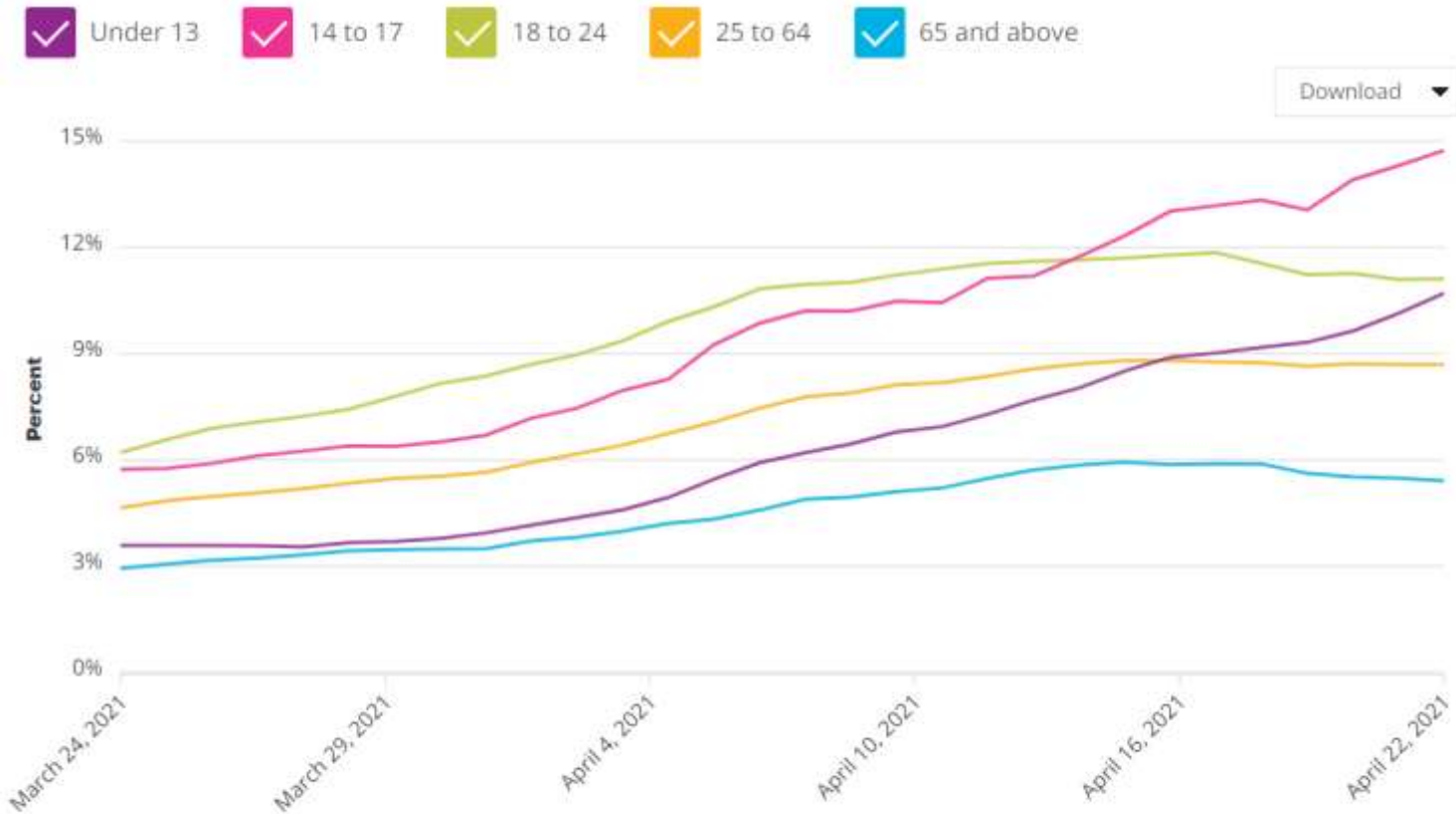


https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-daily-epi-summary-report.pdf?la=en

Figure 4. Confirmed deaths among COVID-19 cases by date of death: Ontario, March 1, 2020 to May 2, 2021



https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-daily-epi-summary-report.pdf?la=en



Data Source: OLIS. This data may be delayed by up to one week.

