

Update on COVID-19 Projections

Science Advisory and Modelling Consensus Tables

April 1, 2021

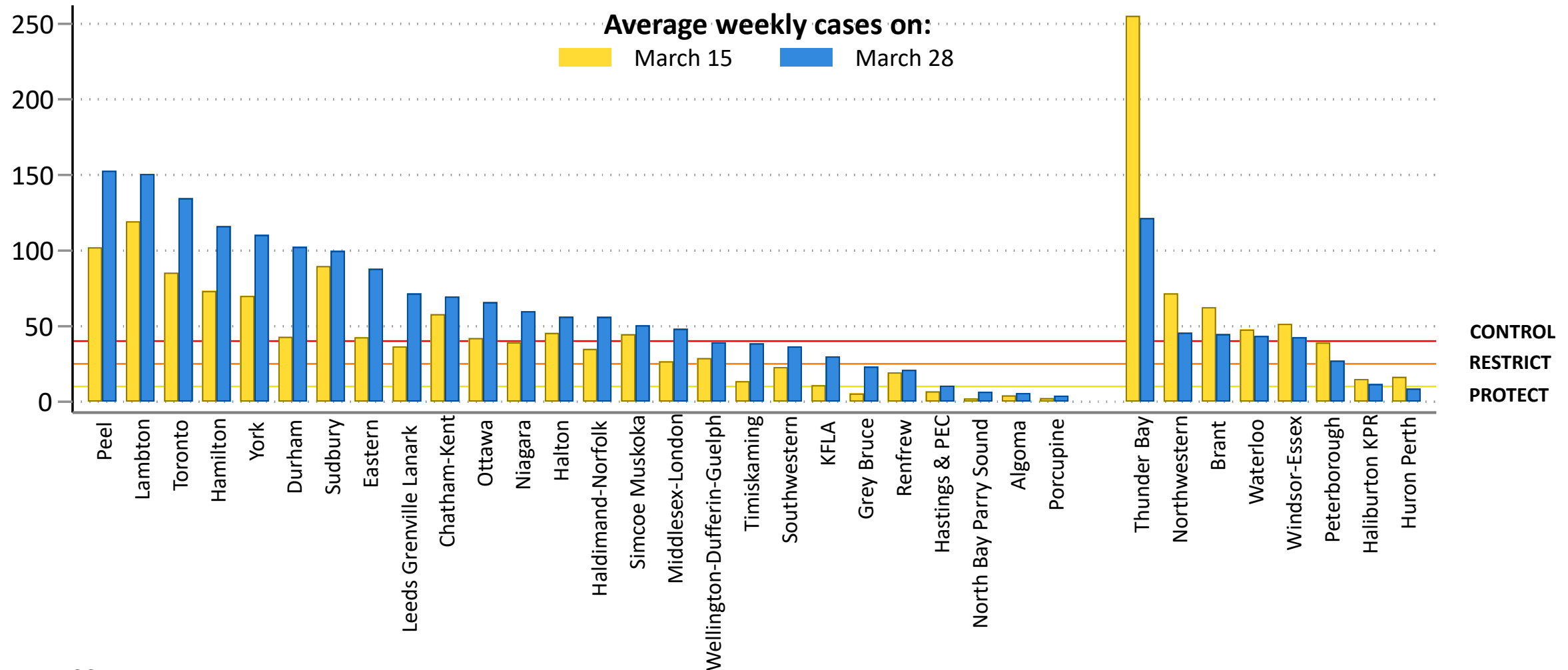


Key Findings

- 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

