

COVID-19: Modelling Update

September 30, 2020

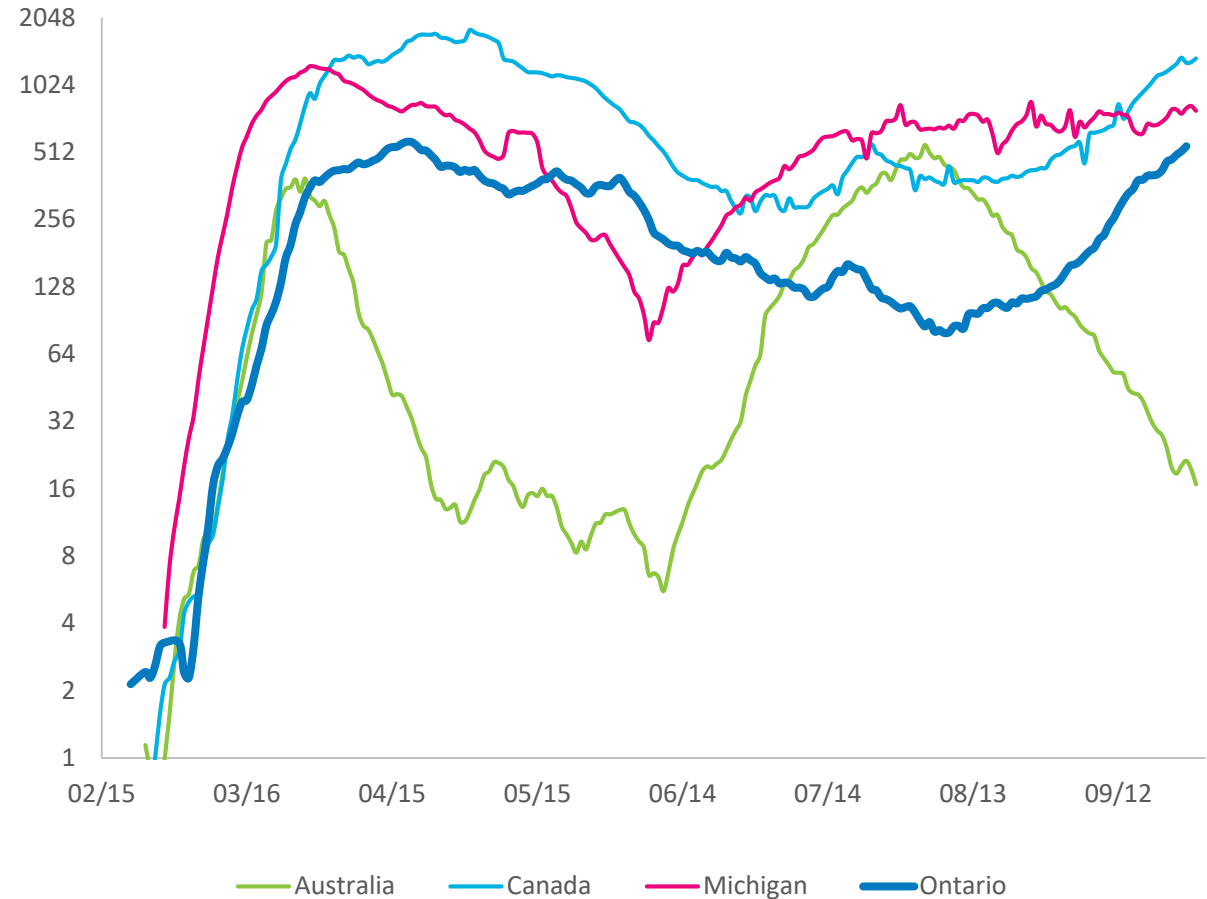
Modelling Outlines Challenges We Are Facing

- The objective of today's presentation is to share the modelling and projection data that the Command Table has been using to inform our work, and advising government on Ontario's response to COVID-19.
- The information provided in this presentation was developed by several expert researchers at Ontario universities under the direction of the Modelling Consensus Table led by the COVID-19 Command Table.
- We feel it is important to be transparent with the public about the challenges we are facing, and the important work we all need to do to stop the spread of COVID-19.
- How this outbreak continues to unfold is in our hands. We can change the outcomes and avoid a severe second wave by continuing to adhere to public health measures.

Countries Around the World are Seeing a Second Spike in Cases

- After an initial decrease in cases, we have seen a recent surge in Ontario.
- Peer jurisdictions were selected based on social, demographic and economic similarities with Ontario.
- Observing the experiences of other jurisdictions provides an excellent basis for predicting the pandemic's health service impact on Ontario.
- For example, we see Australia experienced a significant surge in COVID-19 cases despite their mild flu season, demonstrating the importance of focusing on flu and COVID-19 to keep the population healthy.

