

# Update on COVID-19 Projections

Science Advisory and Modelling Consensus Tables

April 1, 2021

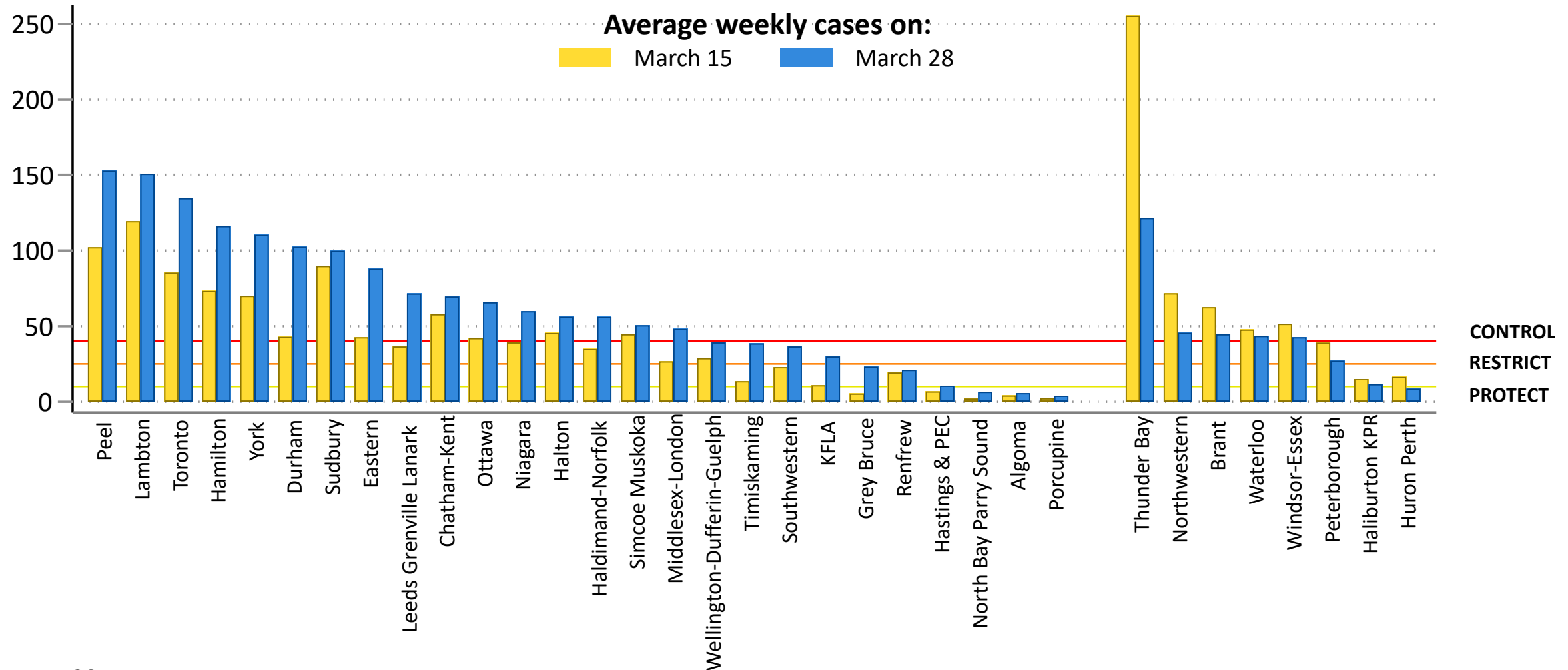


# Key Findings

- The **third wave** is here and being **driven by variants of concern**.
- **Younger Ontarians are ending up in hospital**. Risk of ICU admission is **2 x higher** and risk of death is **1.5 x higher** for the B.1.1.7 variant.
- COVID-19 **threatens health system ability to deal with regular ICU admissions** and the ability to care for all patients.
- Vaccination is **not reaching the highest risk communities**, delaying its impact as an effective strategy.
- School disruptions have a significant and highly inequitable **impact** on students, parents and society. Further disruptions should be minimized.
- Stay-at-home orders will control the surge, protect access to care, and increase the chance of the summer Ontarians want.