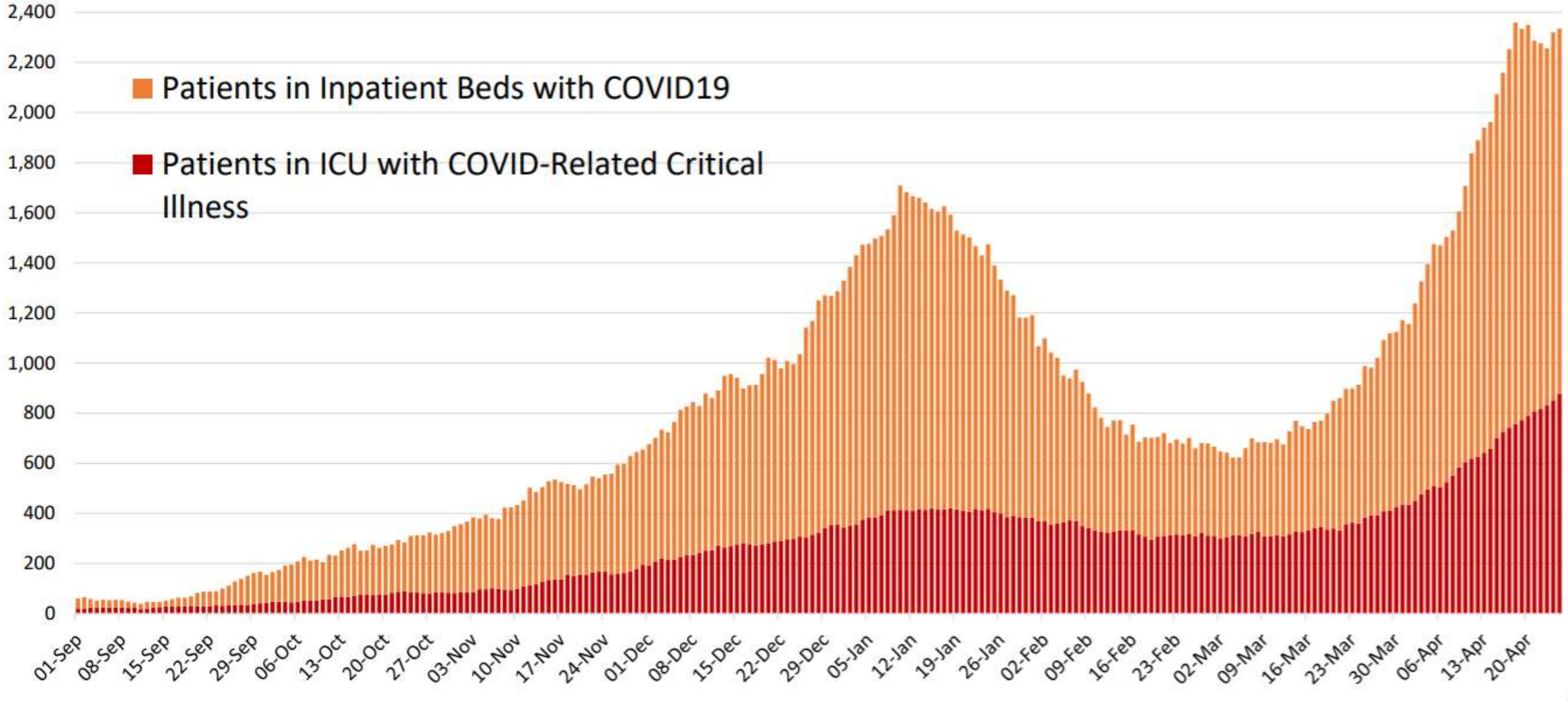
Table 4. Confirmed cases of COVID-19 by severity: Ontario

	Cumulative case count as of May 2, 2021	Percentage of all cases
Cumulative deaths reported (please note there may be a reporting delay for deaths)	8,118	1.7%
Deaths reported in ages: 19 and under	3	<0.1%
Deaths reported in ages: 20-39	52	<0.1%
Deaths reported in ages: 40-59	386	0.3%
Deaths reported in ages: 60-79	2,418	3.7%
Deaths reported in ages: 80 and over	5,258	22.2%
Ever in ICU	4,172	0.9%
Ever hospitalized	22,919	4.8%

Note: Not all cases have an age reported. Data corrections or updates can result in case records being removed and/or updated and may result in totals differing from past publicly reported case counts.
Data Source: CCM

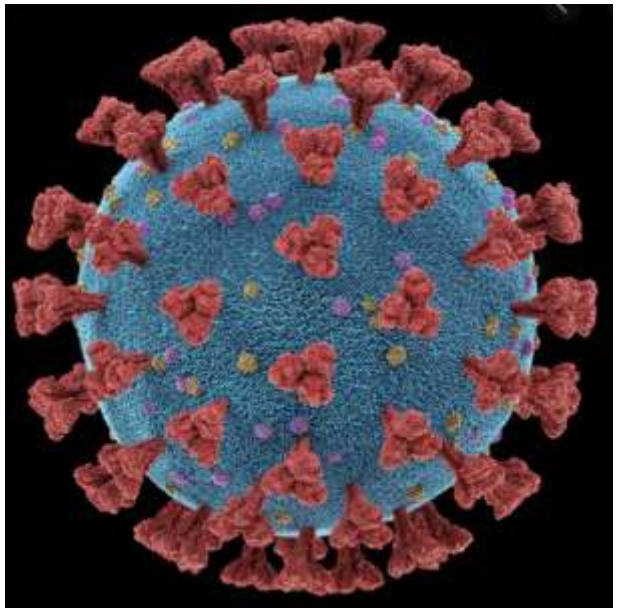
https://covid-19.ontario.ca/data/testing-volumes-and-results
https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-daily-epi-summary-report.pdf?la=en

