Update on COVID-19 Projections

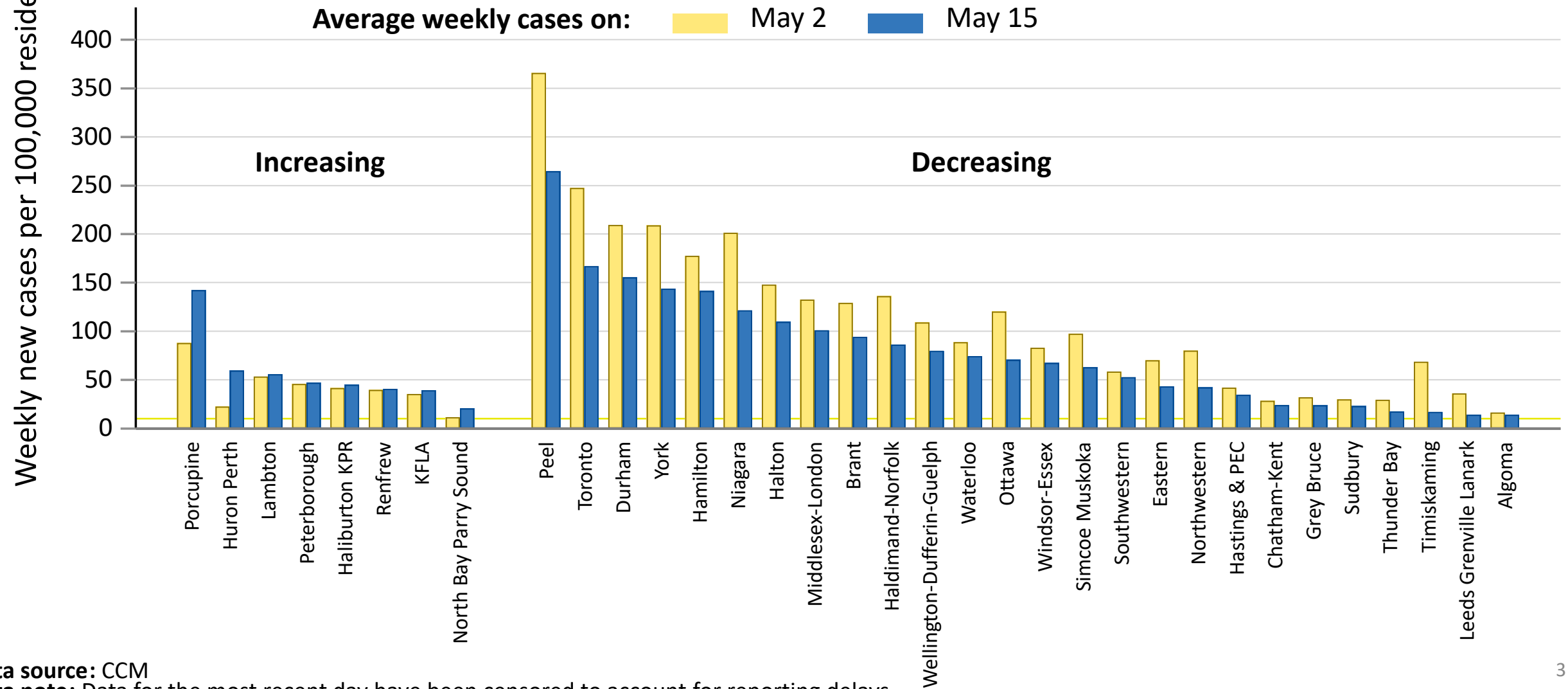
Science Advisory and Modelling Consensus Tables