# Cases have increased and are above the second highest level of the framework in most Public Health Units

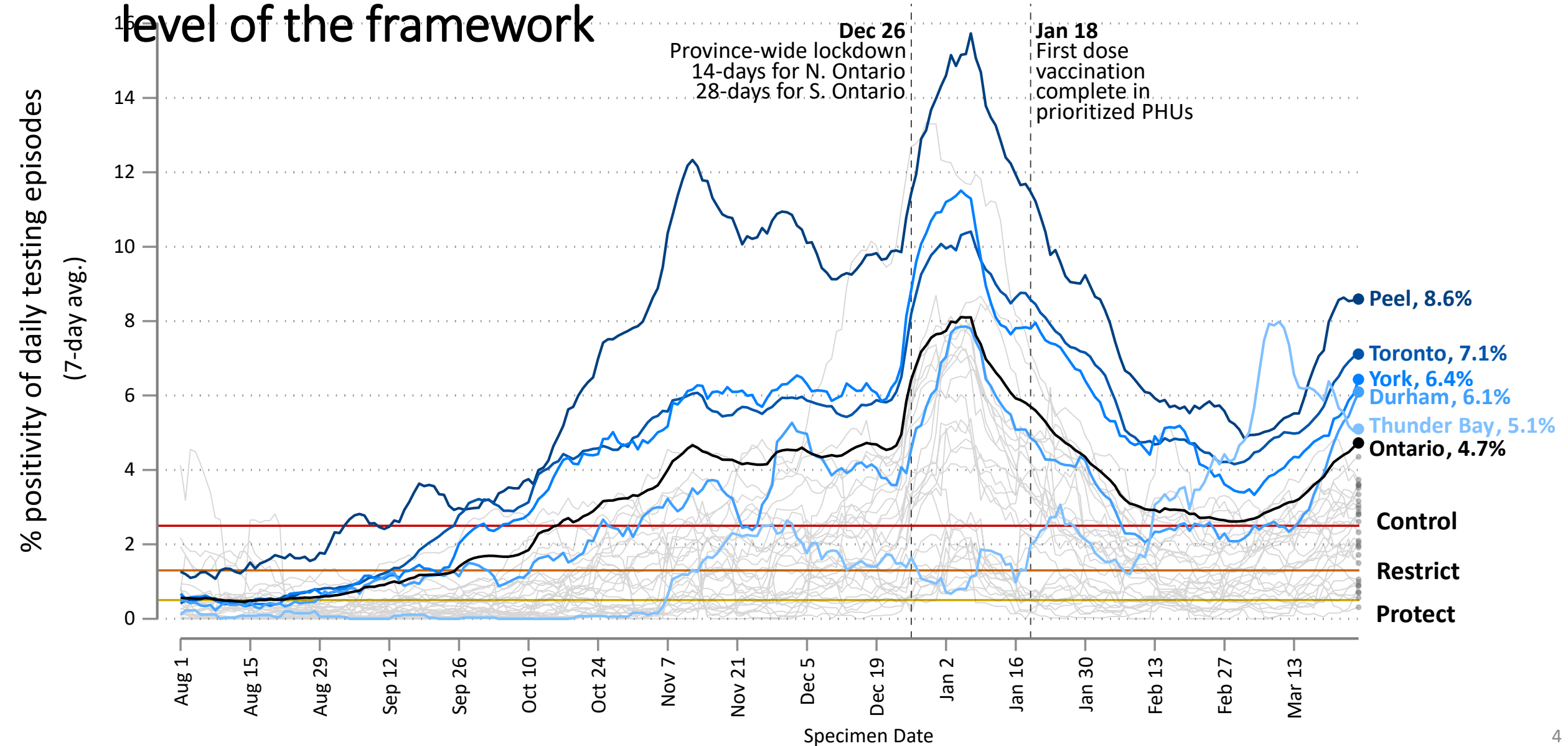
Weekly new cases per 100,000 residents



Data source: CCM

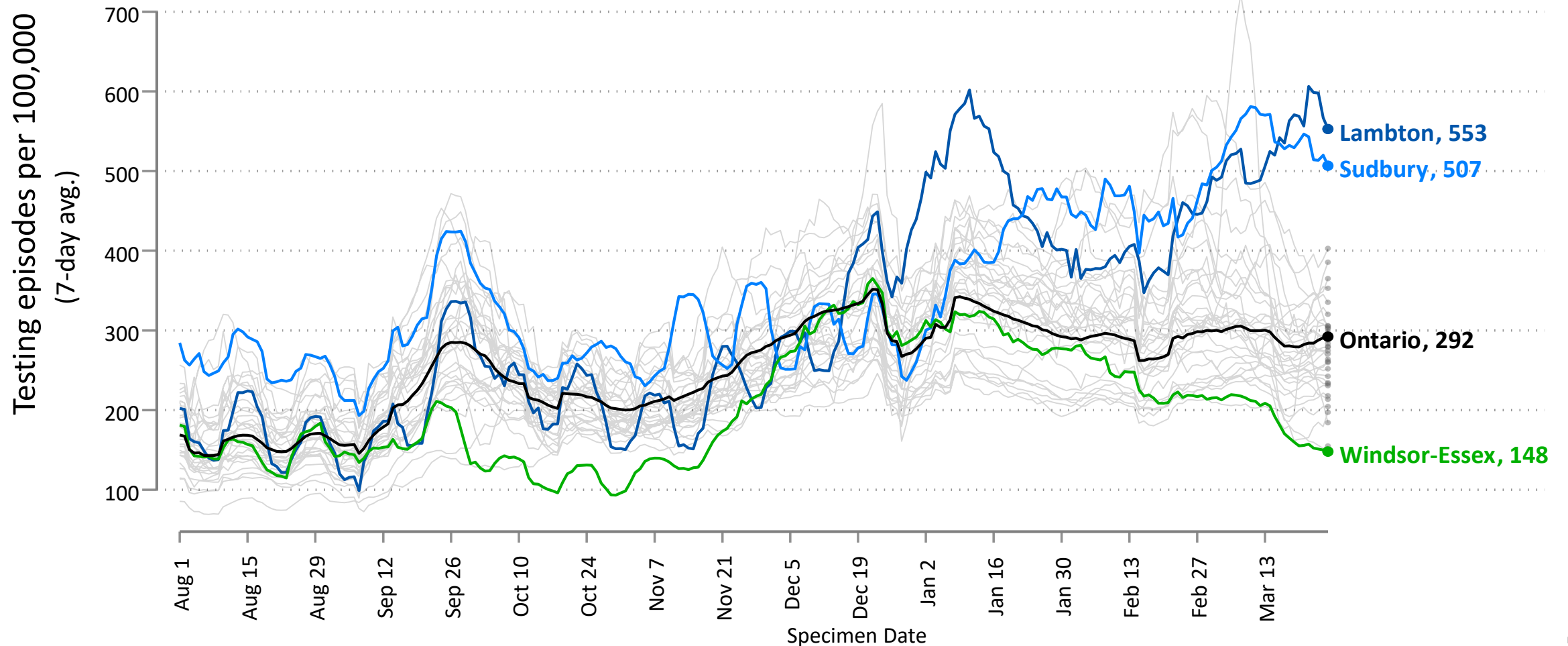
Data note: Data for the most recent day have been censored to account for reporting delays