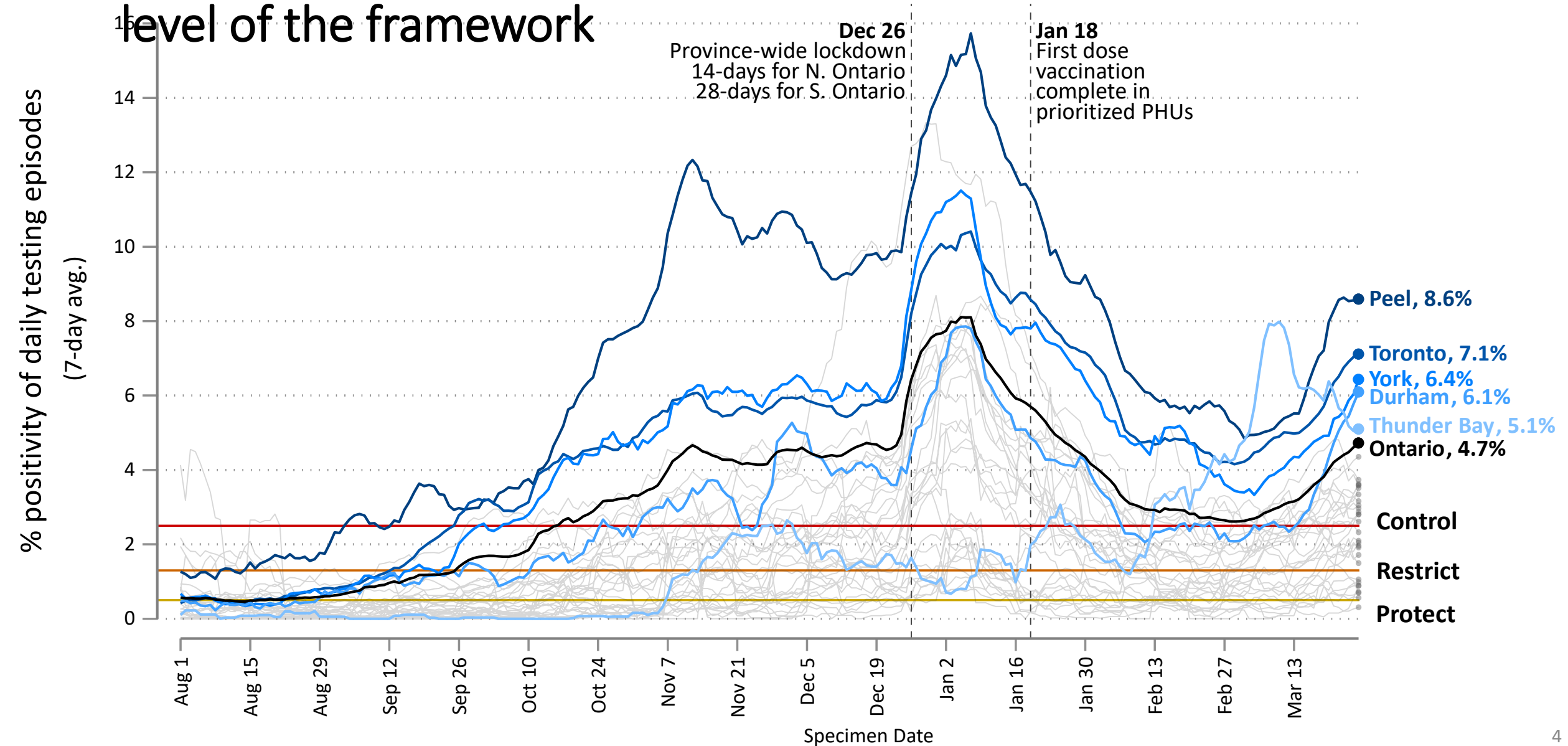
Weekly new cases per 100,000 residents



Data source: CCM

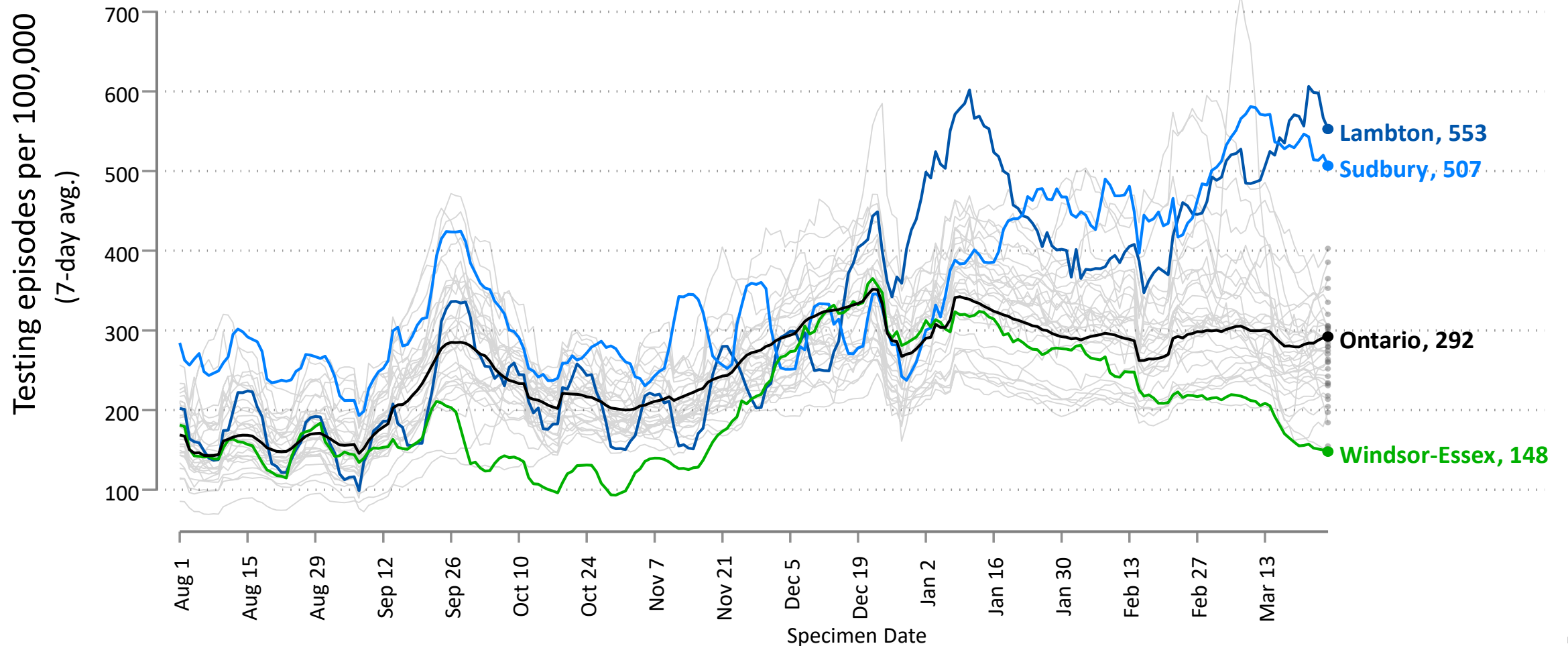
Data note: Data for the most recent day have been censored to account for reporting delays