Hospitalizations/ICU Census



https://covid19-sciencetable.ca/wp-content/uploads/2021/04/Update-on-COVID-19-Projections_2021.04.29_English.pdf

Variants of Concern



- Virus mutations altering:
  - Transmissibility
  - Virulence (severity)
  - Vaccine effectiveness
  - Diagnostic testing interpretation
- 3 main VOC in Ontario currently:
  - B.1.1.7 variant first identified the UK
  - B.1.351 variant first identified in South Africa
  - P.1 variant first identified in Brazil
- Numerous Variants of Interest (B 1.617, B 1.526, P.2, B 1.427*, B 1.429*)

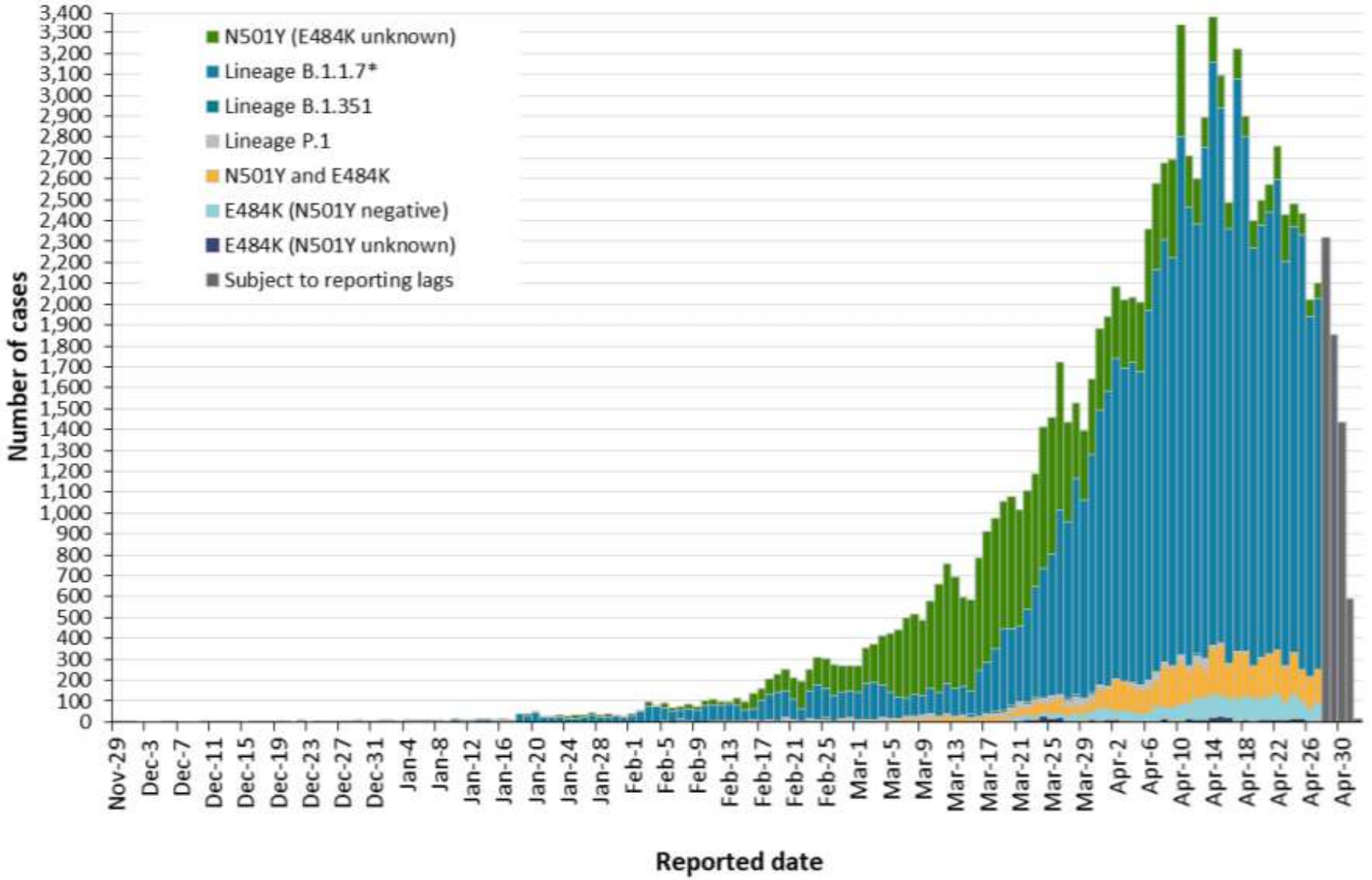
https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/respiratory-diseases/novel-coronavirus/variants

