Update on COVID-19 Projections

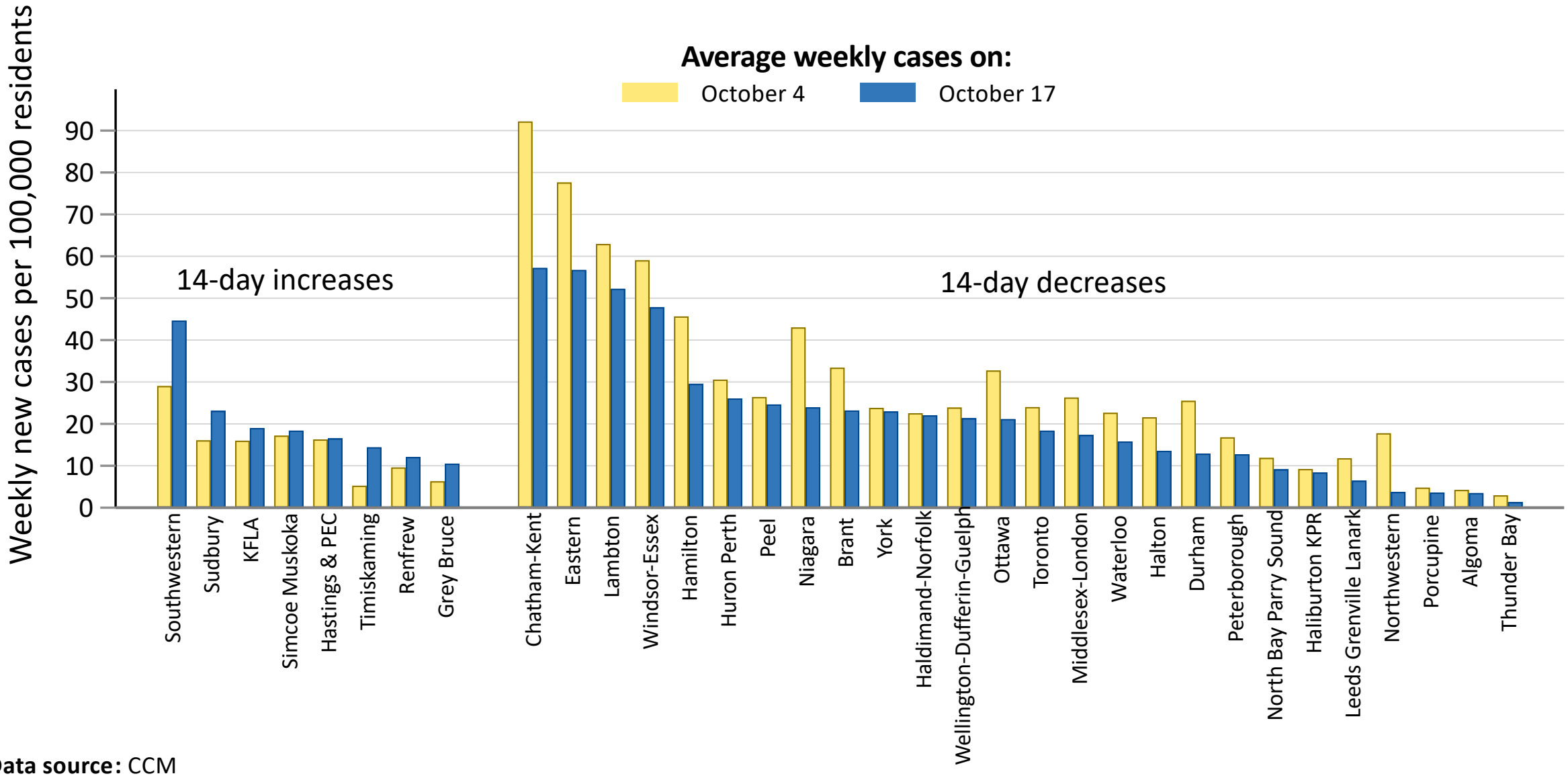
Science Advisory and Modelling Consensus Tables

October 22, 2021

Key Findings

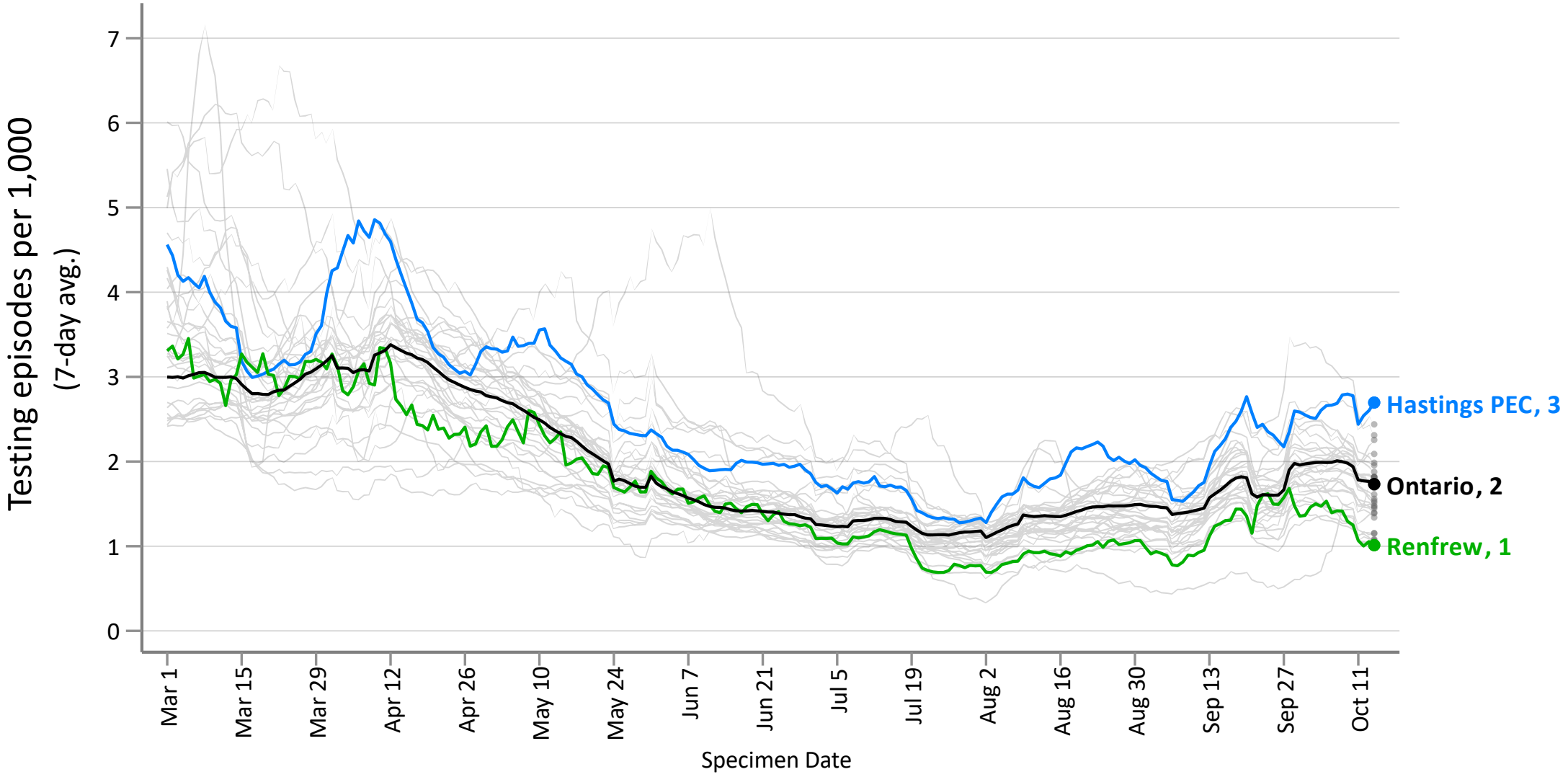
- COVID-19 cases are declining in most Public Health Units and hospitalizations and ICU occupancy are stable. The combination of vaccination and continuing public health measures is controlling this pandemic wave.
- Recent experience in other countries and Ontario modelling suggests that continuing some public health measures will let us maintain control of the pandemic as other factors – such as cold weather – increase the risk of a growth in cases, hospitalizations and ICU occupancy.
- If we adopt smart, tailored strategies – like working with children, parents, schools, and communities – we can set the course for a strong immunization program in children when the vaccine is approved in younger age groups.