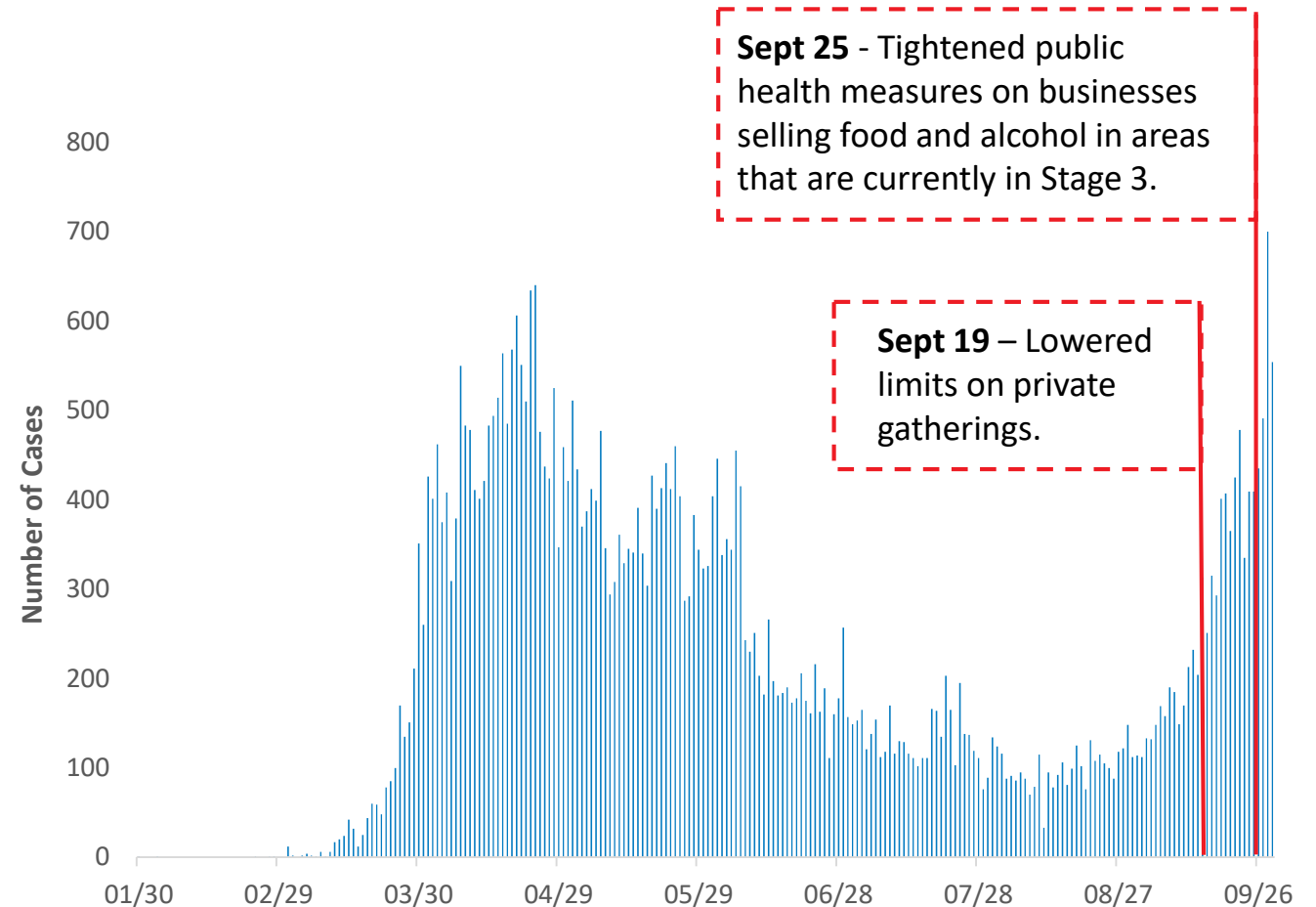
7-Day Average Case Trends in Peer Jurisdictions



September has Brought a New Surge of Cases in Ontario

Ontario's Daily Cases over Pandemic Period

- Ontario's cases have been steadily trending upward throughout the month of September.
- Additional public health measures were invoked in mid-September to help stem the case growth of COVID-19.