Variants of Concern (Ontario)

Variant	Transmissibility	Severe Illness	Death	Immune Escape
B.1.1.7	↑ 45-71%	↑63% hospitalization; 103% ICU care	↑ 56%	-
B.1.351	Suspected to be ↑ (↑ 55% in UK study)	?	?	+ E484K Cases of Reinfection ↓ Ab response to vaccine
P1	Suspected to be ↑ (↑25-62% in modelling study)	?	?	+ E484K Cases of Reinfection ↓ Ab response to vaccine

https://sporevidencealliance.ca/wp-content/uploads/2021/03/Transmission-characteristics-SARS-CoV-2-VOC-Full-Report-17MAR2021.pdf
BMJ 2021; 372 doi: https://doi.org/10.1136/bmj.n579; https://covid19-sciencetable.ca/sciencebrief/covid-19-hospitalizations-icu-admissions-and-deaths-associated-with-the-new-variants-of-concern/

Figure 6. Confirmed COVID-19 cases with a mutation or VOC detected by public health unit reported date: Ontario, November 29, 2020 to May 2, 2021

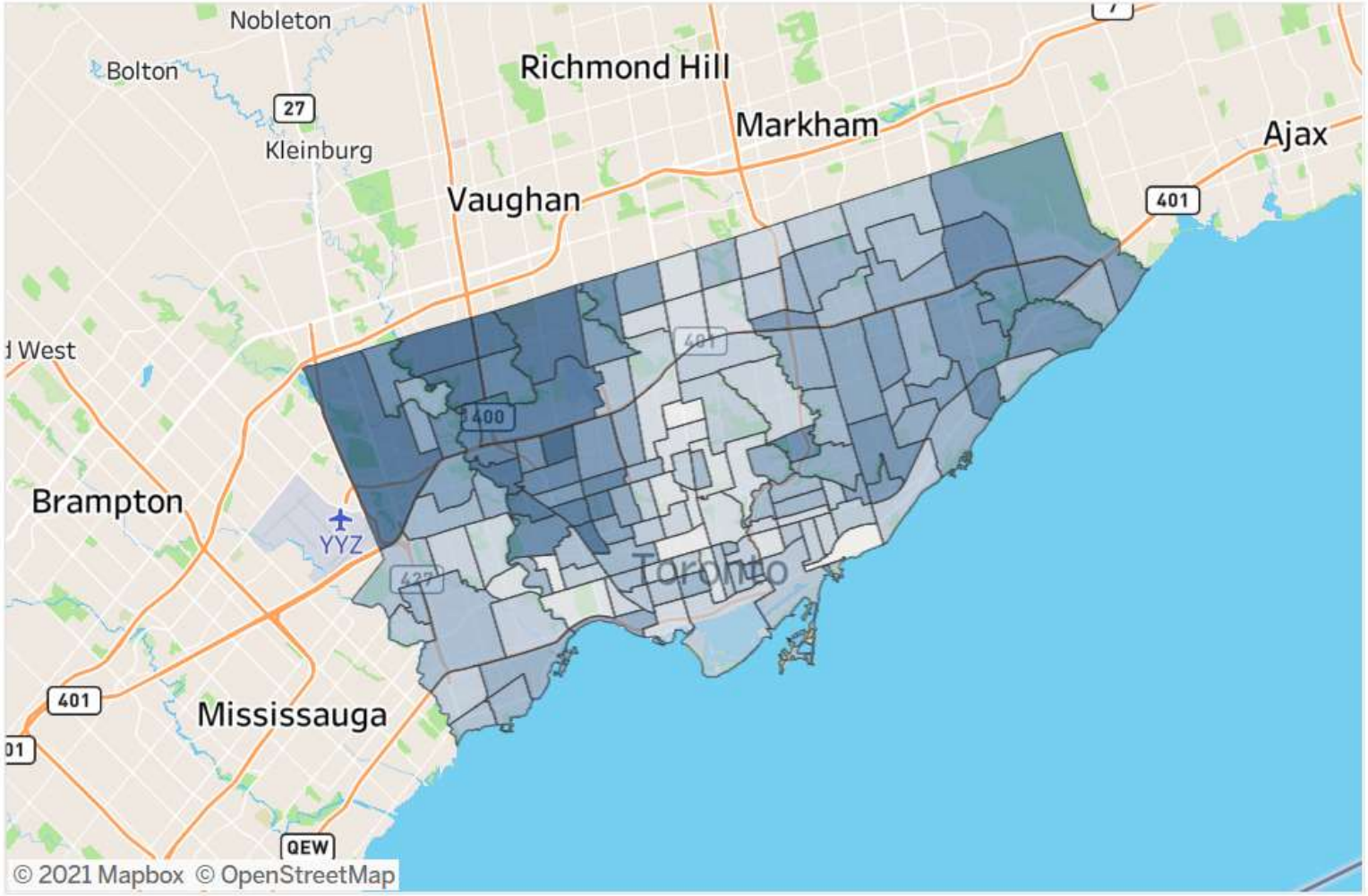


Growing lag in VOC testing and reporting due to sustained, high testing volumes

VOC account for 90% of cases now

https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-daily-epi-summary-report.pdf?la=en

Geographical variability in incidence and prevalence of COVID-19 in the GTA



- Cumulative cases and rates by neighborhood since beginning of outbreak
- Data from April 11-30, 2021