# Testing % positivity has increased and is above the second highest level of the framework



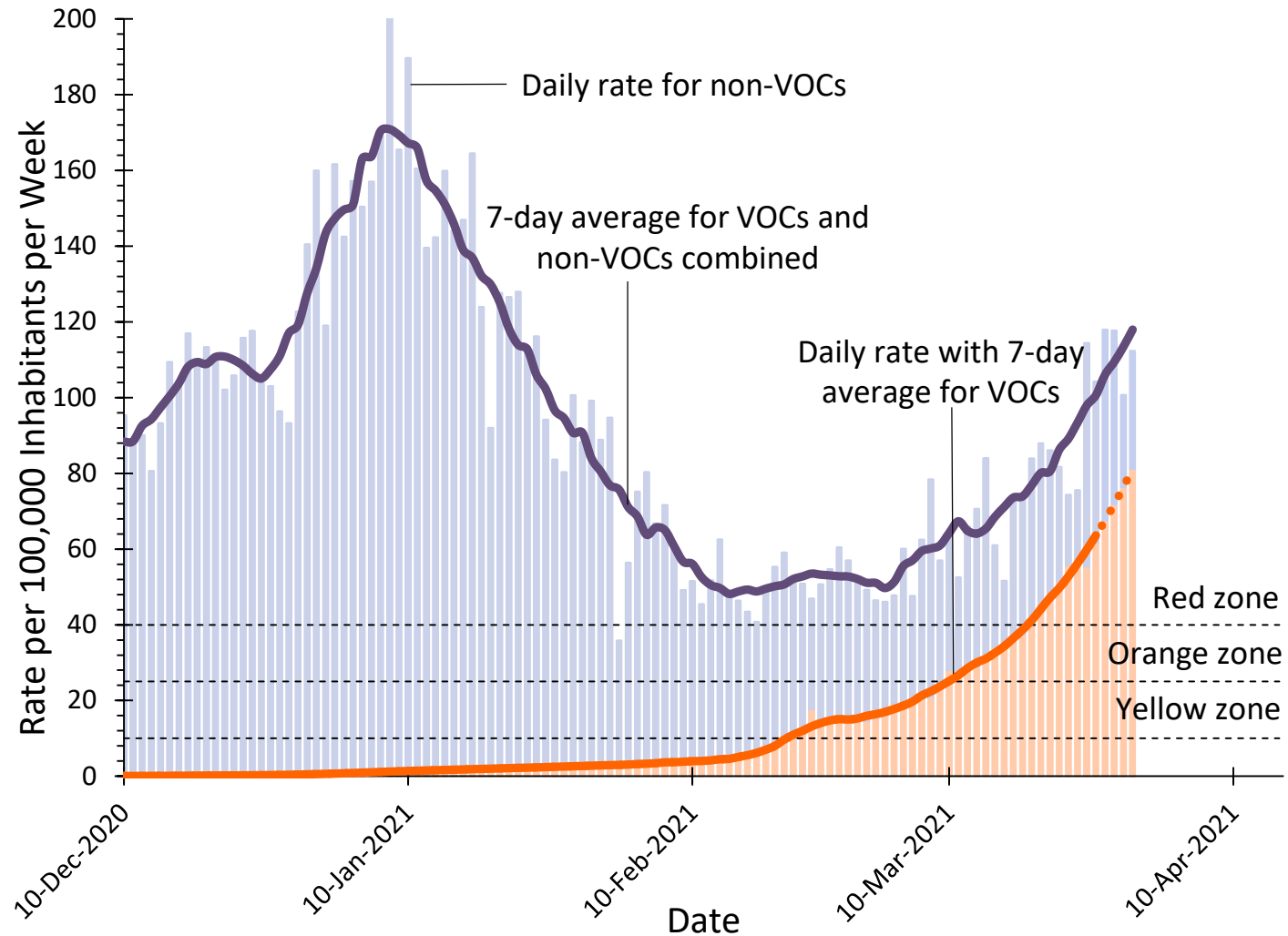
Data source: Ontario Laboratory Information System (OLIS), data up to March 26

# Testing rates are flat so case growth is not a result of more testing



Data source: Ontario Laboratory Information System (OLIS), data up to March 26

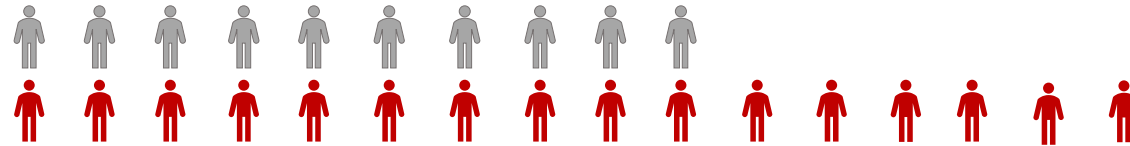
Cases are increasing. Most new cases are variants of concern.



# Variants of concern have more severe consequences and are more fatal

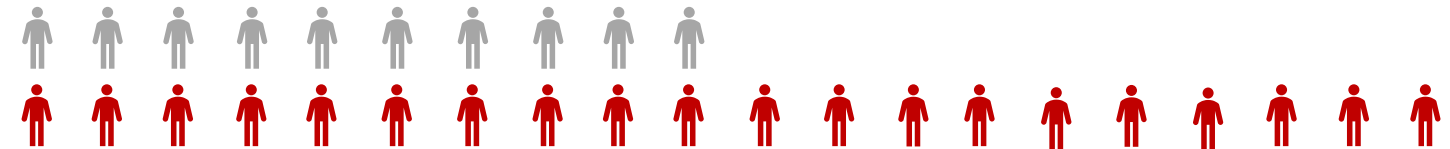
Hospitalization

Hospitalization with VOC



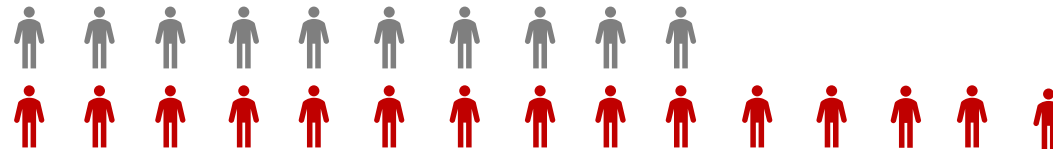
ICU Admission

ICU Admission with VOC



Death

Death with VOC



*Compared to people infected with the earlier variants, more people with COVID-19 are hospitalized, admitted to ICU, and die if they are infected with the variants of concern.*

# Short-term case projections depend entirely on system-level public health measures and vaccination

Figure shows example, representative of predictions across 4 models, 3-5 scenarios each.