Cases are decreasing in most Public Health Units



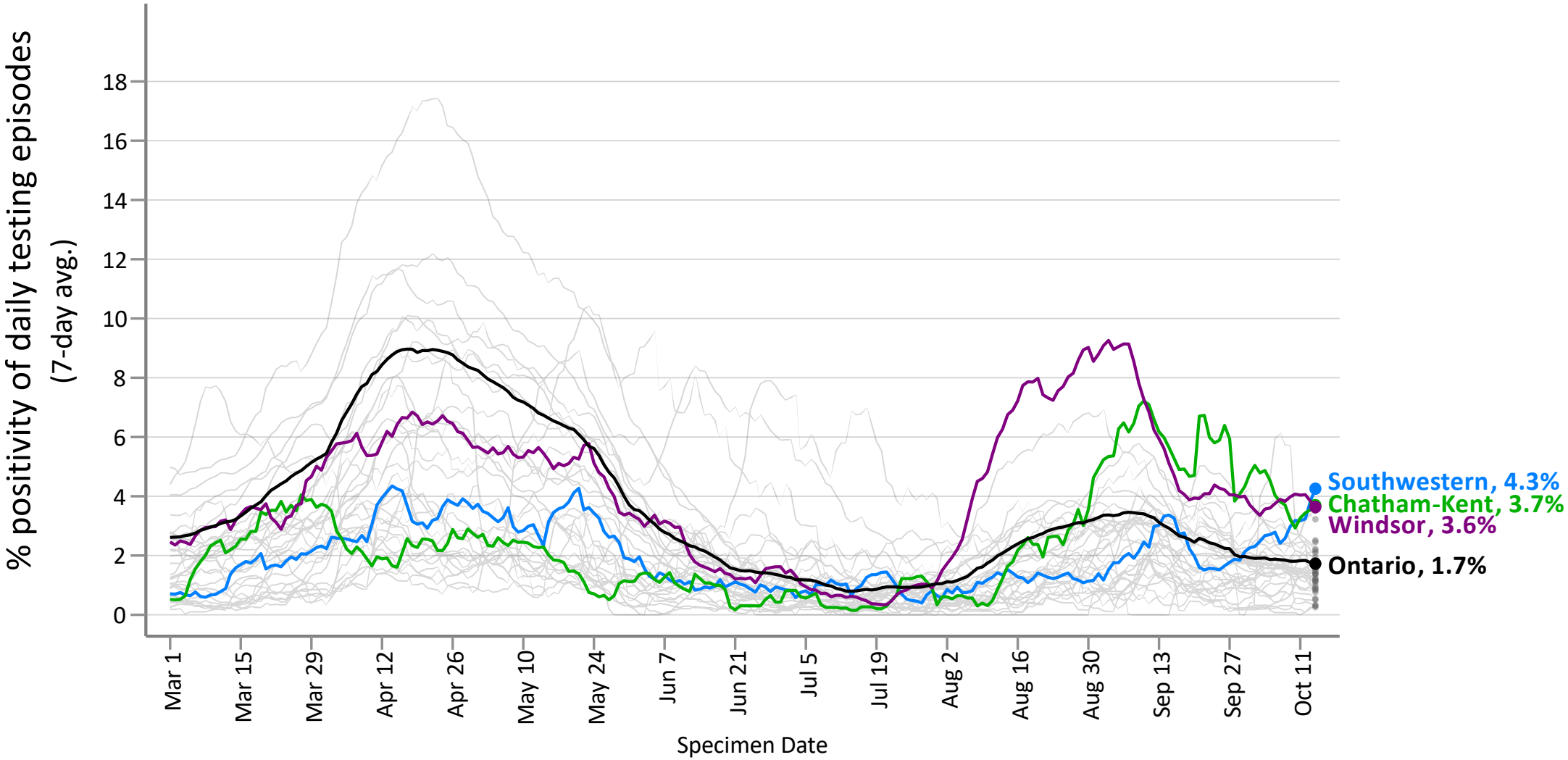
Data source: CCM
Data note: Data for the most recent day have been censored to account for reporting delays