- Approximately 3% of cases have missing postal code
- Source: Toronto Public Health (Public Health Case and Contact Management Solution; Ontario MOH)

https://www.toronto.ca/home/covid-19/covid-19-latest-city-of-toronto-news/covid-19-status-of-cases-in-toronto/

GTA Hospital IMS

Authority as delegated by Ontario Health:

The GTA Hospital IMS Command Centre (IMS Command Centre) has the authority to use the IMS framework to maximize the efficient access to all hospital beds in order to maximize the safety of patient care, acknowledging priorities and equity for the populations they serve, during this pandemic.

The IMS Command Centre is a single regional decision-making body with the authority to:

- Monitor hospital critical capacity needs across the region in real time
- Respond in a timely manner that is commensurate and relevant to the pace of capacity issues, while targeting upstream engagement with hospitals, and focusing on early warning signs
- Move patients to and from hospitals
- Engage the system to redirect resources as needed to preserve system integrity during this pandemic

GTA Hospital IMS

GTA IMS Guiding Principles:

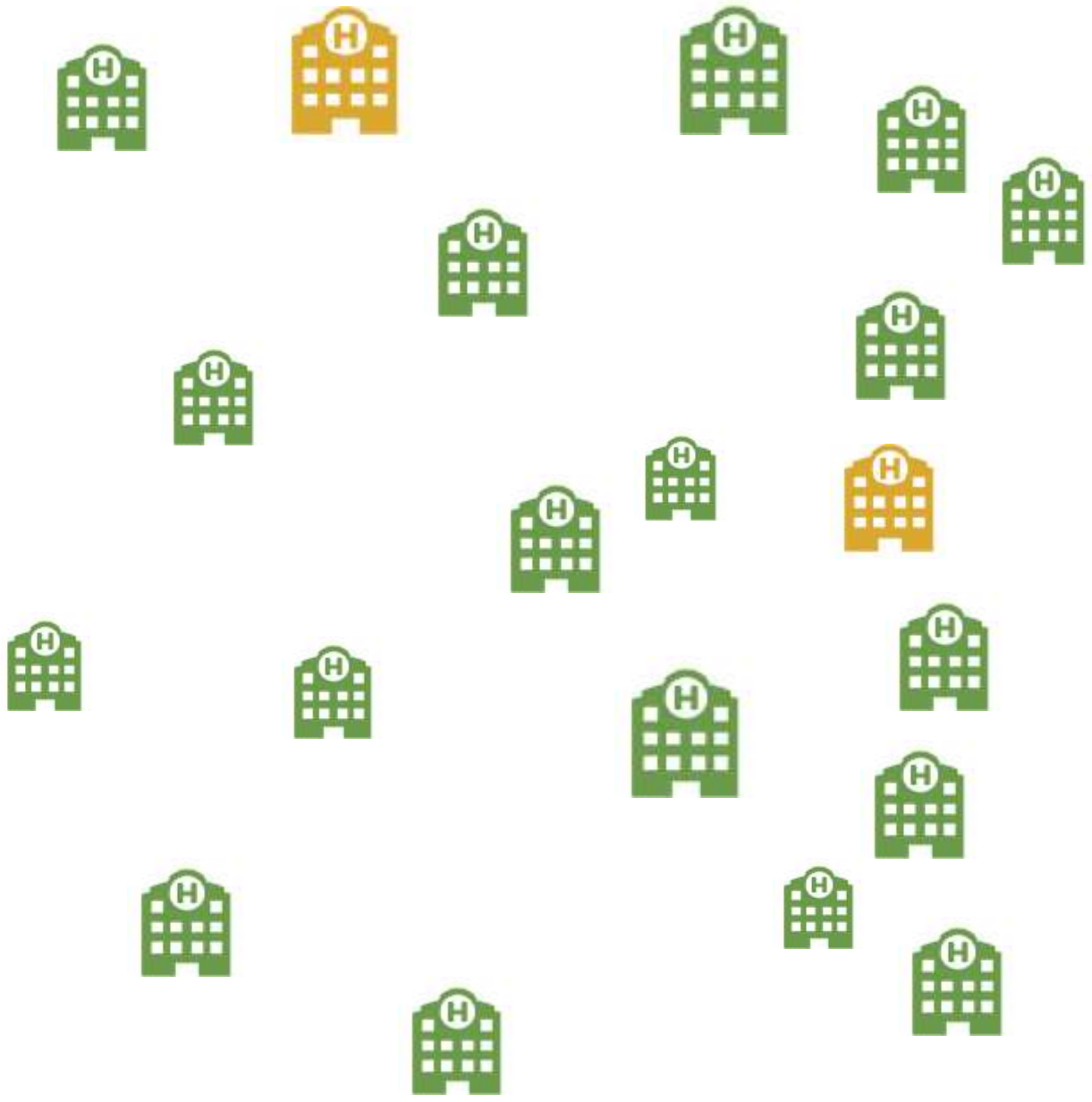
All actions of the GTA IMS should be taken with a view to:

- Maximizing equity of access for patients to receive healthcare while maximizing safety of patient care (i.e. all patients to have access to care based on urgency of care, irrespective of geography)
- Treating hospital capacity as a single system resource
- Keeping patients as close to home as capacity will allow
- Preserving capacity for tertiary, quaternary and unique services
- Prioritizing the principles above, and then working to balance the impact of GTA IMS actions across hospitals

Priorities for action are:

1. Immediate relief for hospitals with clear and overwhelming safety and equity of access issues
2. Relief for hospitals in danger of experiencing safety and equity of access issues in the coming days
3. Aim to support stabilization of all hospitals in the region as resources allow

How it Started



How it's Going

Public Health Ontario | Santé publique Ontario

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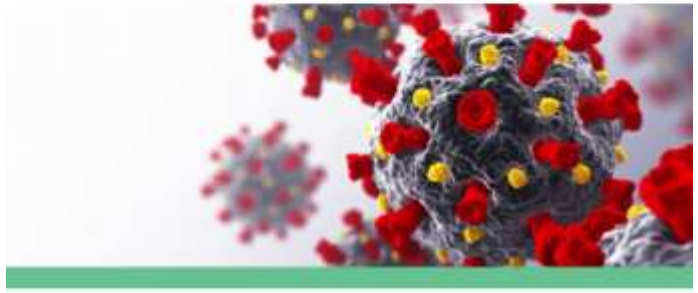
COVID-19 Health Care Resources

Frontline health care professionals play a vital role in Ontario's ability to prevent, manage and treat COVID-19 outbreaks in the province. PHO has developed the following resources to help health care professionals protect themselves, their colleagues and their patients.

Public Health Ontario | Santé publique Ontario

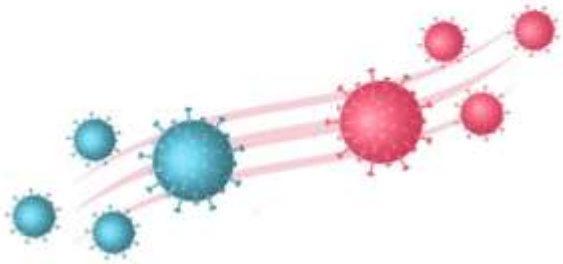


Best Practices for Managing COVID-19 Outbreaks in Acute Care Settings

March 2021

PIDAC Provincial Infectious Diseases Advisory Committee
Infection Prevention and Control

Public Health Ontario | Santé publique Ontario



Interim Guidance for Infection Prevention and Control of SARS-CoV-2 Variants of Concern for Health Care Settings

1st revision: April 2021

PIDAC Provincial Infectious Diseases Advisory Committee
Infection Prevention and Control

Ontario

Ministry of Health
Ministry of Long-Term Care

Government of Canada | Gouvernement du Canada

TORONTO

World Health Organization

Hospital IPAC Policy Development

- Takes into account Ministry of Health Directives (must) and guidance, adjacent/overlapping guidance from other bodies, and IPAC best practices
- Takes into account science, epidemiology, local context, feasibility, real-life experience, patient experience, competing factors, implementation requirements and hospital strategic priorities
- Follow regional direction: Ontario Health Toronto Region COVID-19 Hospital Operations Table created to help translate COVID-19 directives, guidance and new issues faced by hospitals into actionable items
- Are continuously updated to reflect current knowledge

TORONTO COVID COLLECTIVE

Home Workflow Management Patient-Centred Care Trials Feedback UHN/SHS

Get your team ready for COVID-19

https://www.torontocovidcollective.com/

GTA Hospital IMS

Health System Capacity-Directed Infection Prevention and Control Guidance During the COVID-19 Pandemic: Patient Placement, GTA Hospital IMS Transfers and Outbreak Management