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



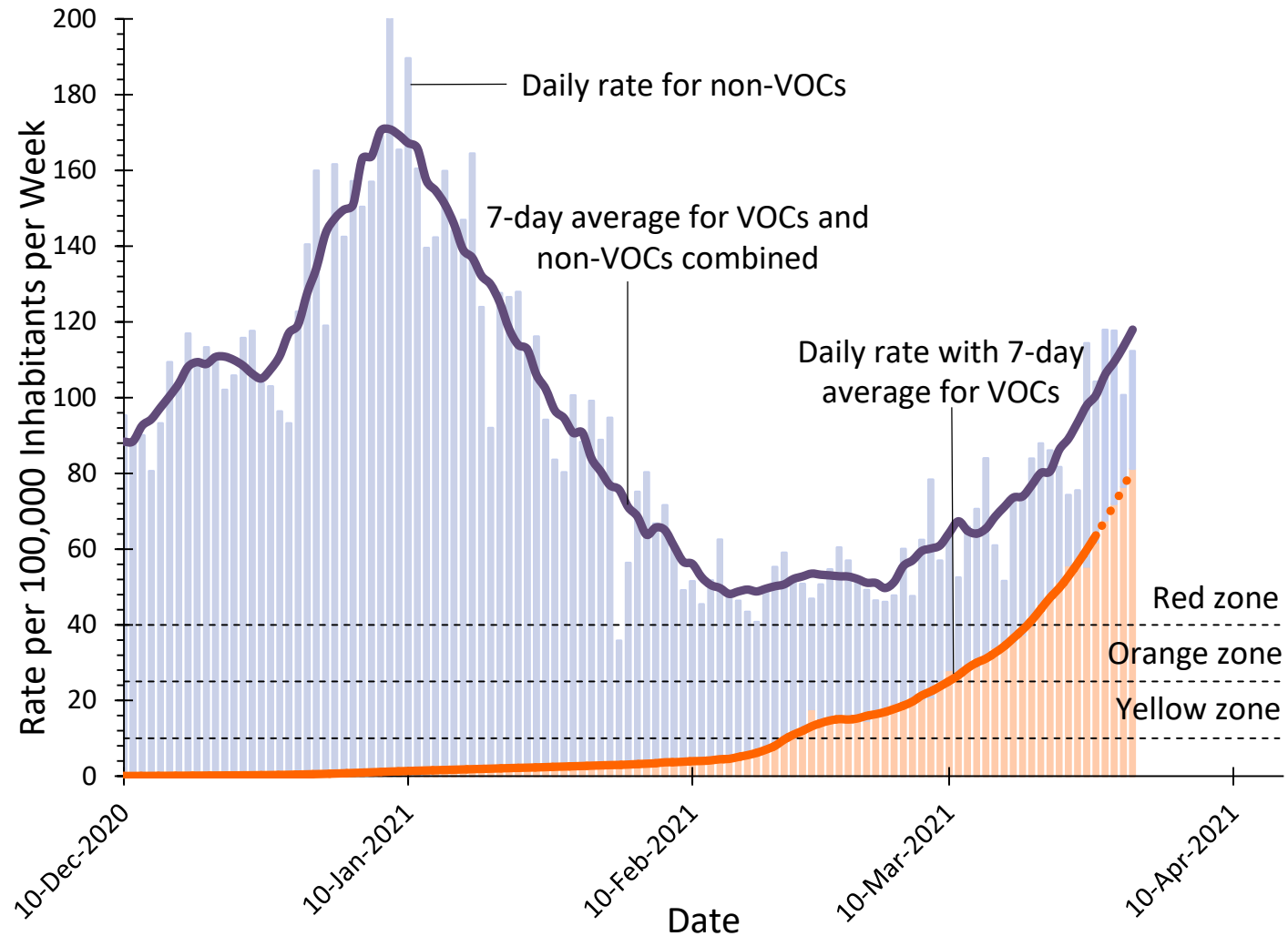
Data source: Ontario Laboratory Information System (OLIS), data up to March 26

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

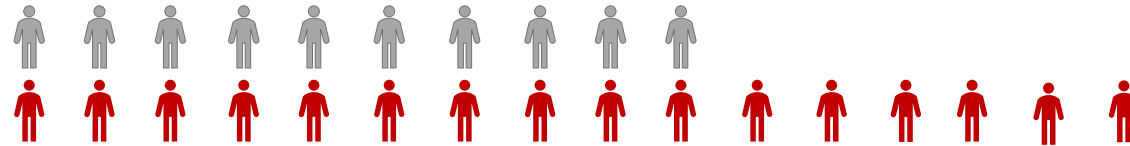
Cases are increasing. Most new cases are variants of concern.



Variants of concern have more severe consequences and are more fatal

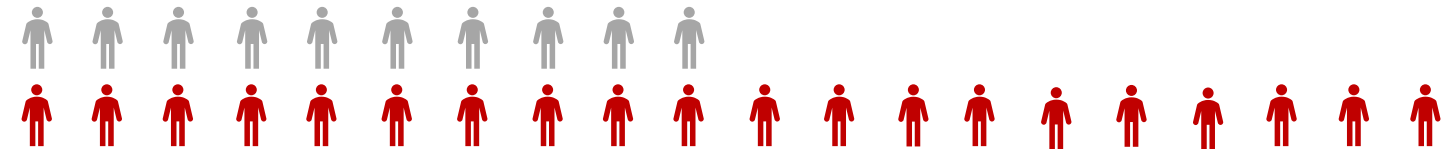
Hospitalization

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.