May 20, 2021

Key Findings

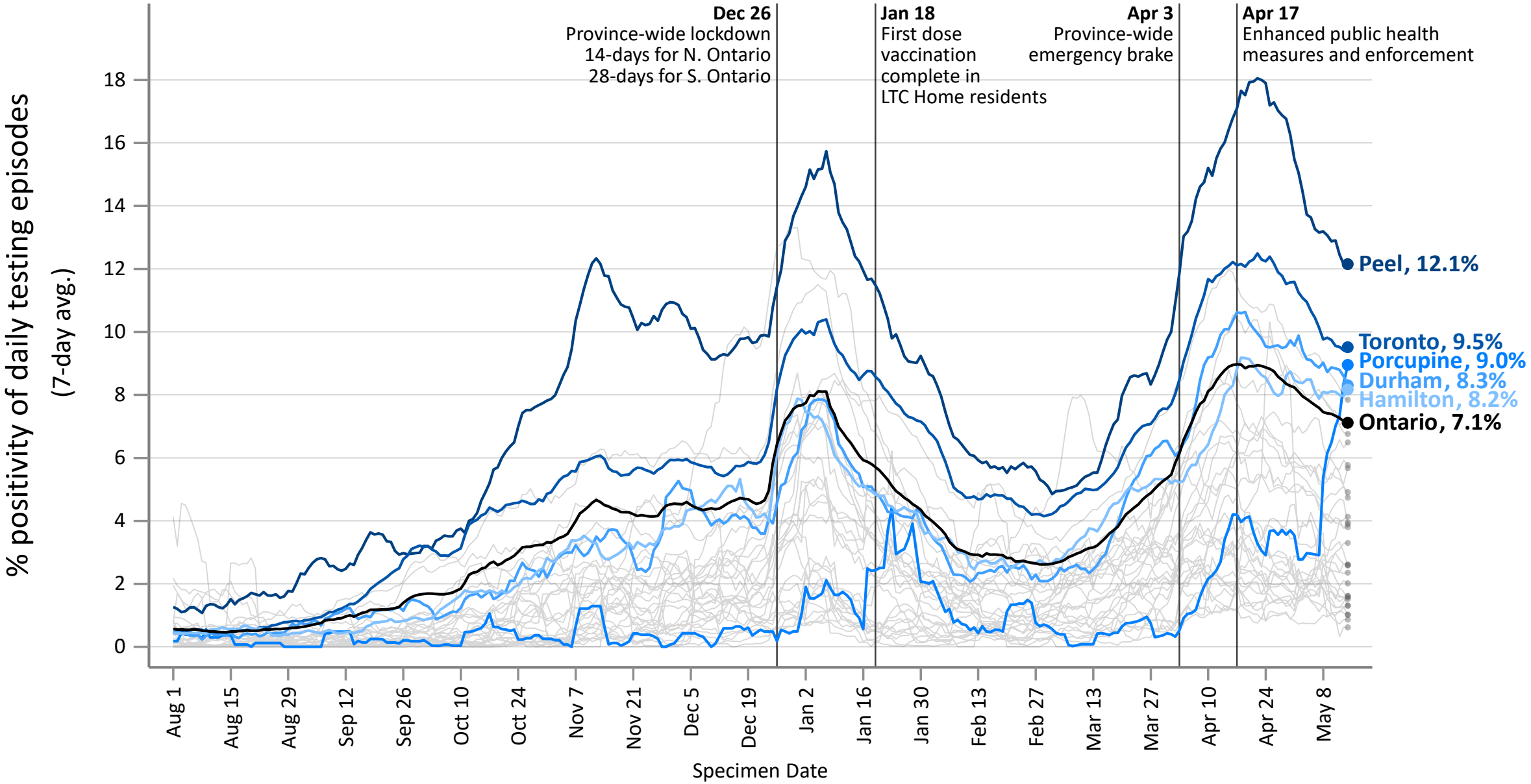
- Cases, positivity and hospitalization rates are decreasing. **Control of the pandemic is improving** due to current public health measures and the efforts of Ontarians.
- The access to care deficit continues but high-priority surgeries are being performed at higher rates.
- **Maintaining progress on vaccinations and maintaining some public health measures** until mid-June can help ensure a good summer:
  - School re-opening will create an increase in cases, but this may be manageable.
  - **Outdoor activities are much safer** than indoor activities and should be encouraged.

Cases are decreasing in most Public Health Units, with the greatest progress made in hotspot areas



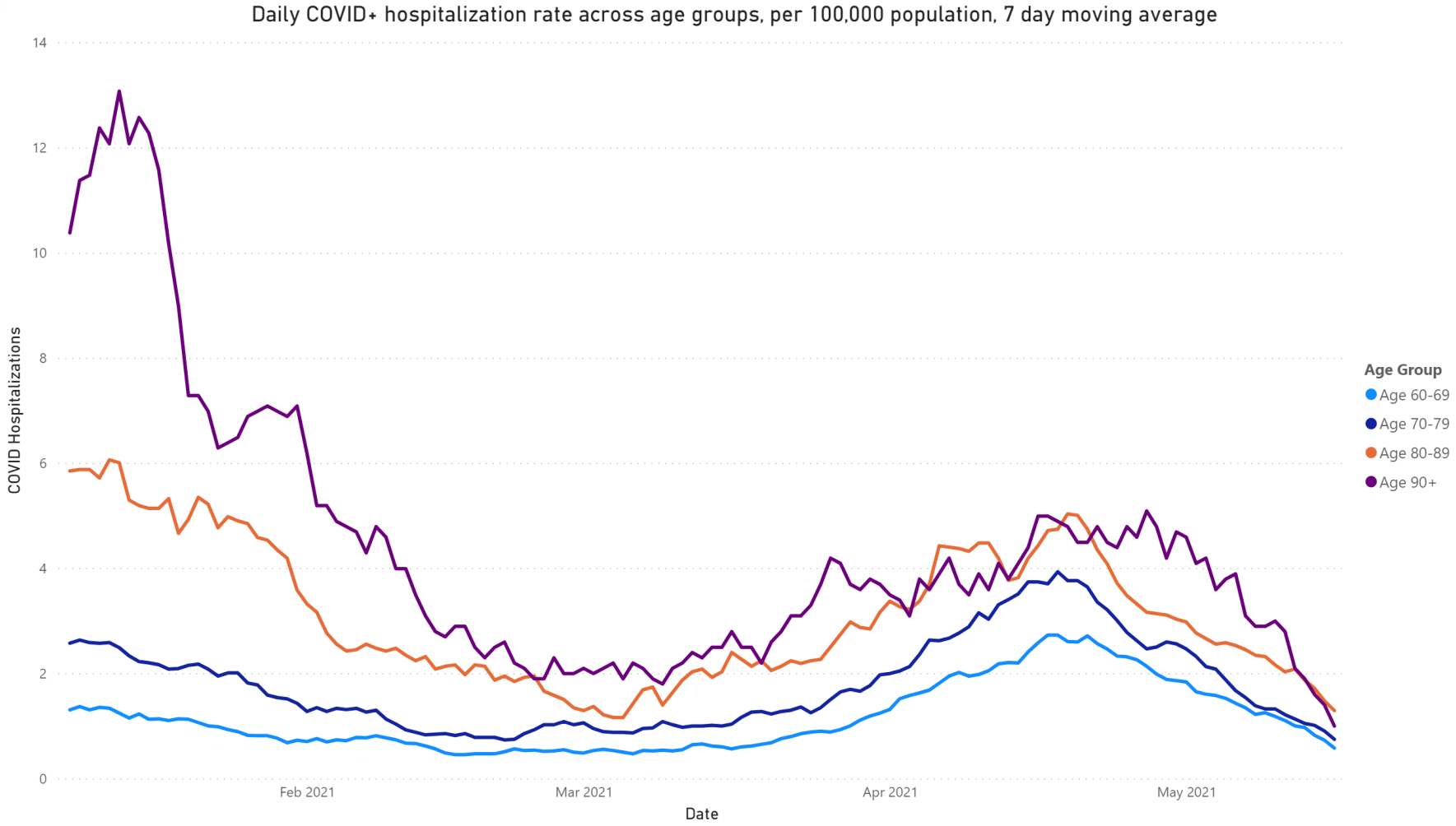
Data source: CCM
Data note: Data for the most recent day have been censored to account for reporting delays