Version Date: April 13, 2021

***NOTE**: When the GTA IMS is active, this document supersedes the Utilization of Multi-Bed Ward Rooms and Inpatient Placement in Hospitals During the COVID-19 Pandemic (Ontario Health, June 12, 2020)*

Developed due to:

- Evolving epidemiology and clinical implications of VOC
- Health system capacity pressures of Wave 3 of the pandemic in the GTA (and Ontario)
- Increasing rates of vaccination of healthcare workers

Target audiences:

- Primary: Hospital IPAC teams, occupational health and safey, flow/capacity leads
- Secondary: Hospital operation leads, GTA IMS leads

Triggers for scalable actions:

- Regional conditions
- Internal capacity triggers

Patient Placement

Factor	Green	Yellow	Red
Use of Multi-bedded rooms (including >/= 3 beds/room) and Cohorting schemes	No more than 2 patients per room Where necessary, 3 or more patients may occupy the room, if IPAC measures are optimized (as per *Utilization of Multi-Bed Ward Rooms and Inpatient Placement in Hospitals During the COVID-19 Pandemic - Ontario Health, June 12, 2020*) • No patients require additional precautions	All beds may be occupied with (in descending order of preference): • Patients NOT requiring additional precautions (including COVID-recovered[1]; if possible, COVID-recovered should be cohorted together before mixing in with COVID-negative patients; if possible, also maintain no more than 2 COVID-negative patients per multi-bedded room) • Patients requiring contact precautions for ARO colonization, as directed by IPAC • Cohort COVID+ patients that are NON-E484K+ VOC[2] **NOTE:** COVID+ patients on high-flow oxygen can be cohorted together, as above, if single rooms are not available	All beds are occupied with (in descending order of preference): • Patients as per Yellow category • Cohort COVID+ patients: VOC screen pending with NON-E484K+ VOC • Cohort COVID+ patients who are all E484K+ VOC • Cohort all COVID+ together, regardless of variant **NOTE:** COVID+ patients on high-flow oxygen can be cohorted together, as above At this time we do not recommend cohorting suspected COVID patients

Factor	Green	Yellow	Red
Priority for Single Room **NB. If a single room is not available, follow cohorting direction for multi-bedded rooms**	(In descending order of priority) • Suspected COVID (i.e. not yet cleared by IPAC) • Any COVID+ requiring AGMP (AIIR not available) • COVID E484K+ VOC • COVID VOC screen/E484K status unknown • Inter-facility transfers in with unknown COVID or VOC status (exclude asymptomatic LTC transfers[3]) • COVID NON-E484K+ VOC • *C. difficile*/viral gastroenteritis • CPO • Other AROs/isolations	Same as Green, maintaining priority as long as possible in the following (in descending order): • Suspected COVID (i.e. not yet cleared by IPAC) • Any COVID+ requiring AGMP (AIIR not available) • COVID+, E484K+ VOC • COVID+, VOC screen/E484K status unknown	Same as Yellow, maintaining priority as long as possible in the following (in descending order): • Suspected COVID • Any COVID+ requiring AGMP (AIIR not available)
Unconventional Space (Hallways, open bays/rooms)	• Patients not requiring additional precautions	• Patients not requiring additional precautions • Patients requiring contact precautions for ARO colonization, with IPAC direction	As per Yellow, then: • Cohorting in open bays to follow cohorting scheme of multi-bedded rooms

GTA Hospital IMS Transfers

Factor	Green	Yellow	Red
GTA IMS Transfer Prioritization (Acute only) NOTE: The clinical appropriateness of patients being considered for transfer and operational pressures may require deviation from this order as per IMS Command Centre directive	(In descending order of priority): • COVID-recovered • COVID NON-E484K+ VOC • Acute non-COVID/non-PUI/no isolation needs • Acute non-COVID/non-PUI with other isolation needs	As per Green, then: • COVID E484K+ VOC • COVID E484K/VOC status TBD • COVID-exposed (including from COVID outbreak unit)	As per Yellow, then: • Any
Transportation of IMS Transfers	• EMS, ORNGE, medical transport usual practice	• Usual practice • Multi-patient bus transfer for any COVID+ patients - intubated or non-intubated (where possible, non-intubated patients should wear medical masks, patients should be maximally spaced and windows should be open for improved ventilation) • All transport staff should wear N95 respirators	Same as Yellow
Duration of Empiric Isolation for Inter-facility Transfers	All transfers isolated up to 14 days, based upon IPAC epi/clinical assessment and testing results; isolation can be removed if COVID transfer test is negative and IPAC assessment is favorable (this includes considering vaccination status of patient – for example, LTC residents who are fully vaccinated may not require 14 days isolation - and may require additional testing, as per IPAC)	Same as Green	As per Green except: • Patients who are not clinically suspected to have COVID-19 ("asymptomatic") and are fully vaccinated or have recovered from COVID in the past 6 months can be transferred without being under isolation. They should still be tested on transfer and further at the discretion of IPAC