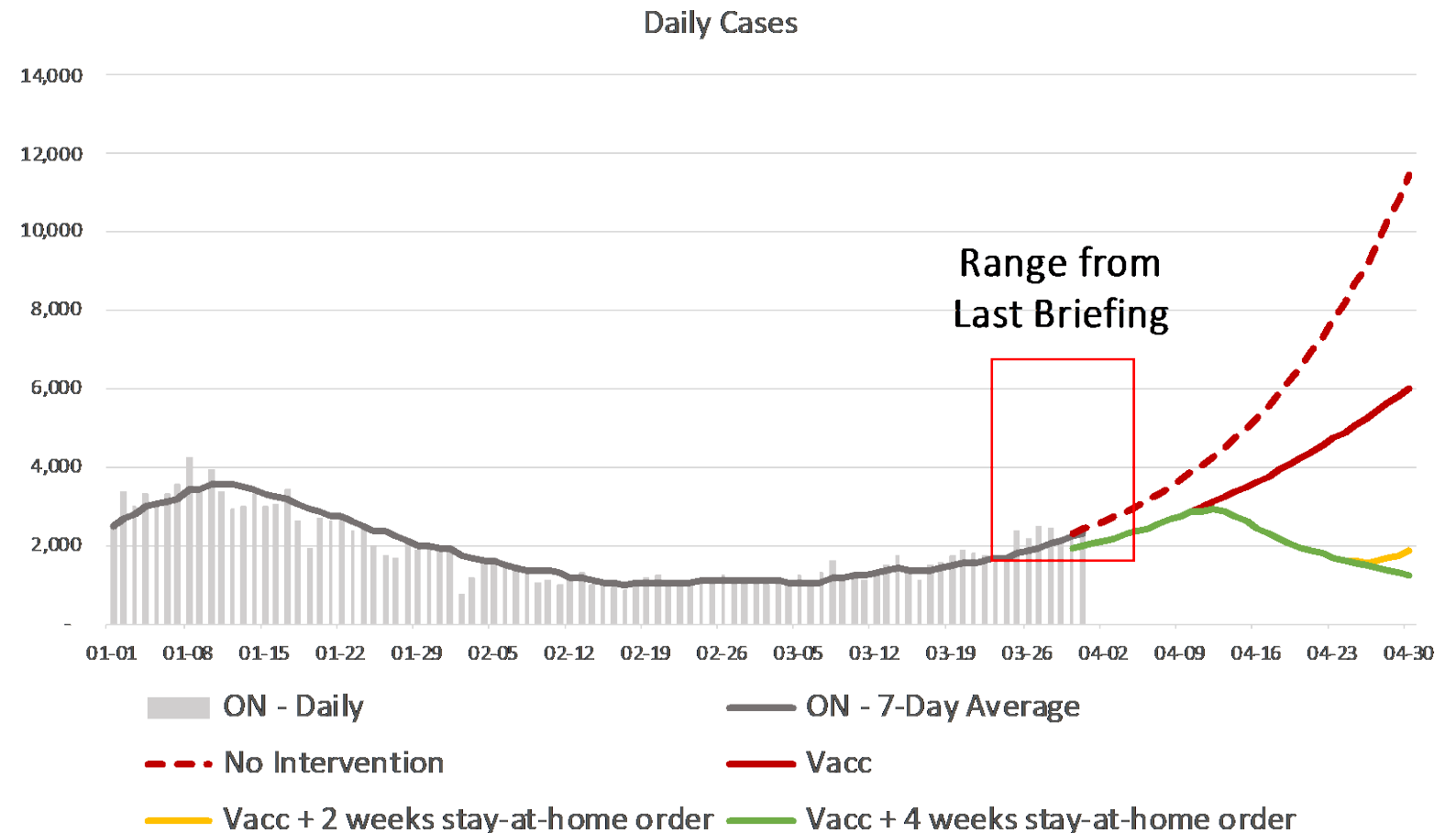
Scenarios:

Stay-at-home order assumptions:

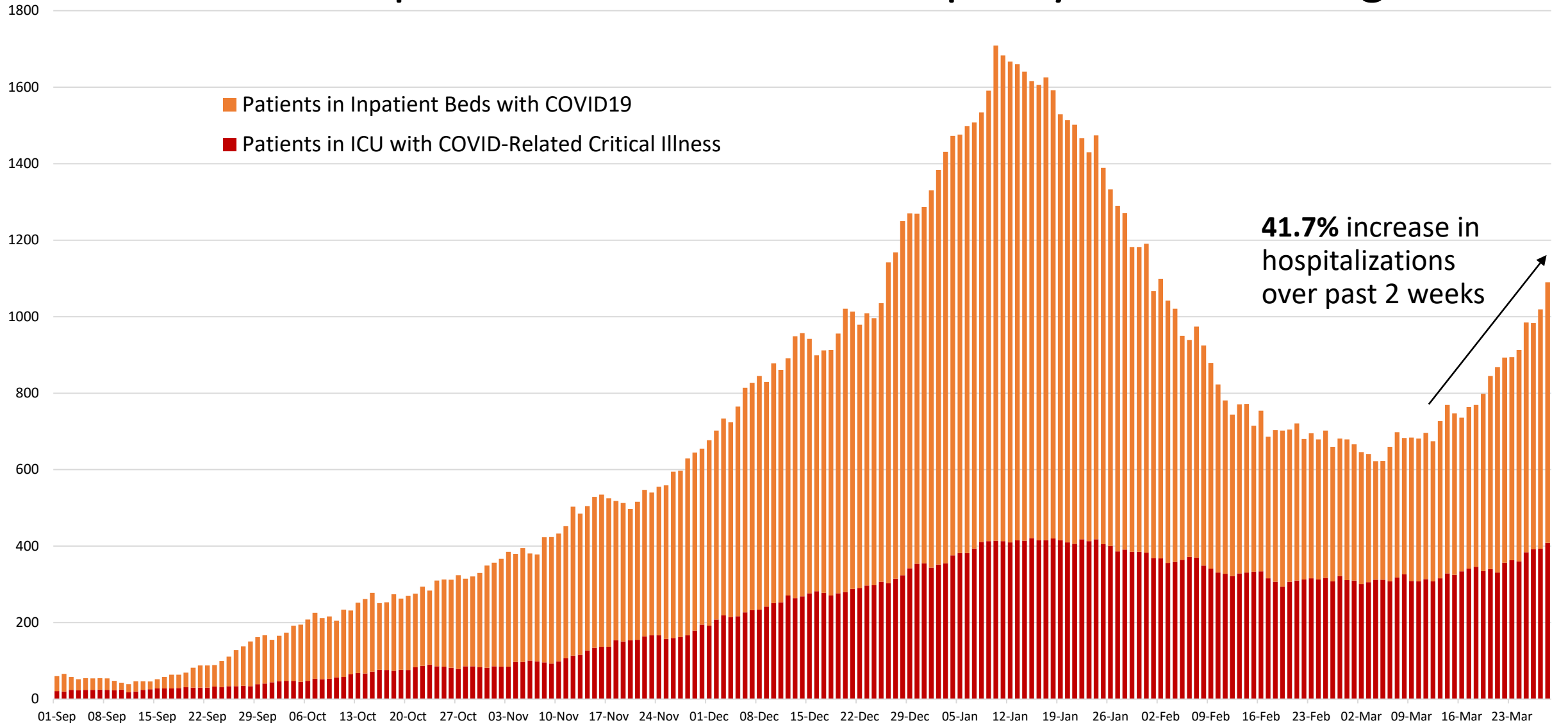
- No stay-at-home
- 2 weeks starting Apr 5
- 4 weeks starting Apr 5