Testing rates are flat at the provincial level



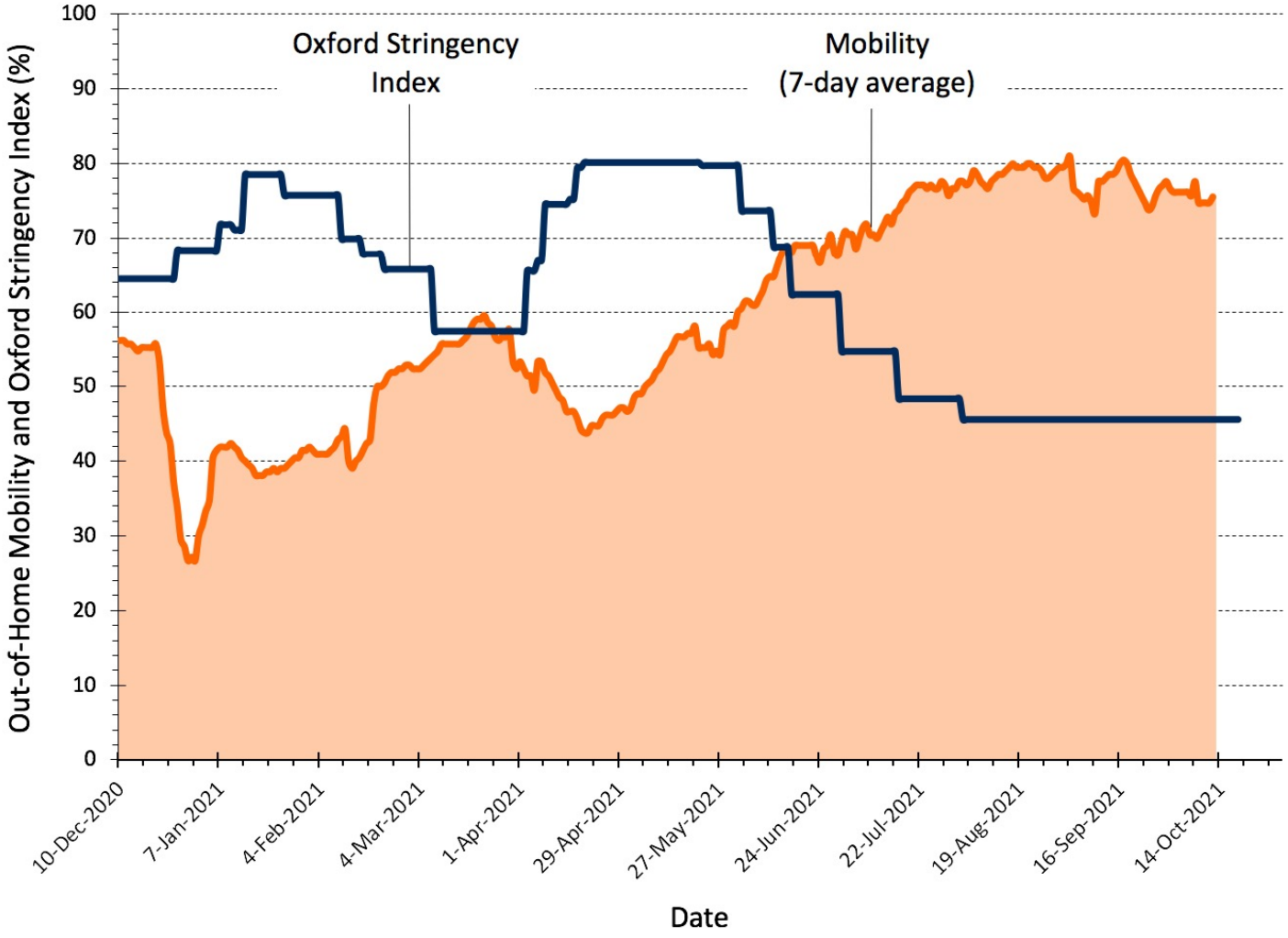
Data source: OLIS via SAS VA, data up to October 14

Test positivity is flattening



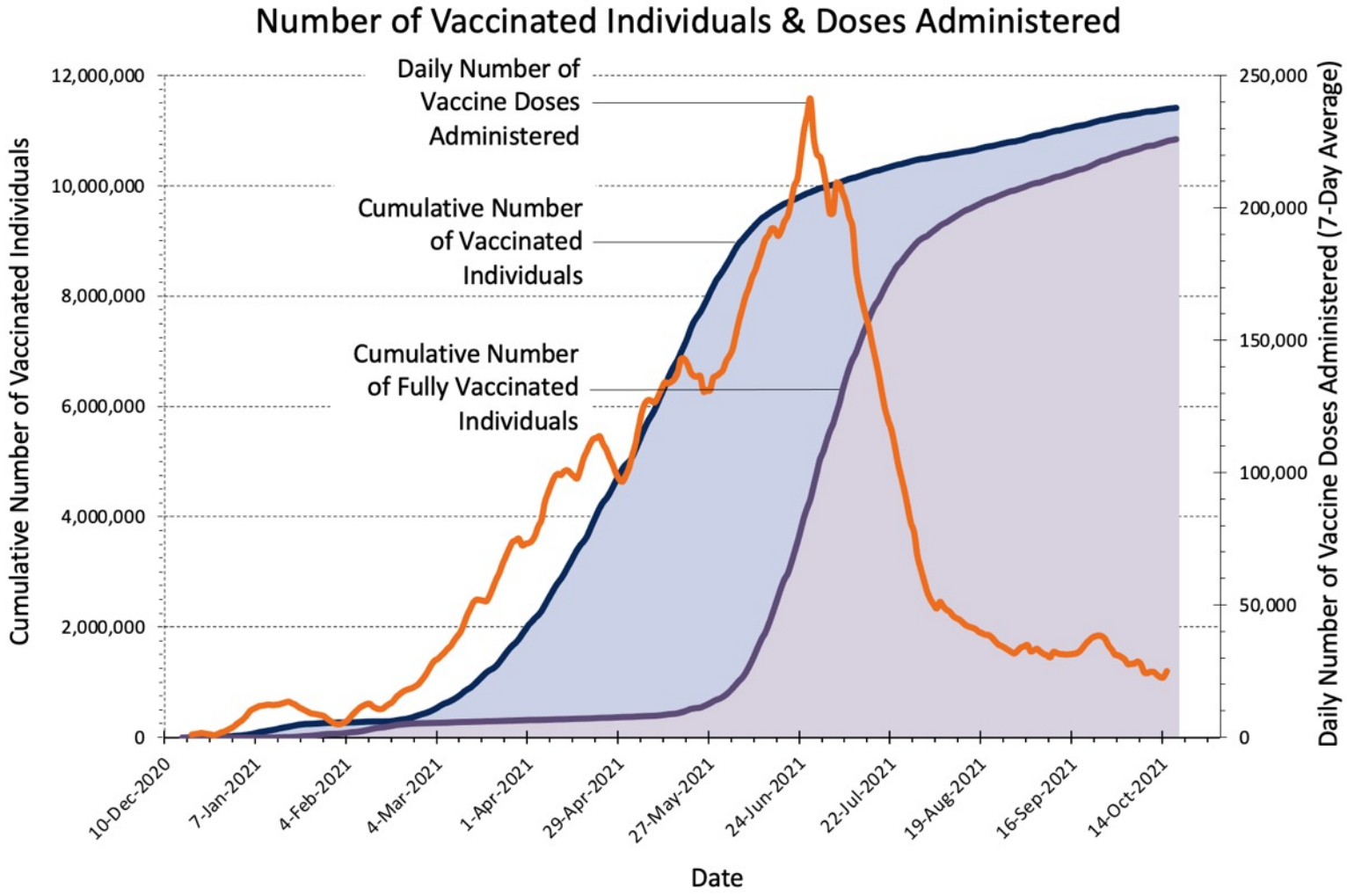
Data source: OLIS via SAS VA, data up to October 14
The most recent 3 days have been removed to account for incomplete data.