Management of Healthcare Workers

Factor	Green	Yellow	Red
Quarantine of HCWs: High-risk exposures	Requires 14 days of quarantine after high risk exposure to COVID case with the following exceptions: • Fully-vaccinated HCWs with high-risk occupational exposures may be allowed to work • Partially-vaccinated HCWs with high-risk occupational exposures AND HCWs with household exposures to COVID cases must quarantine	Requires 14 days of quarantine after high risk exposure to COVID case with the following exceptions: • Fully-vaccinated HCWs with high-risk occupational exposures may be allowed to work • Partially-vaccinated HCWs with high-risk occupational exposures may be allowed to work IF there is a critical HHR shortage AND they have negative tests on Days 0, 3-7 and 10-14 from break in contact with the case; exceptions may apply depending on other characteristics of the risk assessment • HCWs with household exposures to COVID cases must quarantine	Asymptomatic HCWs with high-risk occupational exposures may be permitted to work, immediately if necessary, regardless of vaccination status, IF • There is a critical HHR shortage AND • They get tested through quarantine period and have negative tests on Days 0, 3-7 and 10-14 from break in contact with the case AND • They are trained in PPE use AND • There are not other highly concerning aspects to the risk assessment (e.g. unprotected exposure to a COVID+ patient receiving AGMP) • HCWs with household exposures to COVID cases should quarantine; on a case by case basis, Occupational Health may release the HCW from quarantine early, based on the criticality of need, risk assessment and testing results

Factor	Green	Yellow	Red
Quarantine of HCWs: Movement of HCWs from outbreak to non-outbreak units (N.B. Staff may be exempt if minor exposure to outbreak unit and follow work-home isolation)	Requires 14 day quarantine from break in contact with outbreak unit, or until outbreak declared over	Asymptomatic staff who are fully vaccinated[4] may be permitted to move without quarantine Asymptomatic staff who are partially vaccinated[5] may be permitted to move if test negative at Days 0, 3-7 and 10-14 post-break in contact	Asymptomatic staff are permitted to move without quarantine, regardless of vaccination status, if PPE training confirmed, if test negative at Days 0, 3-7 and 10-14 post-break in contact and perform work-home isolation
Isolation of COVID+ HCWs	Complete isolation period as per usual practice	Complete isolation period as per usual practice	During a time of critical HHR shortage (crisis management), asymptomatic COVID+ HCWs who are fully or partially vaccinated may return to work after completing 7 days of isolation; they must follow work-home isolation until cleared by Public Health

Management of Outbreak Unit

Factor	Green	Yellow	Red
COVID-19 Outbreak Unit Management	Standard management, including closure of unit to admissions	Consider allowing transfer in of COVID-recovered patients or fully vaccinated patients Consider allowing new admissions to the unit if: • Unit divided into outbreak and non-outbreak side, with dedicated nursing stations, med areas, clean/dirty utility • Non-outbreak staff (RN/HCAs) dedicated to new admission side as much as possible Outbreak control is progressing reasonably well	Allow transfer in of COVID-recovered patients or fully vaccinated patients Allow new admissions to the unit if: • Unit divided into outbreak and non-outbreak side, with dedicated nursing stations, med areas, clean/dirty utility as best as possible • Dedicate RN/HCA staffing to each side with each shift if staffing permits • Consider using new divided unit to admit COVID+ patients

Also included note on vaccinating inpatients for COVID-19 outbreak prevention

Postscript/Disclaimers

- Emerging concerns with variants of interest may result in changes to cohorting recommendations
- As population-level vaccine rollout continues, cohorting, testing and isolation practices of inpatients patients may change
- Better understanding drivers of increased transmissibility of VOC may result in new recommendations

Like all IPAC recommendations everything is considered “interim”!

Summary

- We are at a critical and rapidly changing point in the pandemic, with competing forces of VOC, vaccine roll-out and pandemic fatigue
- Hospital IPAC practices have aligned but not become uniform through the GTA Hospital IMS
- Regional coordination of the pandemic response has enabled rapid adaptation of IPAC practices, scalable to health system capacity pressures
- Further changes to IPAC recommendations will likely come through:
  - GTA Hospital IMS/Ontario Health Regional Hospital Operations Tables
  - PIDAC/PHO
  - Ministry of Health (guidance or Directives)

Thank you for joining us today

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the next topic?

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Jun 3, 2021
2:00 PM to 3:00 PM EDT
Topic: TBD

Questions? **info@ccso.ca**

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