% positivity is declining across Ontario

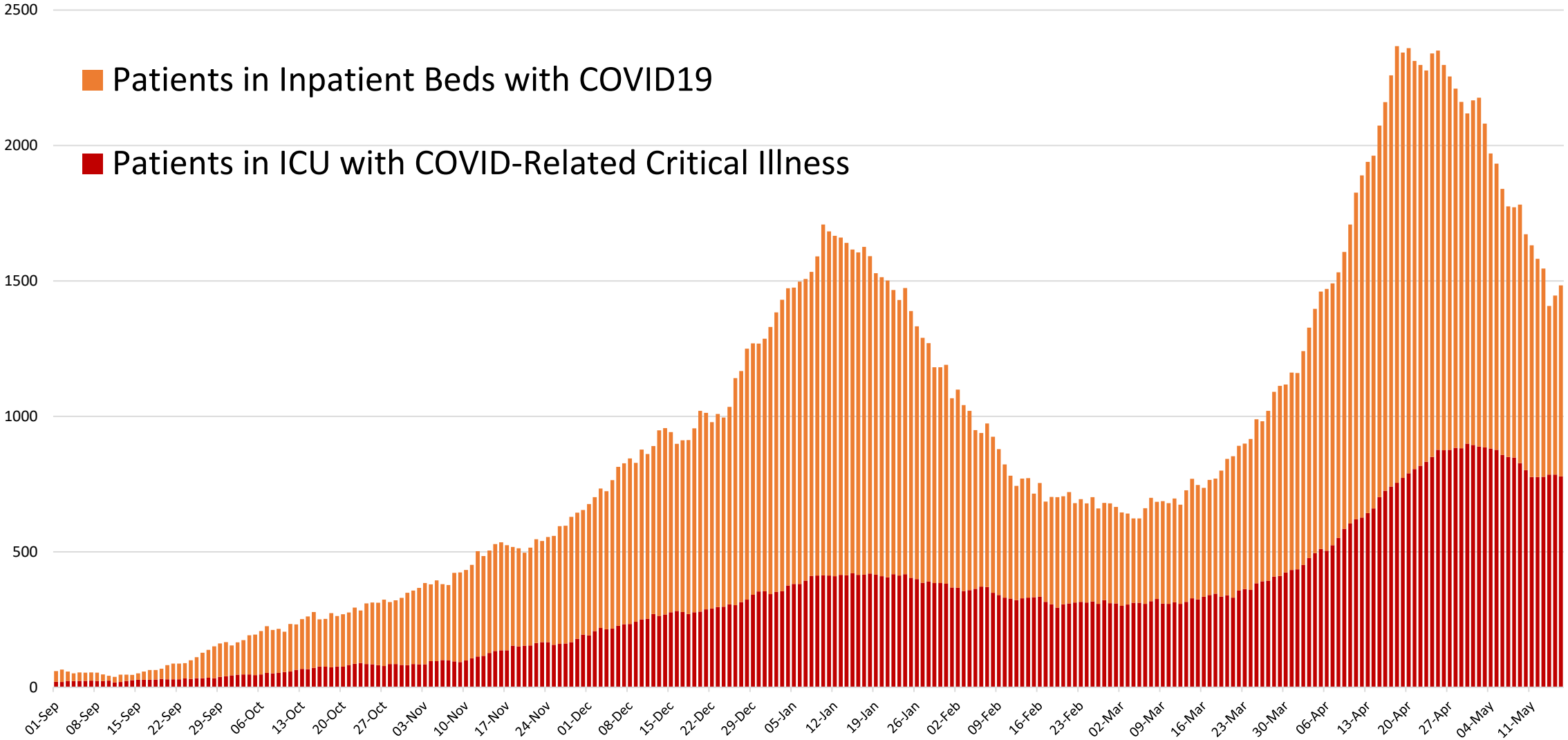


Data source: Ontario Laboratory Information System (OLIS), data up to May 14

Higher vaccination coverage is starting to control hospitalizations in older age groups