Public health measures and Ontarians' behaviour have kept mobility stable, helping to control the pandemic



Analysis: Secretariat of the Science Advisory Table (https://covid19-sciencetable.ca/ontario-dashboard/)

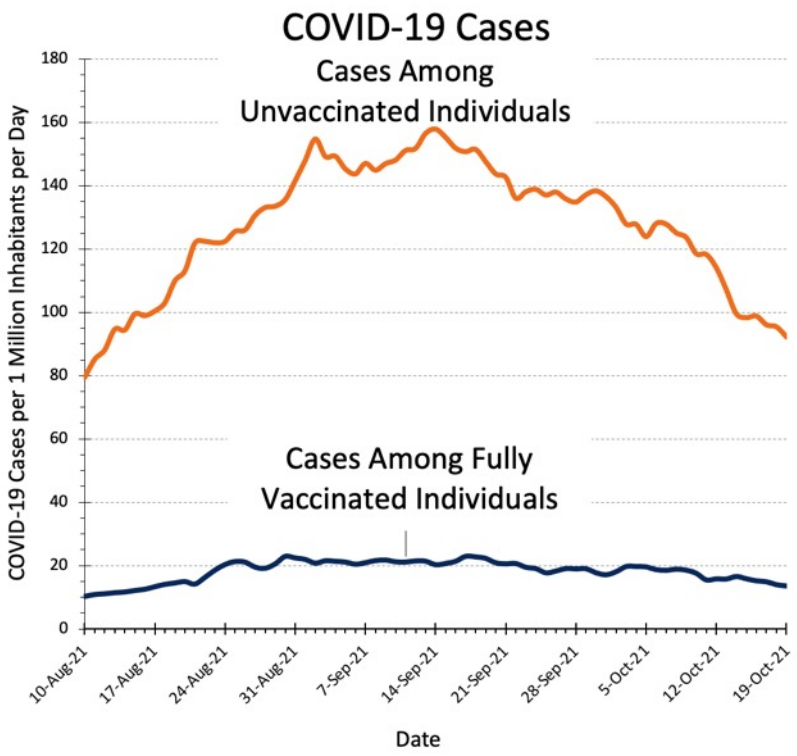
Vaccination coverage is increasing slowly but this hides important differences across communities

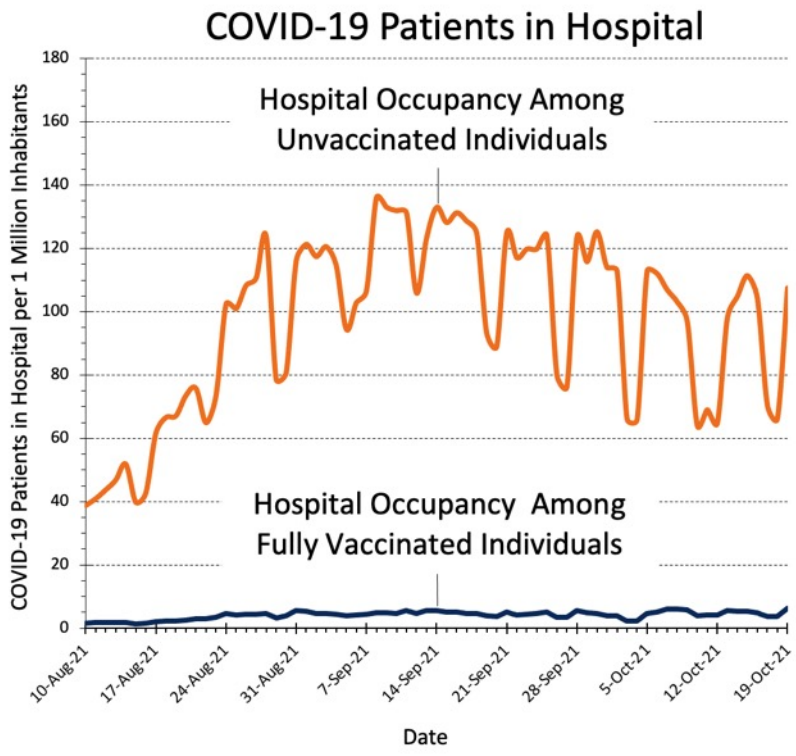


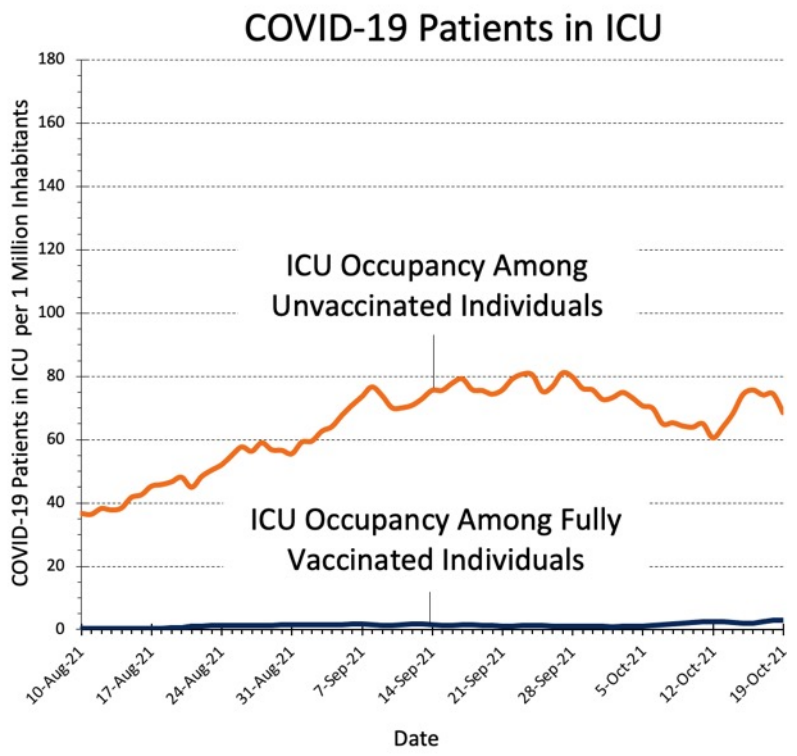
Analysis: Secretariat of the Science Advisory Table (https://covid19-sciencetable.ca/ontario-dashboard/)
Data: https://data.ontario.ca/

Vaccination continues to be highly effective

Unvaccinated people have a 7-fold higher risk of symptomatic COVID-19 disease, a 17-fold higher risk of being in the hospital and 23-fold higher risk of being in the ICU compared to the fully vaccinated