Vaccine assumptions:

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

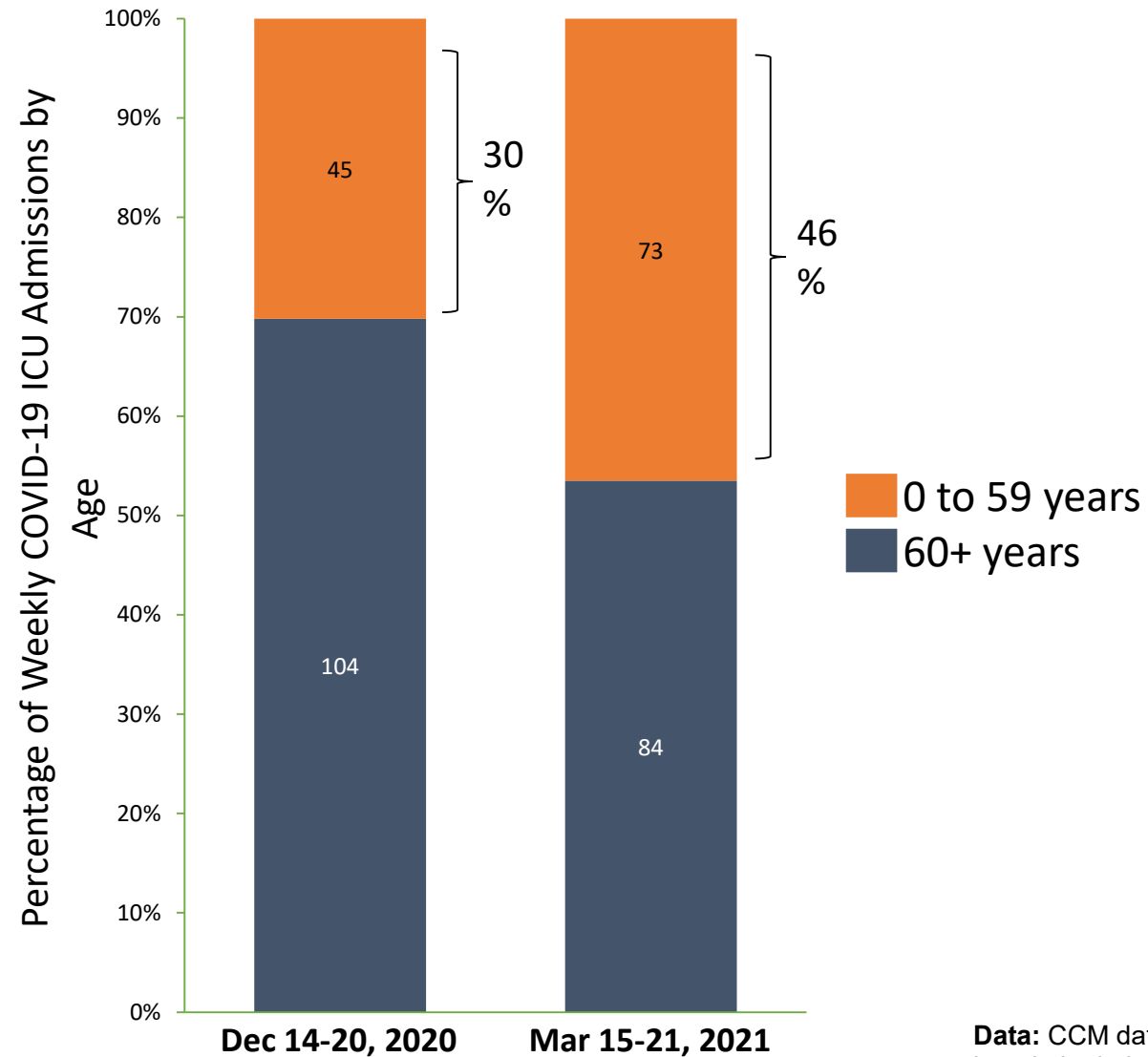


COVID-19 Hospitalizations and ICU occupancy are increasing

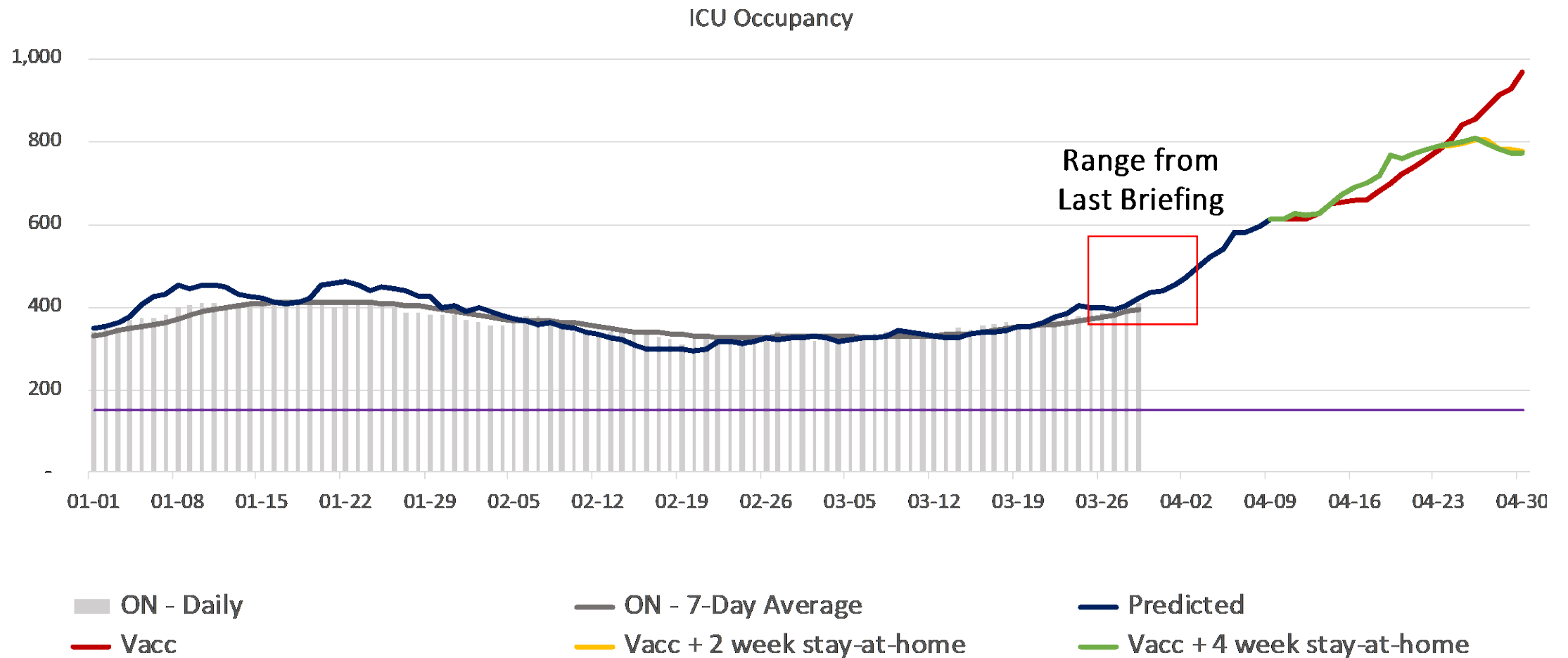