Hospitalization rates are down, ICU occupancy has dropped slightly



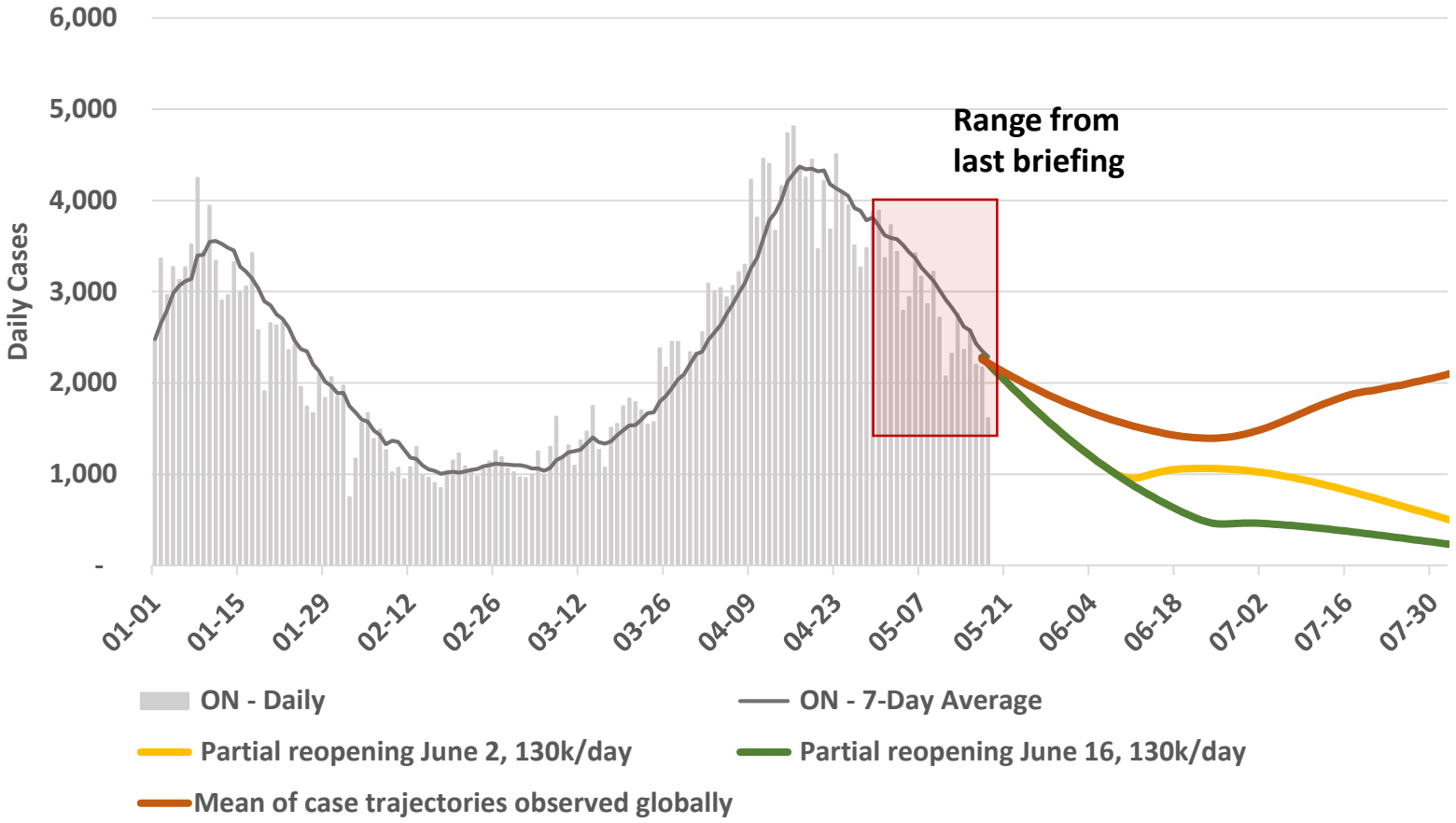
Data Sources: MOH COVID Inpatient Census and Critical Care Information System

Continued efforts to control spread of COVID-19 can help limit the impact of all variants of the virus

Figure shows predictions based on 5 models.