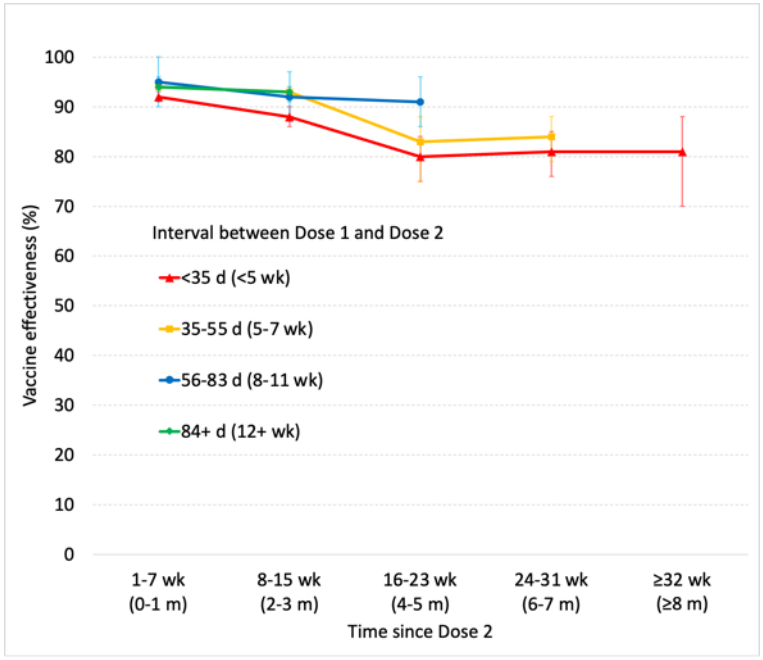




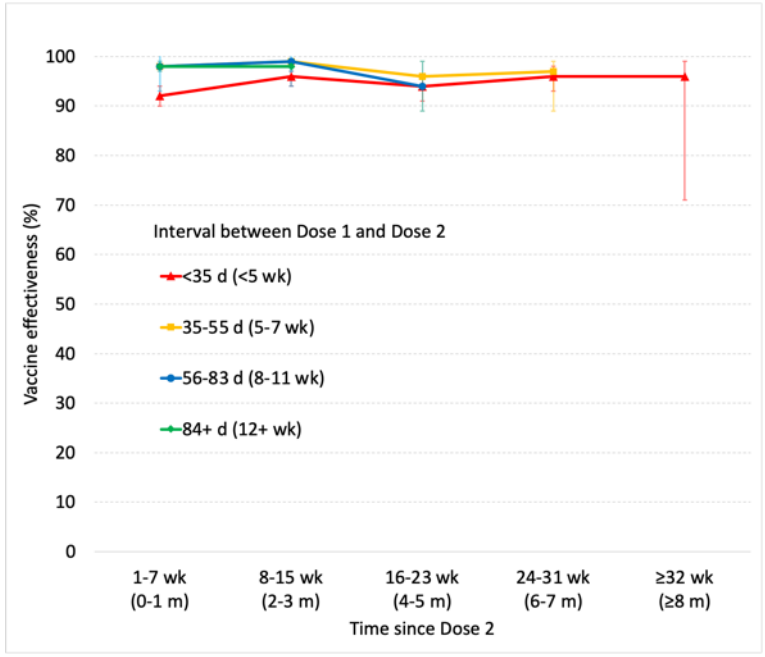
Analysis: Secretariat of the Science Advisory Table (https://covid19-sciencetable.ca/ontario-dashboard/)
Data: https://data.ontario.ca/ and CCM plus; estimates of patients in hospital and ICU are age standardized

Ontario data shows vaccines maintain high effectiveness in general population

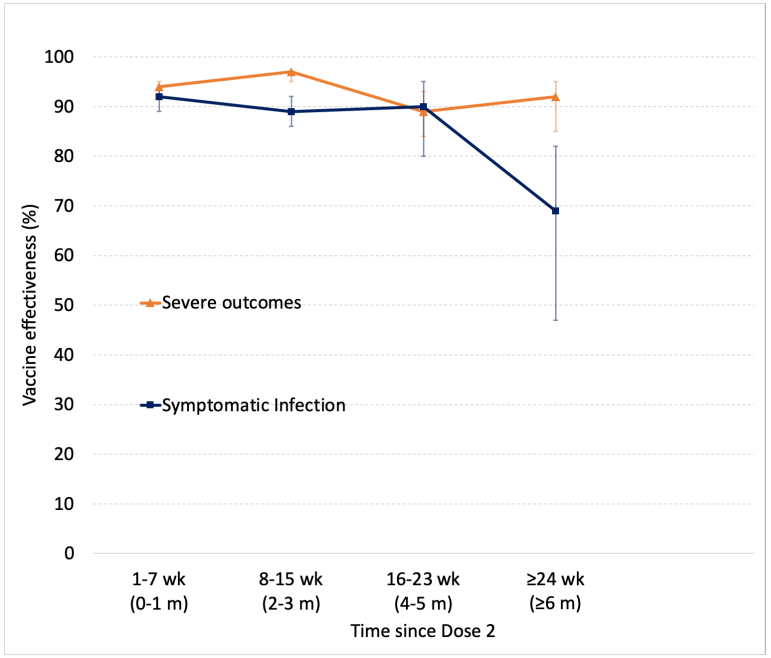
mRNA VE against sympt. infection, by dosing interval; ≥ 16 years*



mRNA VE against severe outcomes, by dosing interval; ≥ 16 years*



mRNA VE against sympt. infection and severe outcomes; ≥ 70 years*



- Very high VE for mRNA vaccines even ≥32 weeks after dose 2, with only some waning against infection (≥ 70 years of age) but not severe outcomes
- Short intervals between dose 1 and dose 2 appear to be associated with slight waning against infection, but not severe outcomes