41.7% increase in hospitalizations over past 2 weeks

COVID-19 patients admitted to ICU continue to get younger

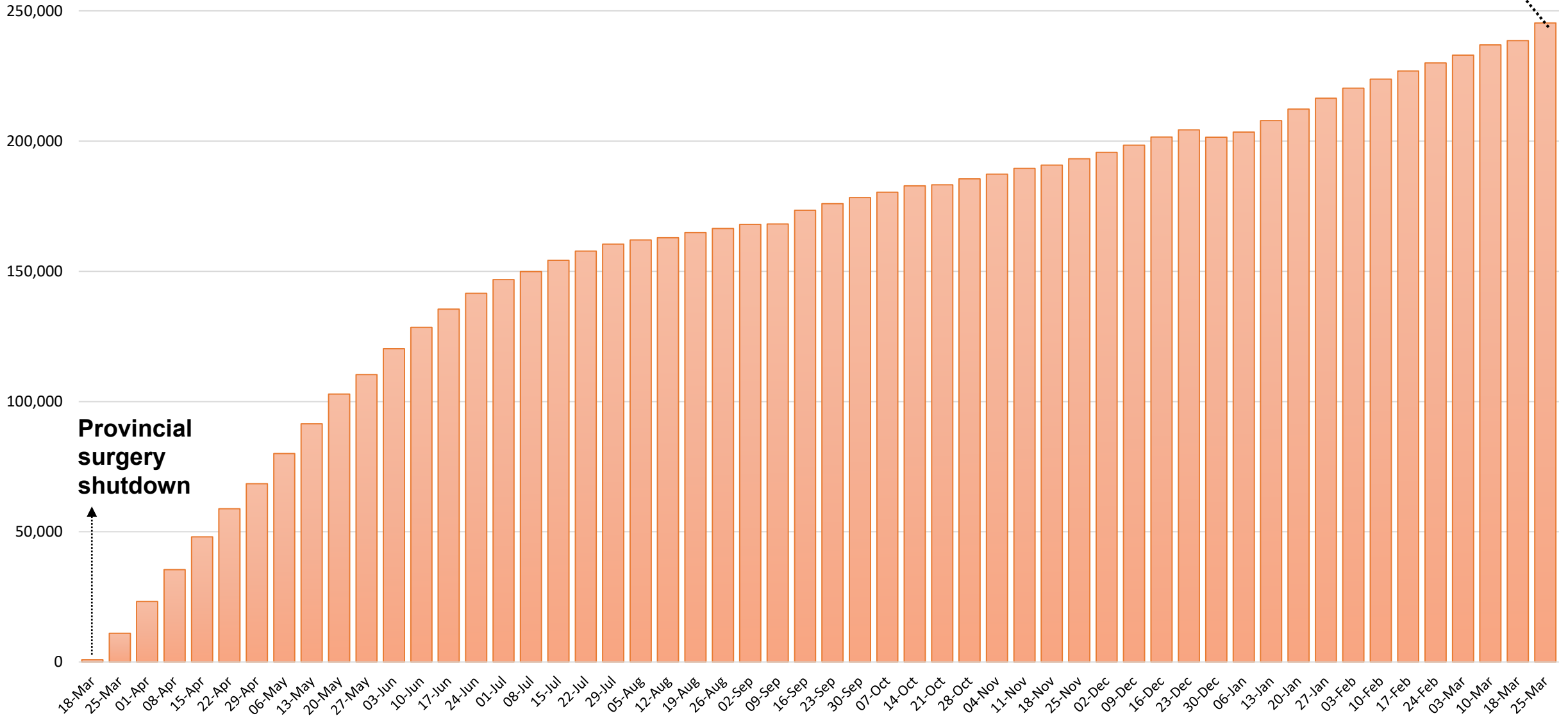


As with cases, ICU projections depend entirely on system-level public health measures