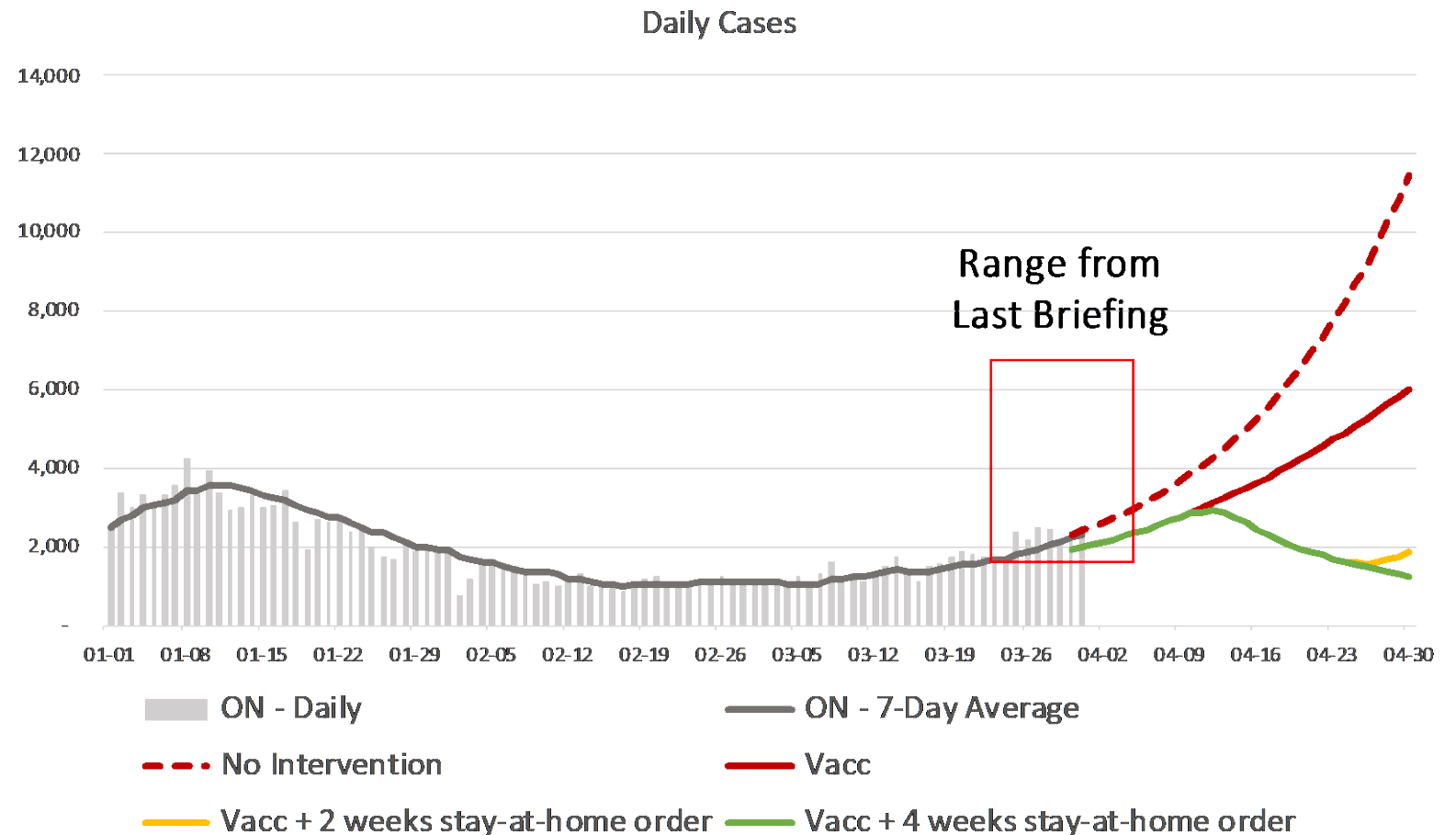
## Scenarios:

Stay-at-home order assumptions:

- No stay-at-home
- 2 weeks starting Apr 5
- 4 weeks starting Apr 5

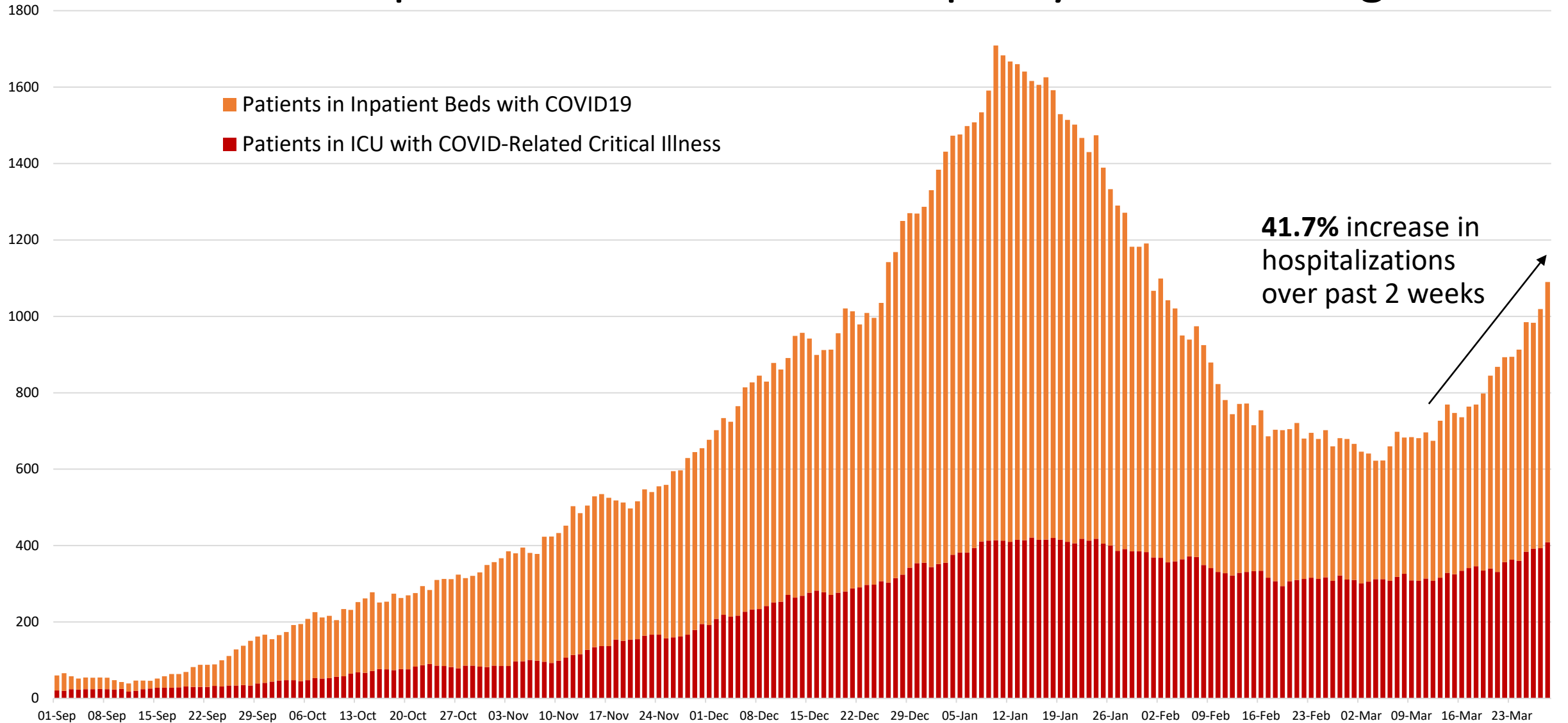
Vaccine assumptions:

- 70% effective in preventing infection
- Administered at constant rate
- Administered randomly to population



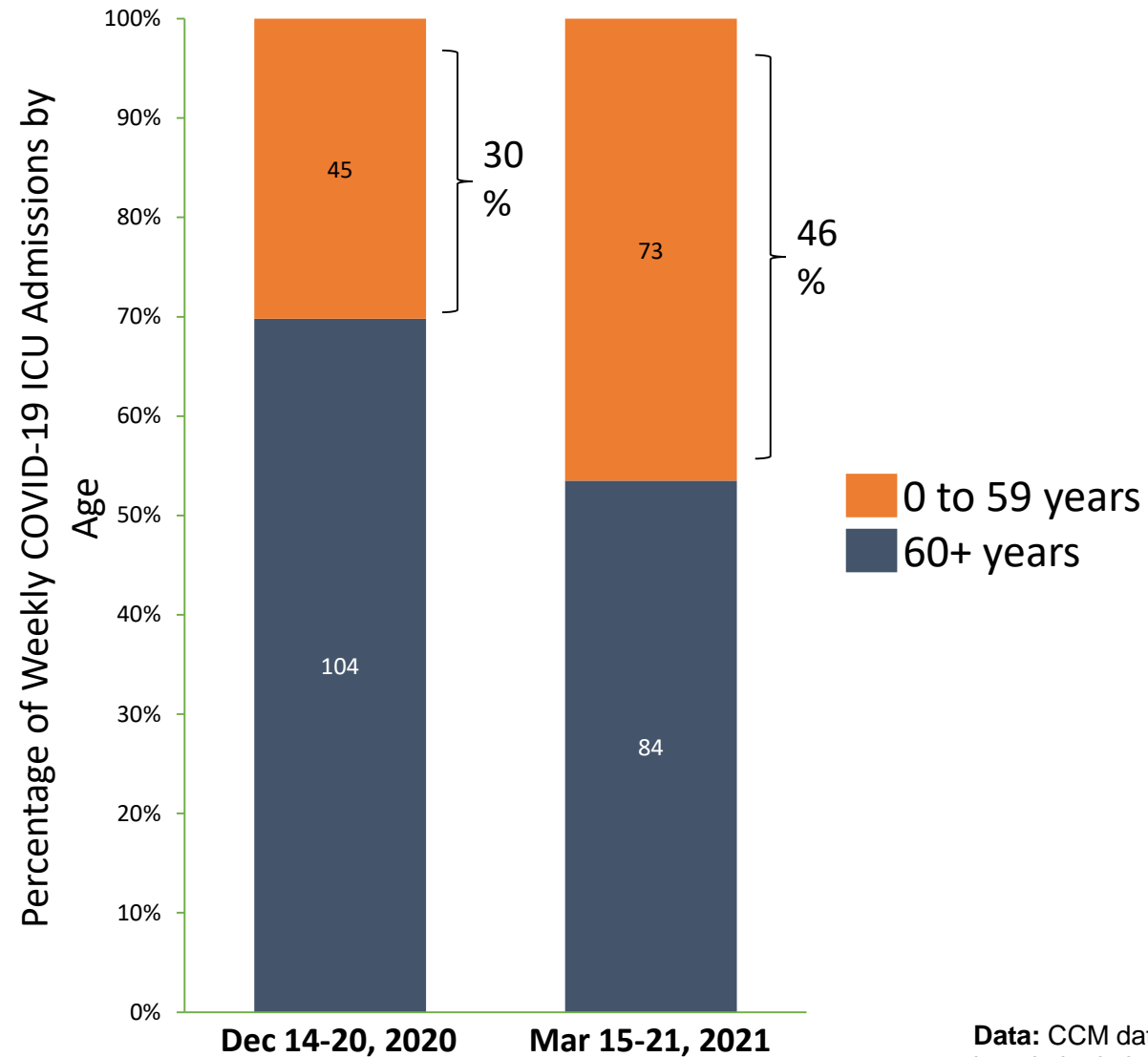


# COVID-19 Hospitalizations and ICU occupancy are increasing

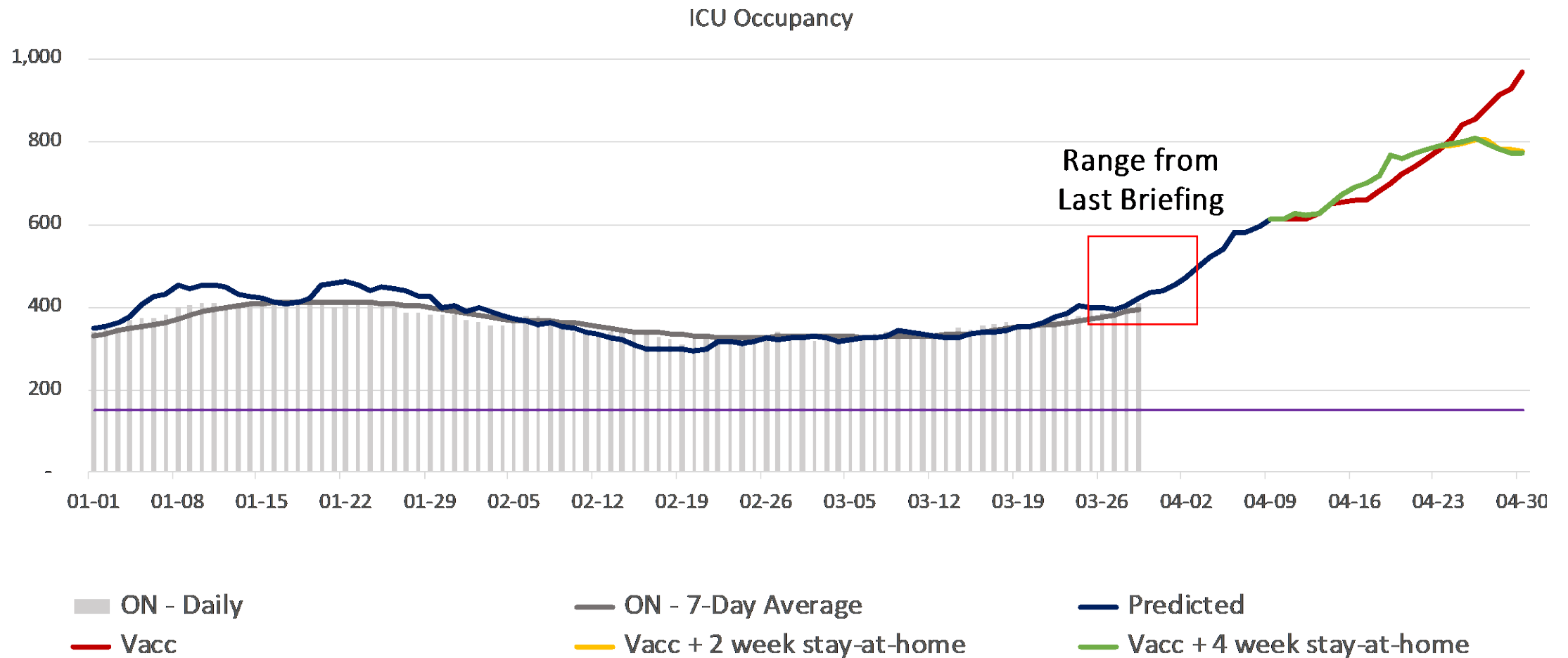


**41.7%** increase in hospitalizations over past 2 weeks

# COVID-19 