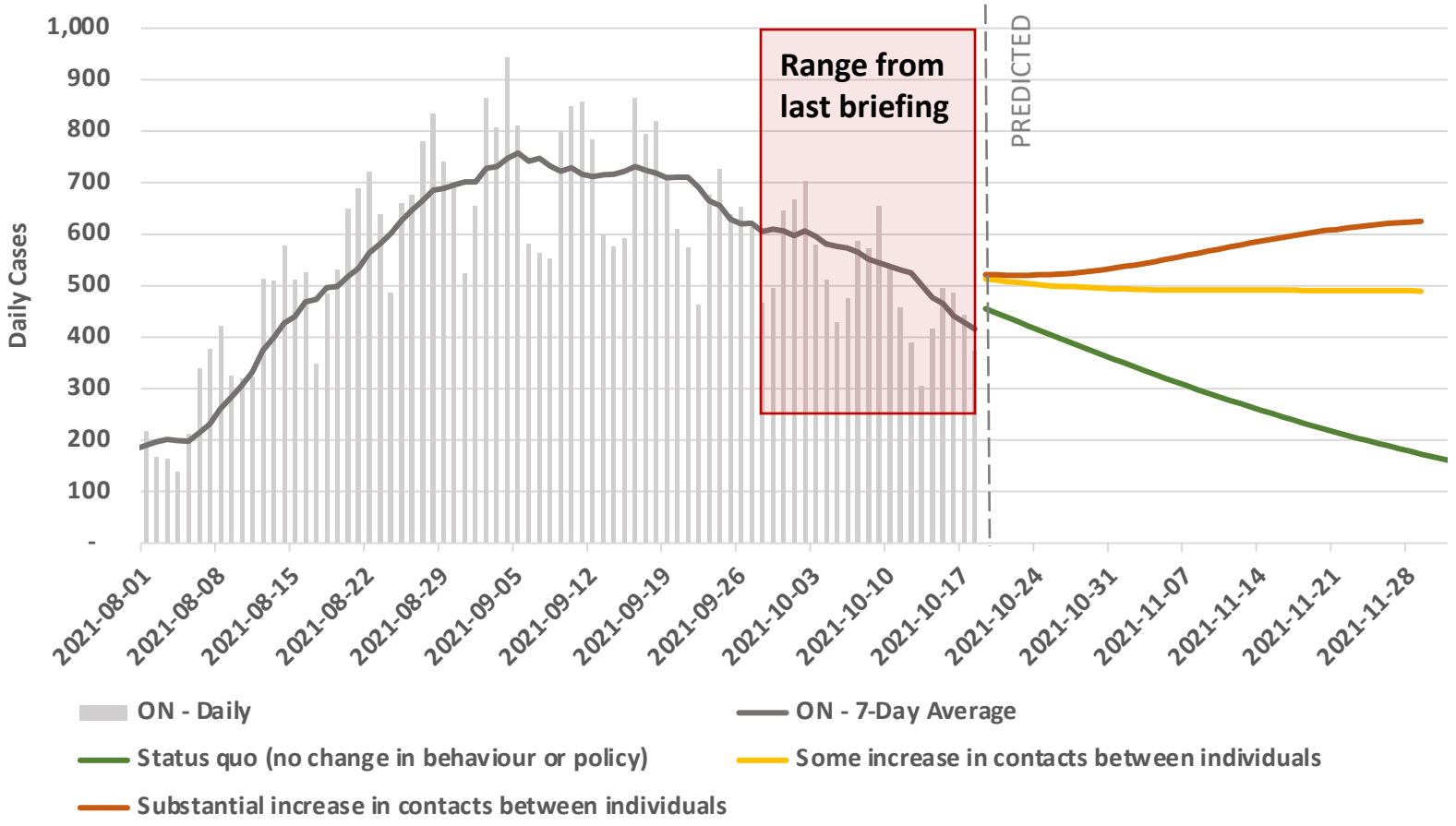
** Excluding LTC residents; VE, vaccine effectiveness; mRNA vaccines, messenger RNA vaccines (Pfizer, Moderna)*

Data Source and Analysis: ICES

Ontario's case counts are expected to remain stable, even with more social contacts, if we keep public health measures

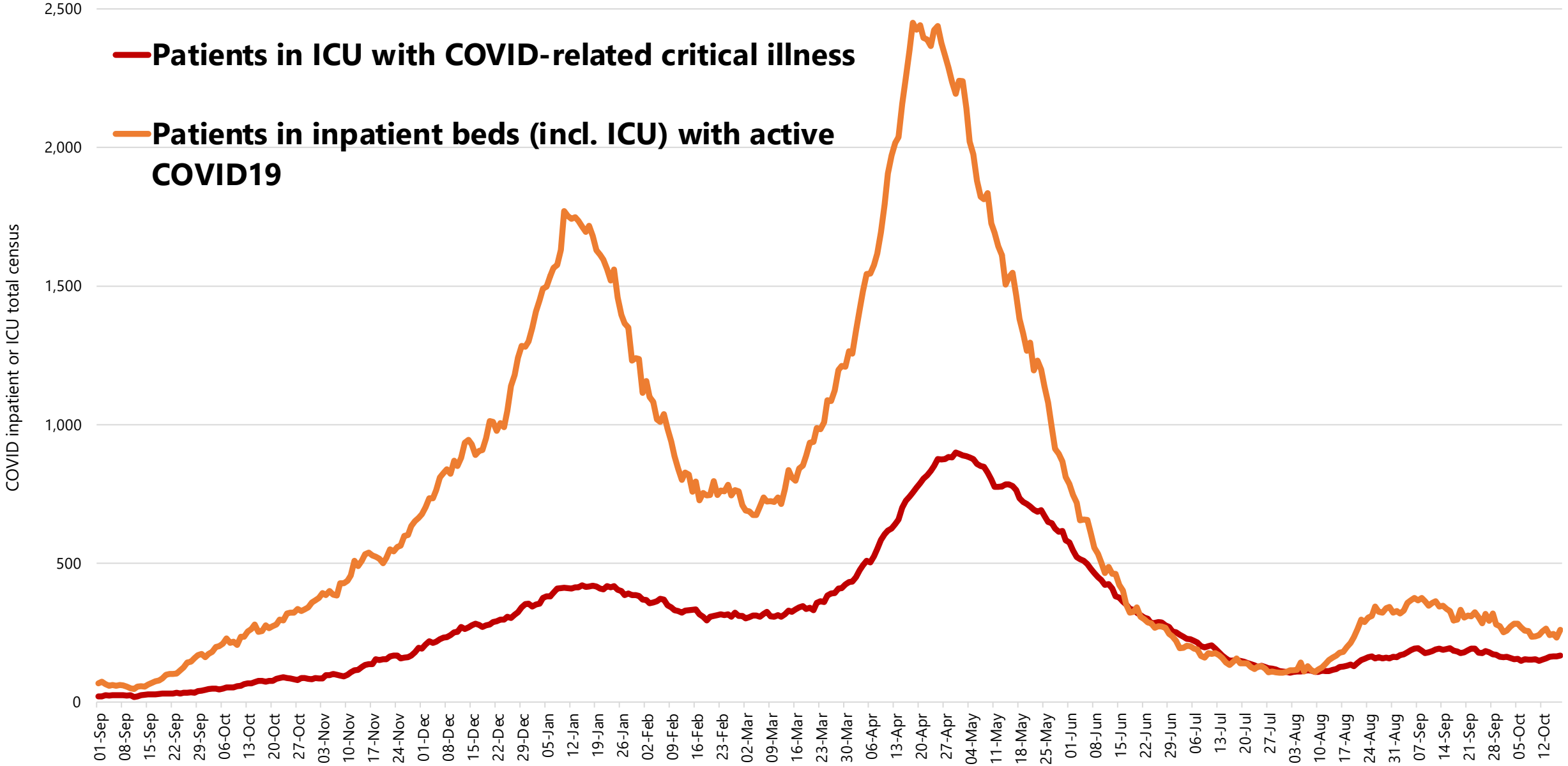
Figure shows predictions based on a consensus across models from 4 scientific teams.