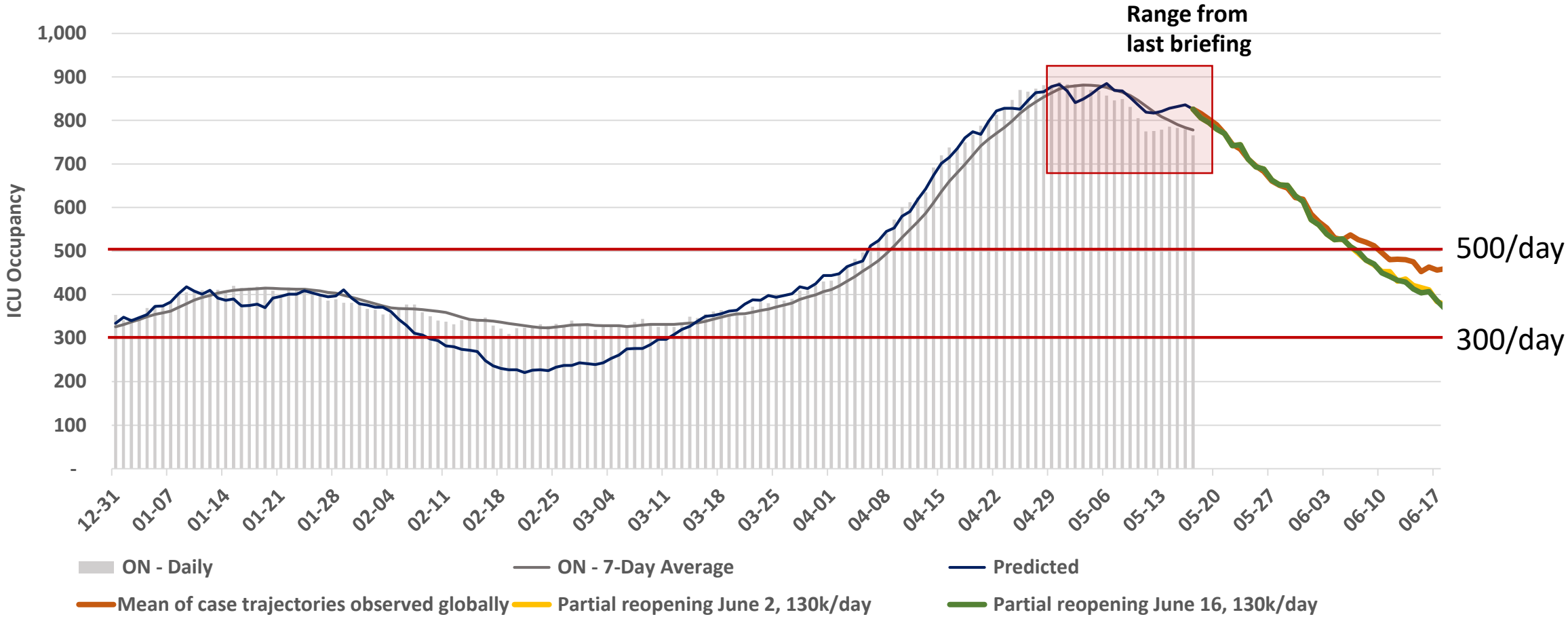
- Partial reopening June 2 or 16
- Vaccinating 100k-150k/day
- New VOC not explicitly considered

Not shown: 2 models looked at school opening June 2: School opening associated with a 6-11% increase in new daily cases



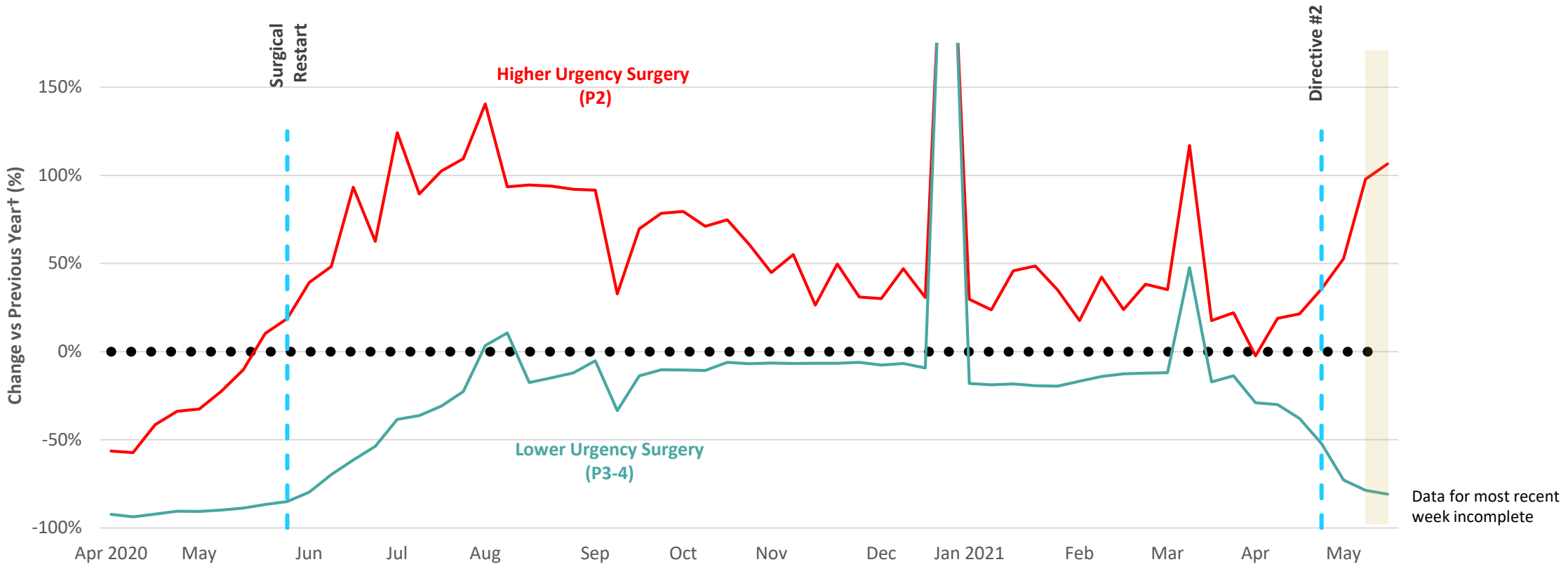
Predictions informed by modeling from COVID-19 ModCollab, Fields Institute, McMasterU, PHO, YorkU
Data (Observed Cases): covid-19.ontario.ca