patients admitted to ICU continue to get younger

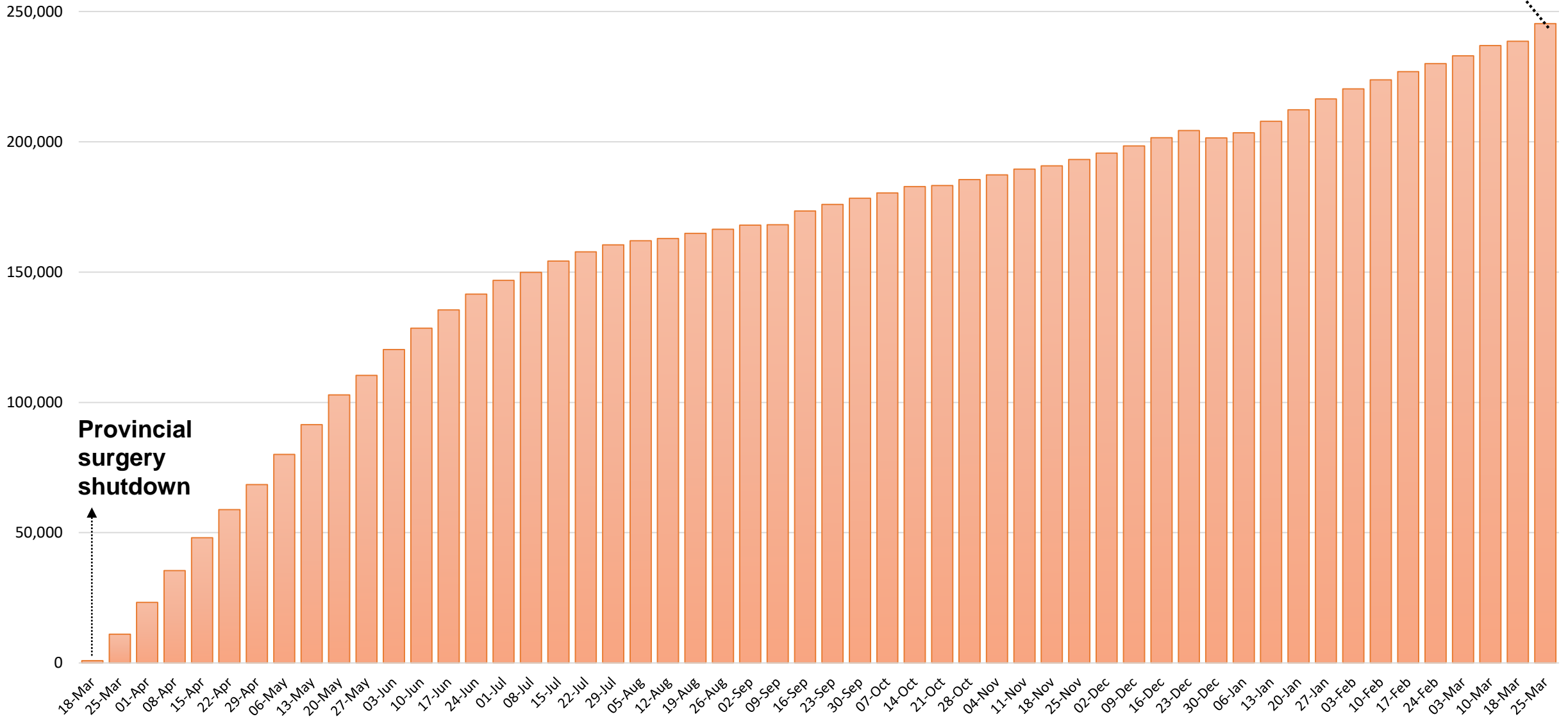


# As with cases, ICU projections depend entirely on system-level public health measures



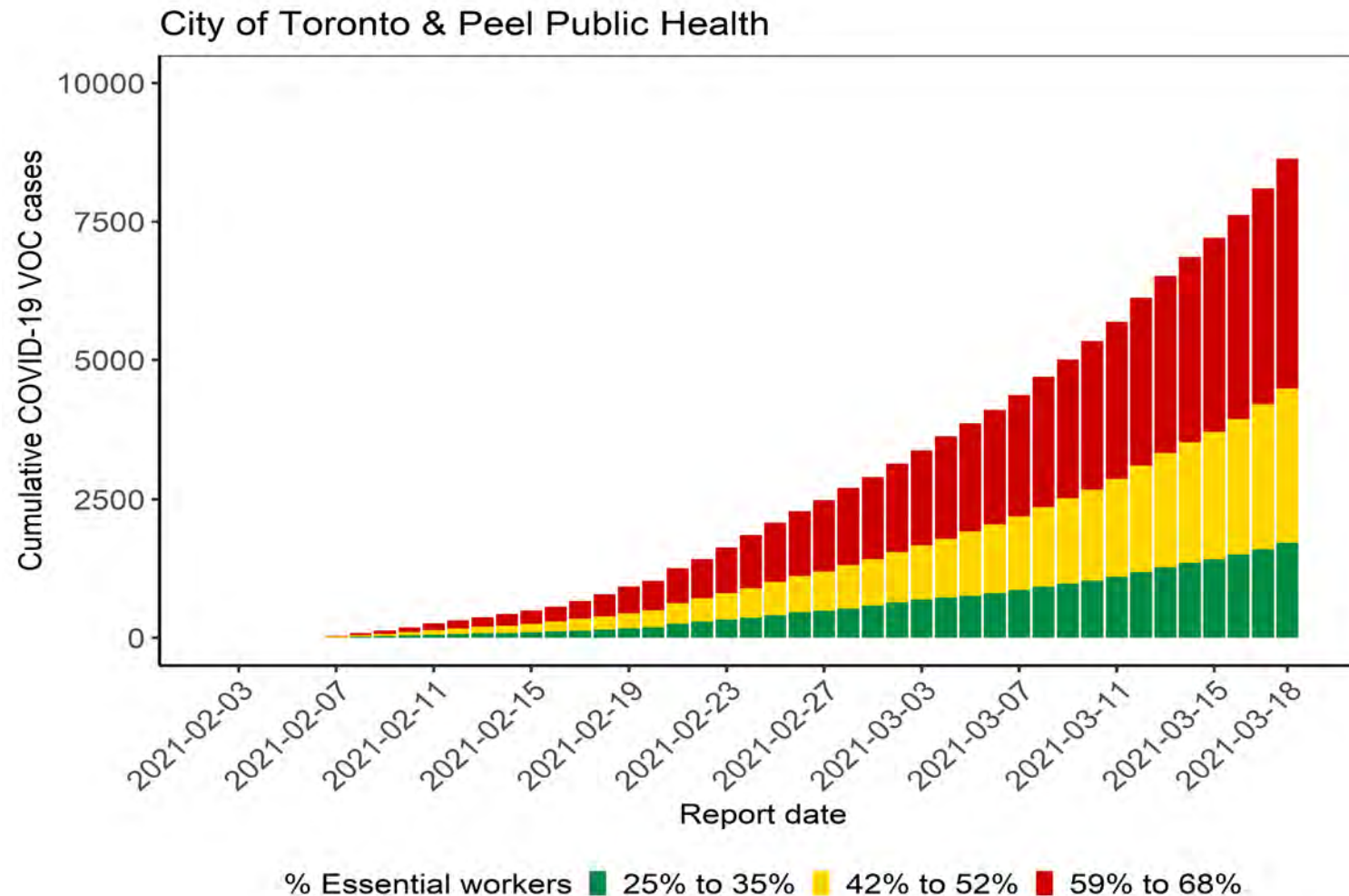
# The access to care deficit continues to build

Cumulative pandemic-related surgical backlog:  