- Compared to previous model predictions, current projections include greater vaccine effectiveness against infection
- All scenarios assume public health measures continue, e.g., masking, vaccine certificates, ventilation/filtration, symptom screening

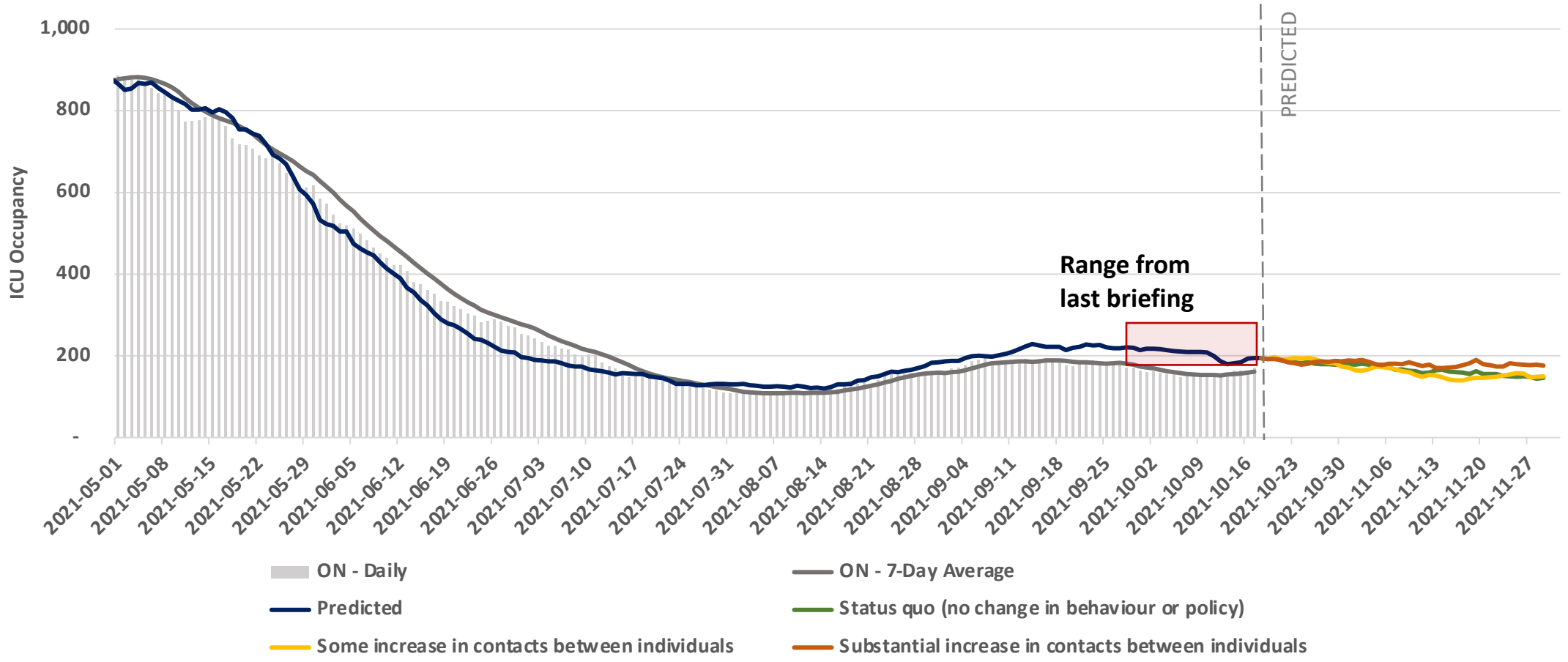


Predictions informed by modeling from COVID-19 ModCollab, McMasterU, PHO, WesternU
Data (Observed Cases): covid-19.ontario.ca