Ontario Has Taken Action to Tighten Public Health Measures

- The Ontario government recently tightened public health measures to slow the spread of COVID-19.
- **Sept 19:** Reduced the limits on the number of people allowed to attend certain social gatherings and organized public events (e.g., BBQs, birthday parties, wedding receptions in someone's home, backyard or park) across the province to:
 - 10 people at an indoor event or gathering (previous limit of 50); or
 - 25 people at an outdoor event or gathering (previous limit of 100).
- **Sept 25:** Tightened public health measures by:
 - Requiring businesses and organizations to comply with the Office of the Chief Medical Officer of Health's advice on screening for COVID-19
 - Applying additional measures and restrictions to restaurants, bars and other food and drink establishments (including nightclubs) by prohibiting the sale of alcohol after 11 p.m., and prohibiting the consumption of alcohol on the premises after 12:00 a.m. until 9:00 a.m. (including employees), and requiring establishments to close by 12:00 a.m. and remain closed until 5:00 a.m. except for takeout or delivery
 - Closing all strip clubs
- The Chief Medical Officer of Health and other public health experts continue to closely monitor the evolving situation and will advise if public health measures need further adjustment.
- Our collective efforts in adhering to these recent and any additional public health advice and measures will help us get back on track towards the best case scenario.

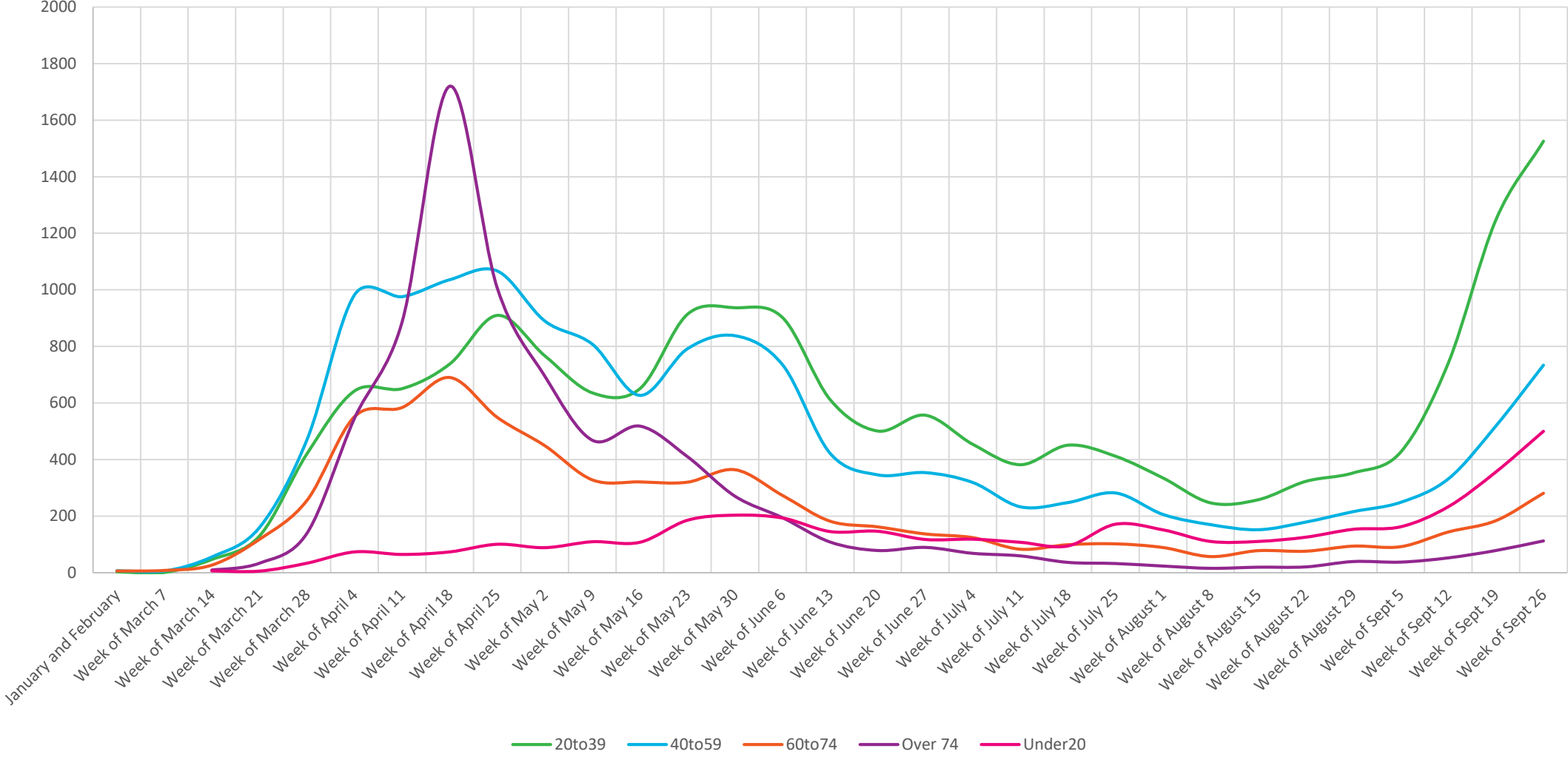
The COVID-19 Pandemic Has Impacted Ontarians of All Ages