**245,367 cases**



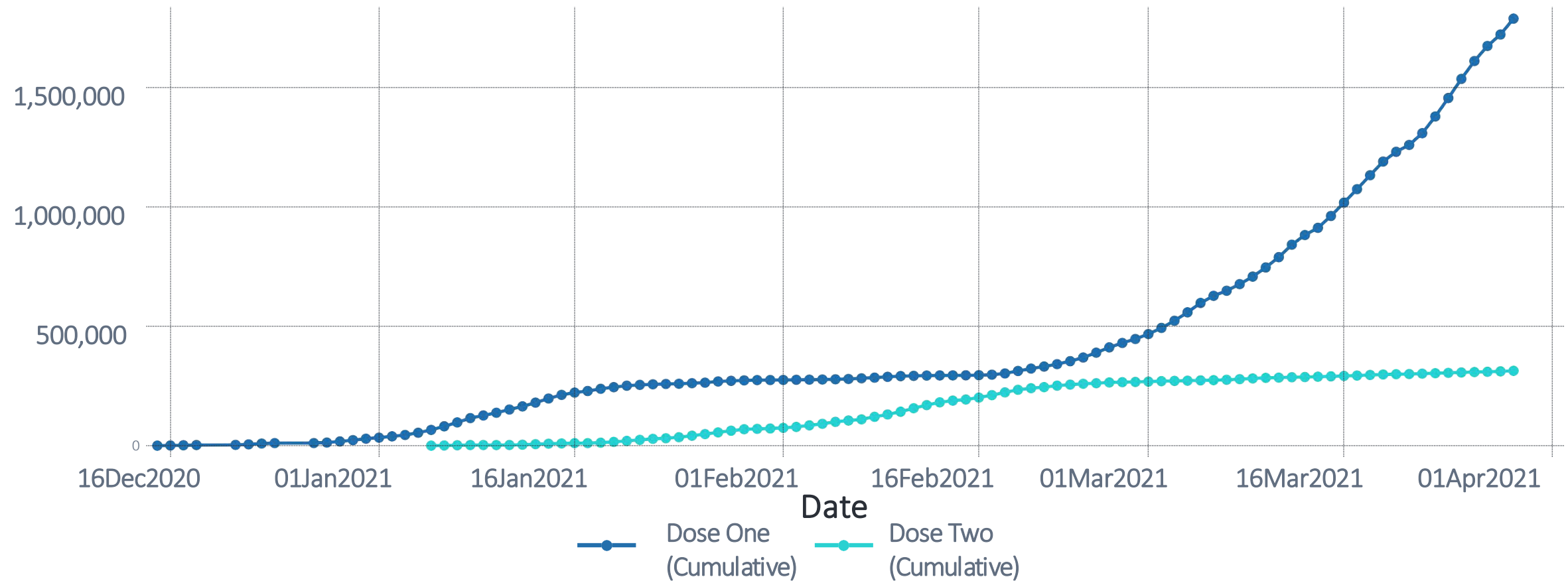
Data Source: Wait Times Information System. Backlog estimated based on comparison of 2020/21 with 2019/20 surgical volumes

Essential workers are keeping things moving and bearing the brunt of the pandemic. Vaccination and control of workplace outbreaks will be critical.