Hospitalizations and ICU occupancy are stable

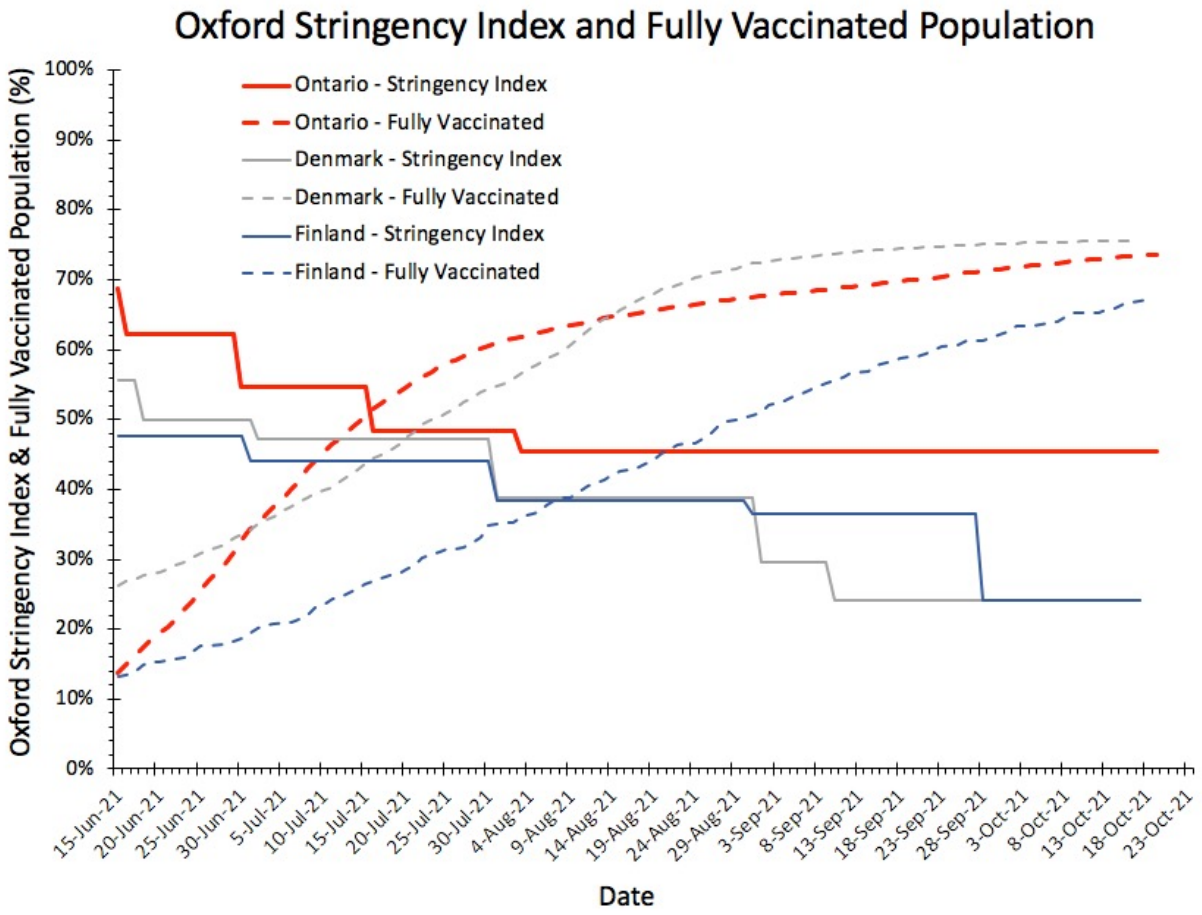


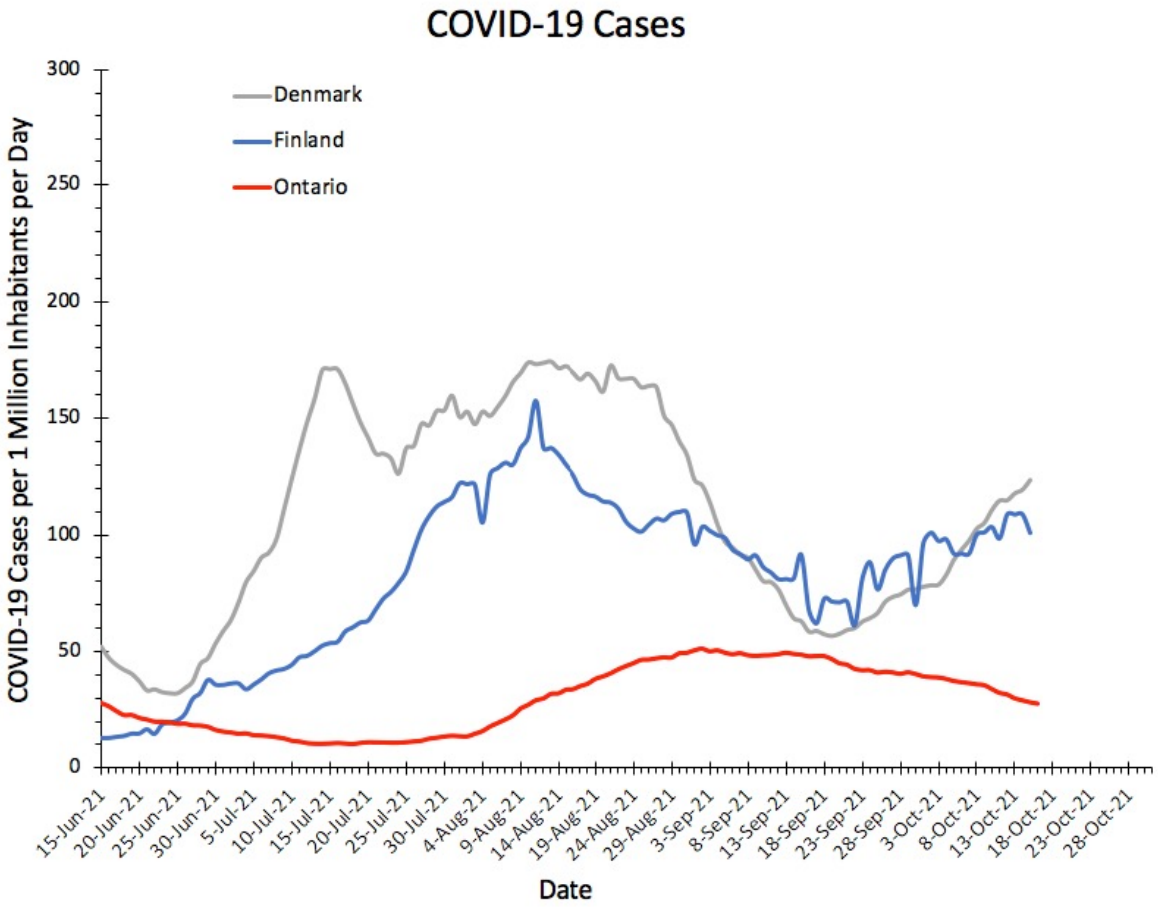
ICU Occupancy is expected to remain stable under current scenarios until end of November



Predictions: COVID-19 ModCollab based on case predictions in previous slide..
Data (Observed ICU Occupancy): CCSO

But Nordic countries are a warning: Lifting public health measures can drive a new wave, even with strong vaccine coverage





Finland and Denmark have removed almost all public health measures: Denmark has no mask requirements, Finland's requirements are limited; neither has broad use of vaccine certificates. Other countries that have lifted fewer measures – such as the Netherlands – are also seeing a rise in cases.

Analysis: Secretariat of the Science Advisory Table (https://covid19-sciencetable.ca/ontario-dashboard/)
Data: https://data.ontario.ca/ and https://ourworldindata.org/explorers/coronavirus-data-explorer

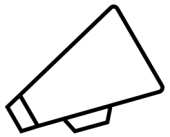
Ontario can do a lot to encourage child and youth vaccination

Drawing from what works from broad childhood vaccine literature:

Use school-located vaccination: trusted locations with familiarity, reach, convenience, equity

Encourage healthcare provider recommendations: trusted sources for support and addressing concerns. Inform and empower healthcare providers to engage with parents and kids about vaccination using evidenced approaches

Ensure reminders for next dose and recall for missed vaccination: may be especially important for second dose



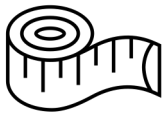
Create school and community health communication campaigns: information is not enough and source matters (trusted community, parent, and authoritative sources)

Source: Shapiro GK, Presseau J, Allen U et al. Behavioural science-informed strategies for increasing COVID-19 vaccine uptake in children and youth. Science Briefs of the Ontario COVID-19 Science Advisory Table. in press

Behavioural science can help to shape effective childhood vaccination campaigns

Leverage trusted sources and familiar settings

- Empower and invest in trusted people and places, which may vary between groups
- Similarity and relatedness matter: leverage informal connections
- Work with children, youth and parents up front



Avoid one-size-fits-all approaches

- Use safety (including highlighting robustness of Ontario's surveillance system), efficacy and risk communication tools tailored to age and varying health literacy/numeracy
- Use resources to support kids/youth concerned about needles/pain
- Work with kids/youth to tie vaccination to what matters to them

Ensure special considerations for reaching Black, Indigenous and all racialized communities

- Involve trusted messengers and work with trusted community leaders and community organisations
- Special effort should be made to engage religious & spiritual leaders and highly respected elders

Ensure special considerations for reaching at-risk populations

- Resource and partner early with organisations and community groups that support children with behavioural and physical disabilities, precariously housed youth, and other at-risk groups
- Ensure accessible physical locations and ensure children/youth can get to the vaccination

Source: Shapiro GK, Presseau J, Allen U et al. Behavioural science-informed strategies for increasing COVID-19 vaccine uptake in children and youth. Science Briefs of the Ontario COVID-19 Science Advisory Table. in press

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