ICU occupancy continues to decrease slowly, with potentially fewer than 500 patients with COVID-19 in ICUs by mid-June



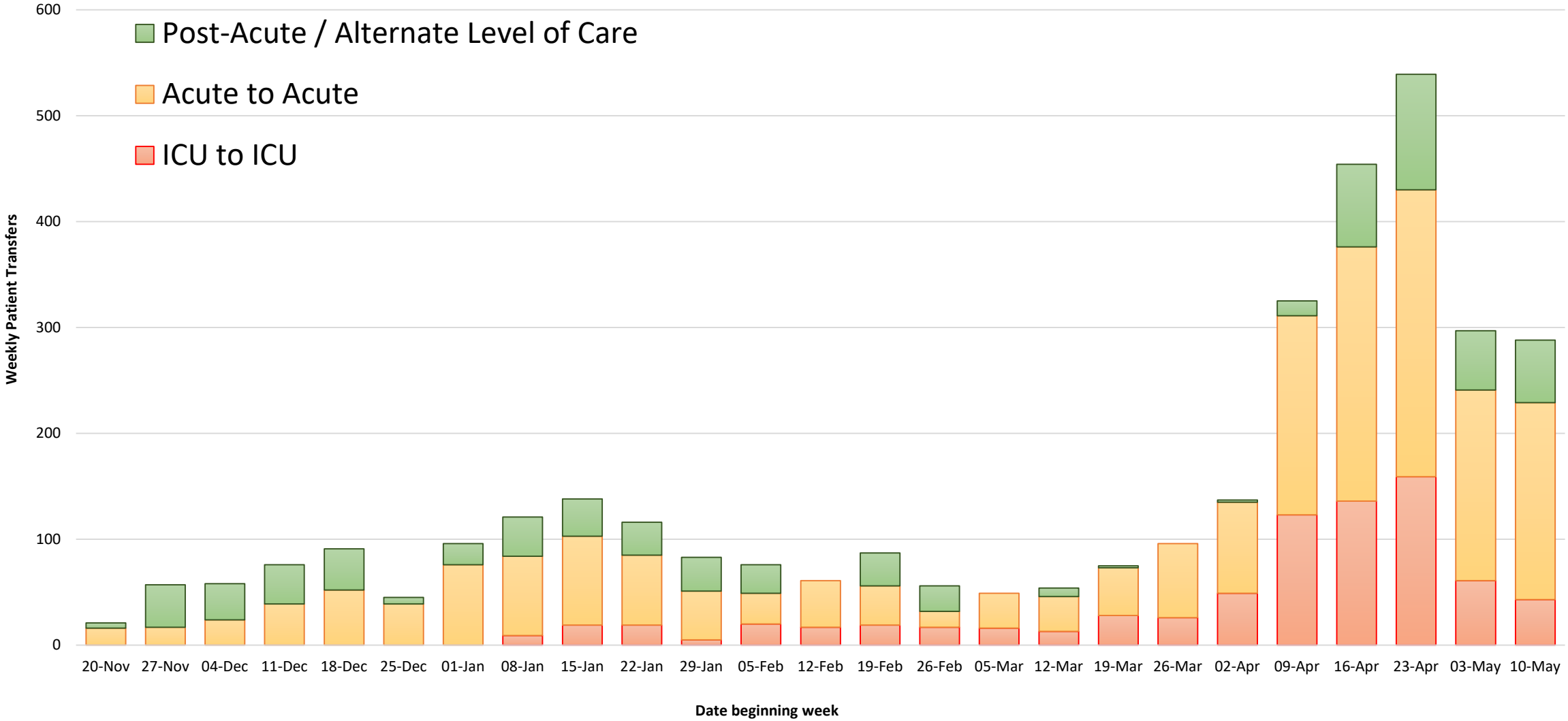
Predictions: COVID-19 ModCollab.
Data (Observed ICU Occupancy): CCSO

Higher priority procedures were more likely to be completed throughout the pandemic