# First dose vaccine coverage expanding but remains incomplete

80 years and older - 17% incomplete; 75-79 years – 40% incomplete; 70-74 years – 72% incomplete



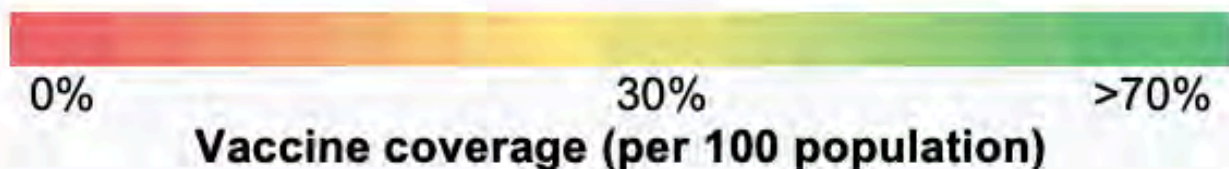
Dose 1 Administered was determined based on the first Time Given for each client.  
Dose 2 Administered was determined based on the last Time Given for each client where there is more than 1 dose administered



# Vaccination is not reaching the highest risk populations

*Figure excludes long-term care vaccination*

Age group	Neighbourhood Risk <sup>#</sup>										Overall
	1 = high incidence of COVID-19 infections					10 = low incidence of COVID-19 infections					
	1	2	3	4	5	6	7	8	9	10	
80+	50%	55%	59%	66%	66%	66%	65%	72%	69%	70%	64%
75-79	37%	43%	43%	46%	45%	46%	40%	40%	30%	29%	39%
70-74	13%	19%	19%	18%	19%	21%	17%	17%	10%	9%	16%
65-69	8%	10%	10%	11%	10%	11%	10%	10%	7%	8%	9%
60-64	18%	23%	22%	21%	21%	21%	19%	18%	14%	20%	20%
55-59	7%	9%	9%	10%	11%	11%	10%	11%	10%	12%	10%
50-54	6%	7%	7%	8%	9%	8%	9%	9%	10%	11%	8%
45-49	6%	7%	6%	8%	8%	8%	8%	9%	10%	11%	8%
40-44	5%	6%	6%	7%	8%	7%	8%	8%	9%	10%	7%
16-39	4%	5%	5%	6%	6%	6%	6%	6%	7%	8%	6%
<b>Overall</b>	<b>8%</b>	<b>10%</b>	<b>10%</b>	<b>11%</b>	<b>11%</b>	<b>12%</b>	<b>11%</b>	<b>12%</b>	<b>11%</b>	<b>13%</b>	<b>13%</b>



# School interruptions will have significant impacts on students, families, and society

Economic modeling suggests schooling impacts will have long term economic effects:

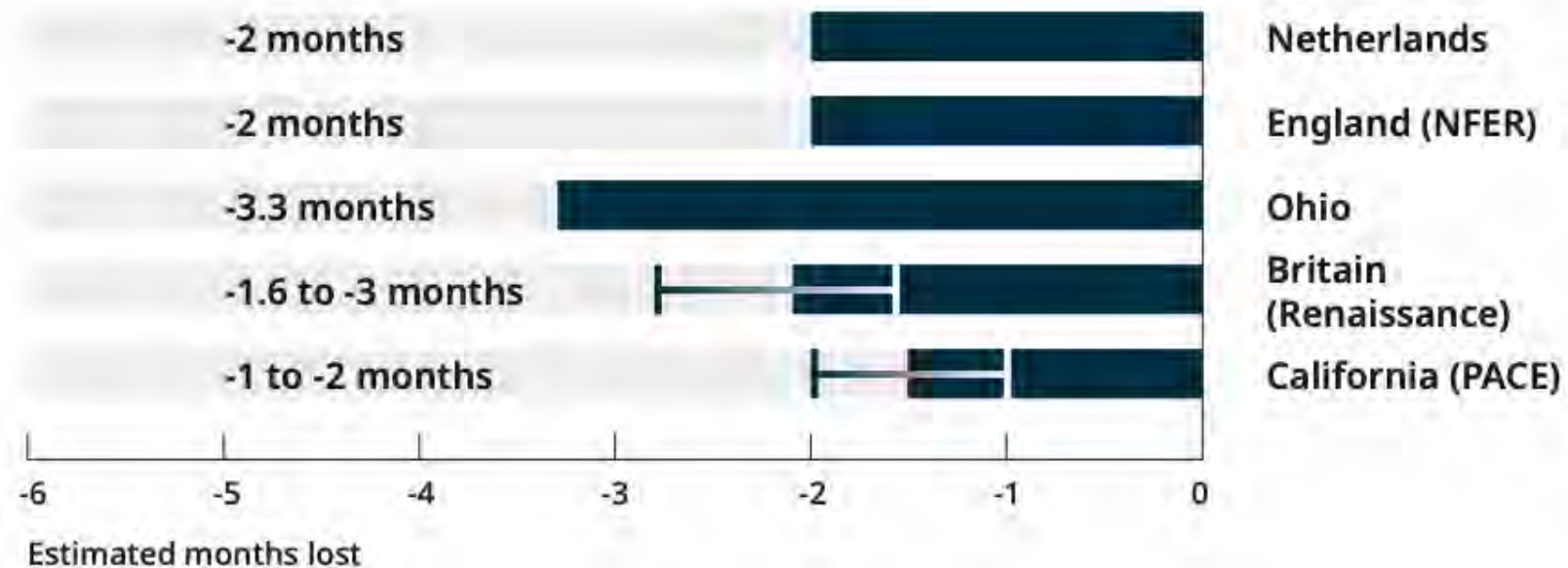
- A ~3% drop in lifetime earnings for these cohorts;
- Lost GDP for Canada estimated at 1.6 trillion dollars

Non-COVID health risks include:

- Loneliness & social isolation,
- Loss of structure affecting physical activity, sleep and mental health, and
- Decreased ability to detect neglect or abuse.

All negative impacts are highly inequitable with greater learning loss for students facing greater disadvantage

**Figure 1:**  
**Evidence from International Assessments**  
**Reporting Average Learning Loss in Months**  
Fall 2020





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