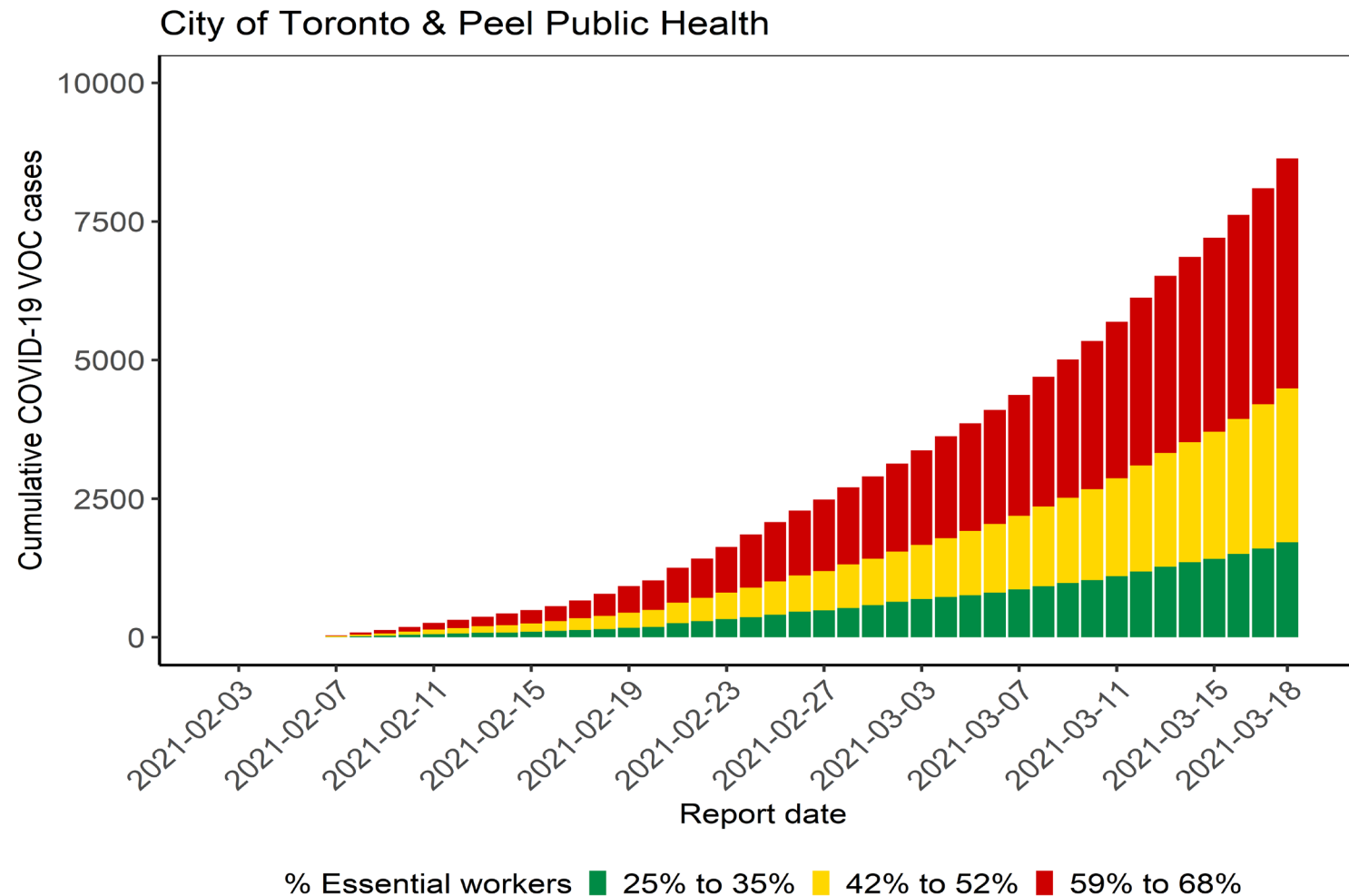
The access to care deficit continues to build