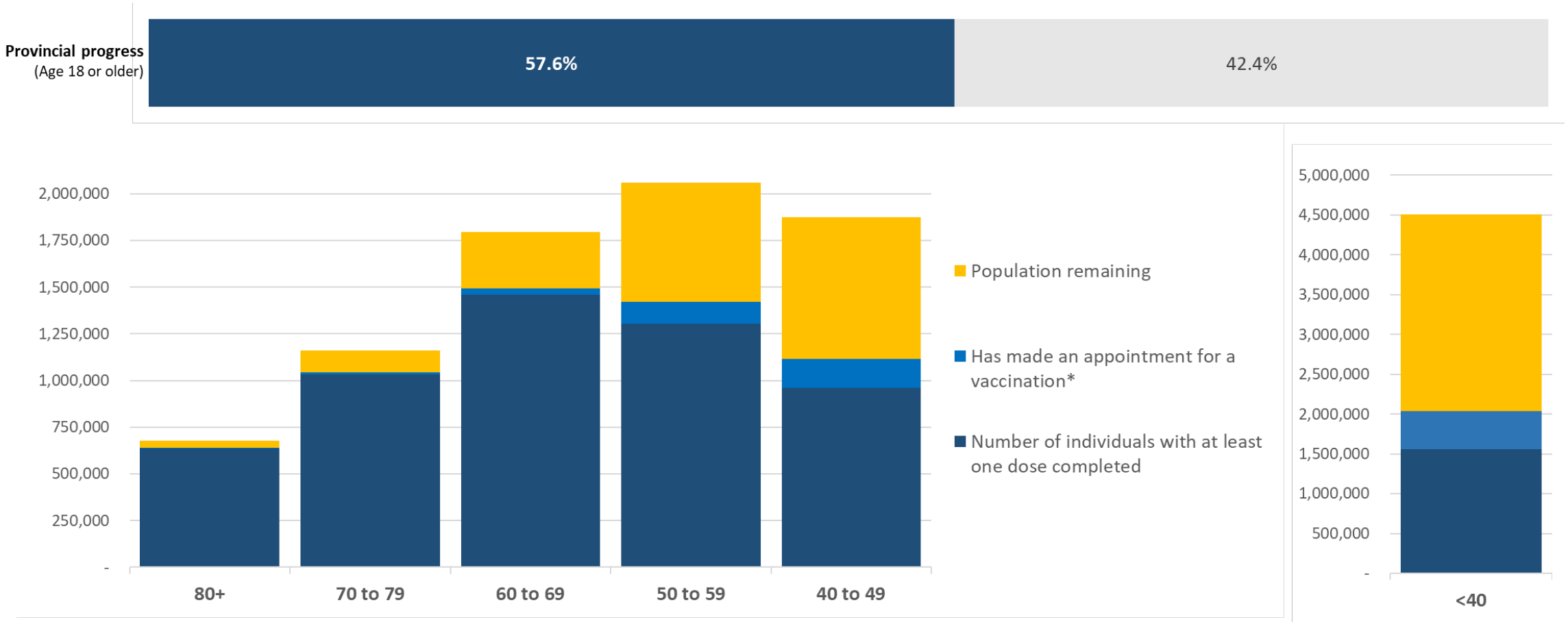
† As of the week of March 8, 2021, the comparator year was rolled back to 2019 to ensure the baseline for comparison continues to be pre-pandemic data

While the situation is improving, a high volume of patient transfers continues due to system capacity pressures



Data Sources: GTA IMS Transport Tracking, Ontario Health

Vaccination coverage continues to increase



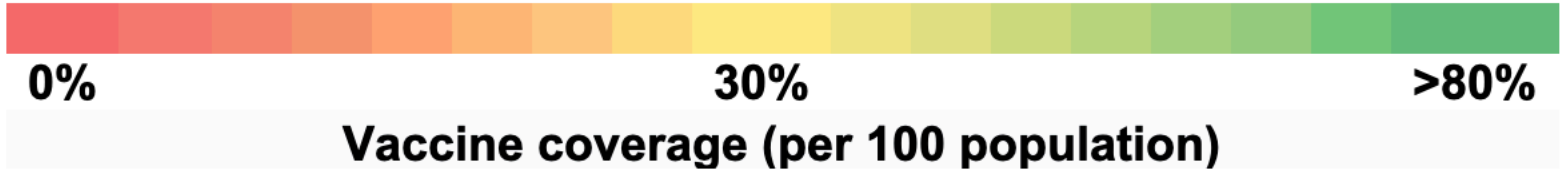
* Note that this is just *Pending Appointments*. Anyone that has made an appointment and received a vaccine will be counted under "Individuals with at least one dose". Data for Appointments reflect 21 PHUs that are captured through the provincial booking system. Appointments made through other systems (e.g., local PHU booking systems, pharmacies, primary care) are not included.
Age is based on year of birth. Age <40 includes those age 18-39. Figure for age <40 is shown separately because of the difference in scale of the overall population size.

Data Sources
MOF 2020 Population Projections
COVAX analytical file, extracted, 8:00 pm May 18 2021, CPAD, MOH
COVAX Skedulo, extracted 6:00pm May 18 2021

The hotspot strategy is working. Continued efforts are key to a good summer.

Figure excludes long-term care vaccination – at least 1 dose as of May 17, 2021

	Neighbourhood Risk‡ **1 =** high incidence of COVID-19 infections → **10 =** low incidence of COVID-19 infections										
Age group	1	2	3	4	5	6	7	8	9	10	**Overall**
80+	73%	75%	78%	80%	81%	83%	84%	86%	87%	87%	**82%**
75-79	75%	78%	80%	82%	83%	84%	85%	86%	87%	85%	**83%**
70-74	75%	79%	79%	81%	82%	83%	84%	85%	85%	82%	**82%**
65-69	75%	77%	77%	77%	79%	80%	81%	81%	81%	76%	**79%**
60-64	74%	76%	75%	74%	76%	77%	78%	77%	77%	70%	**75%**
55-59	70%	72%	68%	65%	66%	67%	67%	67%	65%	54%	**66%**
50-54	68%	68%	62%	57%	57%	56%	55%	54%	50%	41%	**57%**
45-49	61%	62%	56%	51%	51%	49%	49%	47%	41%	36%	**51%**
40-44	52%	55%	50%	46%	48%	46%	46%	43%	38%	33%	**46%**
16-39	41%	44%	38%	32%	31%	29%	29%	25%	21%	21%	**32%**
Overall (16+)	**57%**	**60%**	**55%**	**52%**	**53%**	**53%**	**53%**	**51%**	**51%**	**49%**	**54%**