Cumulative pandemic-related surgical backlog:
245,367 cases



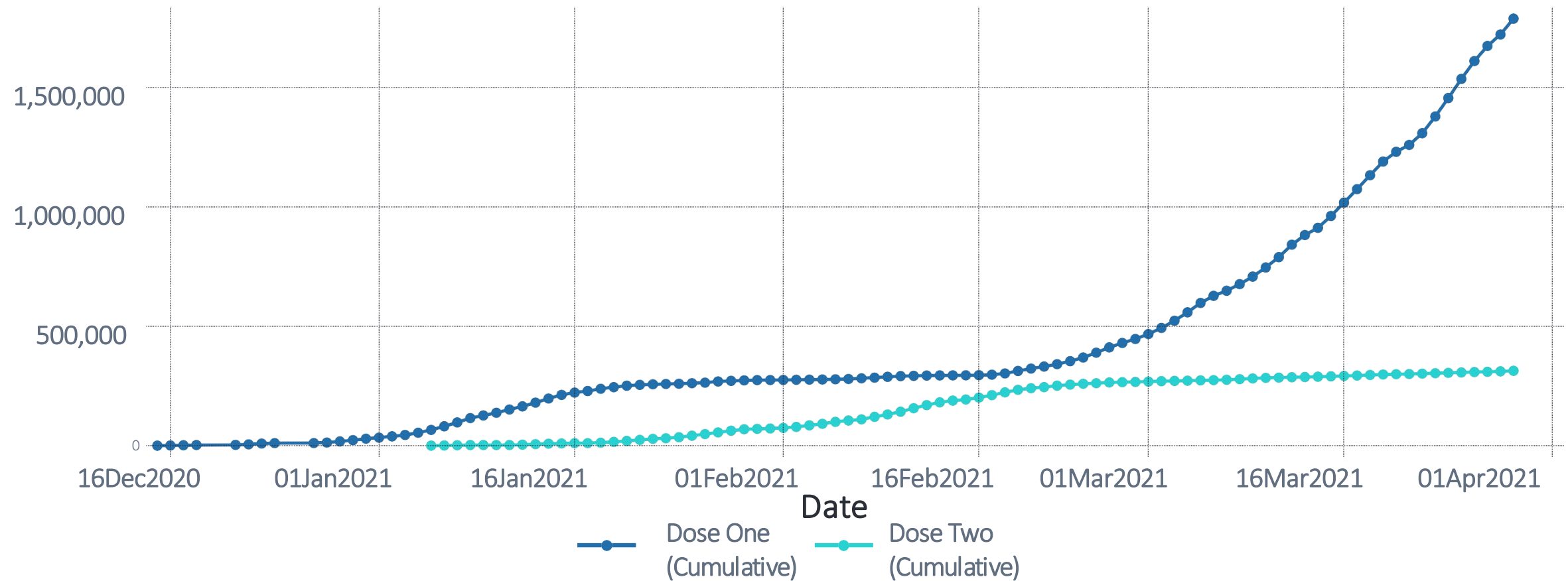
Data Source: Wait Times Information System. Backlog estimated based on comparison of 2020/21 with 2019/20 surgical volumes

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

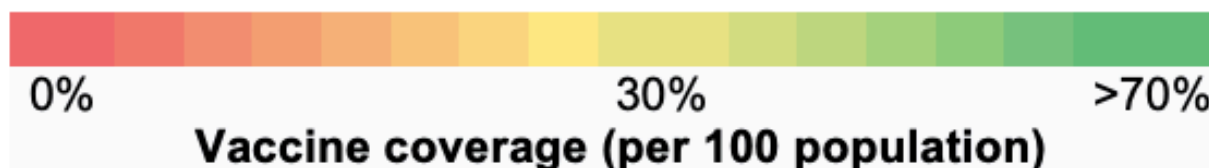


Dose 1 Administered was determined based on the first Time Given for each client.
Dose 2 Administered was determined based on the last Time Given for each client where there is more than 1 dose administered

Vaccination is not reaching the highest risk populations

Figure excludes long-term care vaccination

Age group	Neighbourhood Risk [‡]										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%
Overall	8%	10%	10%	11%	11%	12%	11%	12%	11%	13%	13%



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

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

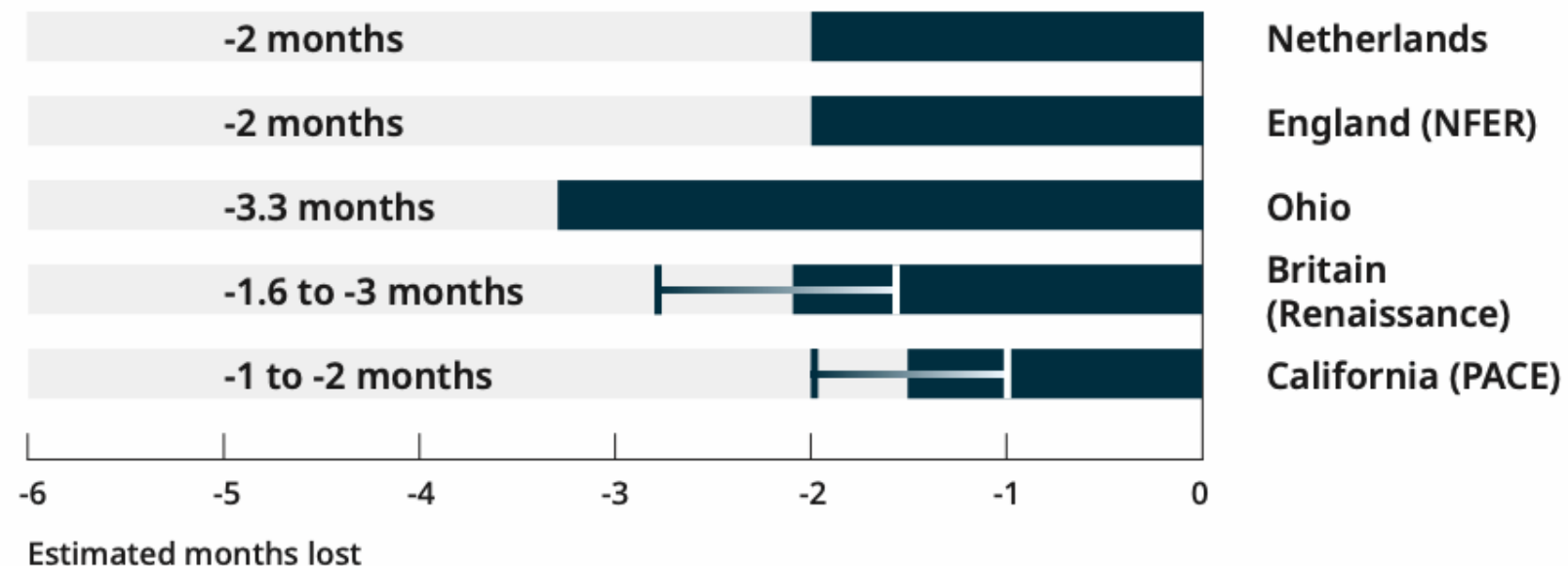
- A ~3% drop in lifetime earnings for these cohorts;
- Lost GDP for Canada estimated at 1.6 trillion dollars

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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Contributors

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