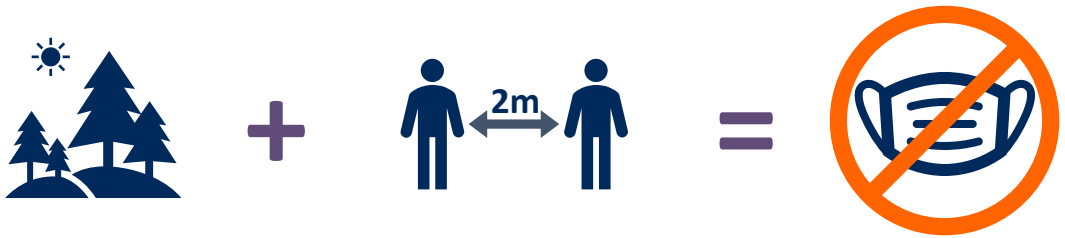


Source: ICES

Outdoor activities can be much safer

Two-out-of-three rule for outdoor activities

Outdoors + Distance = No Masks Needed



Outdoors + No Distance = Masks Needed

Always wear masks and distance indoors

Byproducts to avoid when engaging in outdoor activities

Dining indoors, dining with others, sharing food or drinks

Crowding and going to crowded places

Carpooling with others

Travel between regions

Sharing overnight accommodation with others

Locker rooms and shared amenities

Marr L, Virginia Tech 2021

Select examples of safer outdoor activities

Camping

- Local camping with your own household is safer
- Camping elsewhere with your own household is not safer
- Camping with people outside your household is not safer

Basketball

- Basketball with masks is safer

Tennis

- Single tennis is safer
- Doubles tennis with masks is safer

Singing and playing music

- Singing outside where there is social distancing is safer

Note: Indoor facilities associated with outdoor recreation (e.g., change rooms and clubhouses) present a greater risk and should remain closed at this time

Key Findings

- Cases, positivity and hospitalization rates are decreasing. **Control of the pandemic is improving** due to current public health measures and the efforts of Ontarians.
- The access to care deficit continues but high-priority surgeries are being performed at higher rates.
- **Maintaining progress on vaccinations and maintaining some public health measures** until mid-June can help ensure a good summer:
  - School re-opening will create an increase in cases, but this may be manageable.
  - **Outdoor activities are much safer** than indoor activities and should be encouraged.

Contributors

- **COVID-19 Modeling Collaborative**: Kali Barrett, Stephen Mac, David Naimark, Aysegul Erman, Yasin Khan, Raphael Ximenes, Sharmistha Mishra, Beate Sander
- **Fields Institute:** Taha Jaffar, Kumar Murty
- **ICES:** Jeff Kwong, Hannah Chung, Kinwah Fung, Michael Paterson, Susan Bronskill, Laura Rosella, Astrid Guttmann, Charles Victor, Michael Schull, and Marian Vermeulen
- **McMasterU**: Michael Li, Irena Papst, Ben Bolker, Jonathan Dushoff, David Earn
- **YorkU:** Jianhong Wu, Yanyu Xiao, Zack McCarthy
- **MOHLTC**: Michael Hillmer, Kamil Malikov, Qing Huang, Jagadish Rangrej, Nam Bains, Jennifer Bridge
- **OH**: Erik Hellsten, Stephen Petersen, Anna Lambrinos, Chris Lau, Access to Care Team
- **PHO:** Kevin Brown
- **UofT**: Ashleigh Tuite
- **Science Advisory Table:** Peter Juni, Antonina Maltsev, Bruno da Costa

Content provided by Modelling Consensus and Scientific Advisory Table members and secretariat

Beate Sander,* Peter Juni, Brian Schwartz,* Kumar Murty,* Upton Allen, Vanessa Allen, Kali Barrett, Nicholas Bodmer, Isaac Bogoch, Kevin Brown, Sarah Buchan, Yoojin Choi, Troy Day, Laura Desveaux, David Earn, Gerald Evans, David Fisman, Jennifer Gibson, Anna Greenberg, Anne Hayes,* Michael Hillmer, Jessica Hopkins, Jeff Kwong, Fiona Kouyoumdjian, Audrey Laporte, John Lavis, Gerald Lebovic, Brian Lewis, Linda Mah, Kamil Malikov, Antonina Maltsev, Doug Manuel, Roisin McElroy, Allison McGeer, David McKeown, John McLaughlin, Sharmistha Mishra, Justin Morgenstern, Andrew Morris, Samira Mubareka, Laveena Munshi, Christopher Mushquash, Ayodele Odutayo, Shahla Oskooei, Menaka Pai, Samir Patel, Anna Perkhun, Bill Praamsma, Justin Presseau, Fahad Razak, Rob Reid,* Paula Rochon, Laura Rosella, Michael Schull, Arjumand Siddiqi, Chris Simpson, Arthur Slutsky, Janet Smylie, Nathan Stall, Robert Steiner, Ashleigh Tuite, Jennifer Walker, Tania Watts, Ashini Weerasinghe, Scott Weese, Xiaolin Wei, Jianhong Wu, Diana Yan, Emre Yurga

* Chairs of Scientific Advisory, Evidence Synthesis, and Modelling Consensus Tables

For table membership and profiles, please visit the About and Partners pages on the Science Advisory Table website.