Age Group	Cases	Deaths	Case Fatality Ratio (%)
19 and Under	4,165	1	0.0%
20-39	17,582	11	0.1%
40-59	14,632	122	0.8%
60-79	8,410	767	9.1%
80+	6,288	1943	30.9%
Unknown	8	0	0.0%
Total	51,085	2844	5.6%

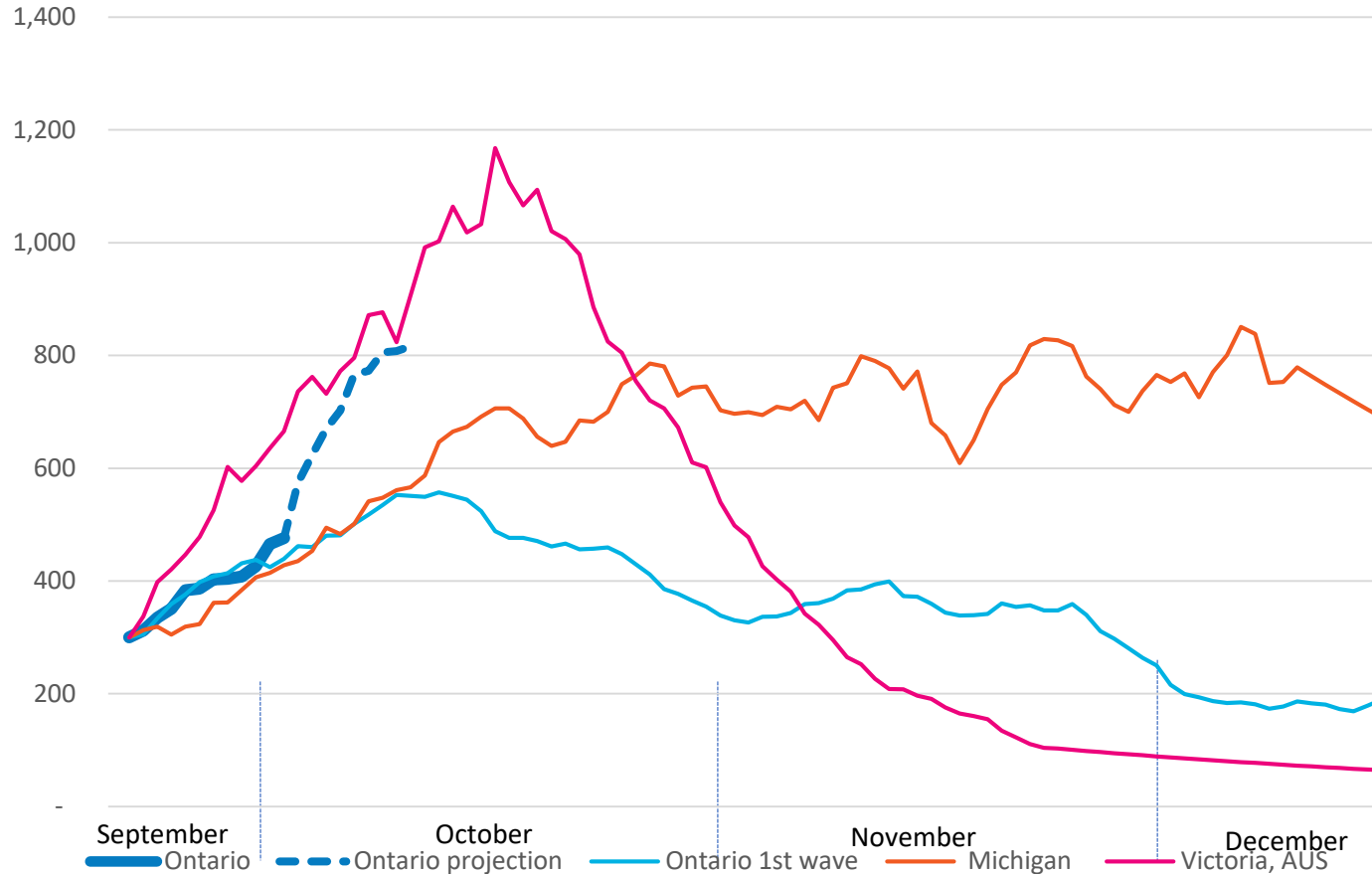
Data Source: CCM plus (new version of iPHIS plus), extracted September 28 at 4pm.

Initially, Ontario's second wave of COVID-19 was primarily impacting the 20-39 age group, but case growth is now occurring in all other age groups

Weekly New Cases of COVID-19 by Age Group



Ontario is Facing An Upwards Trajectory



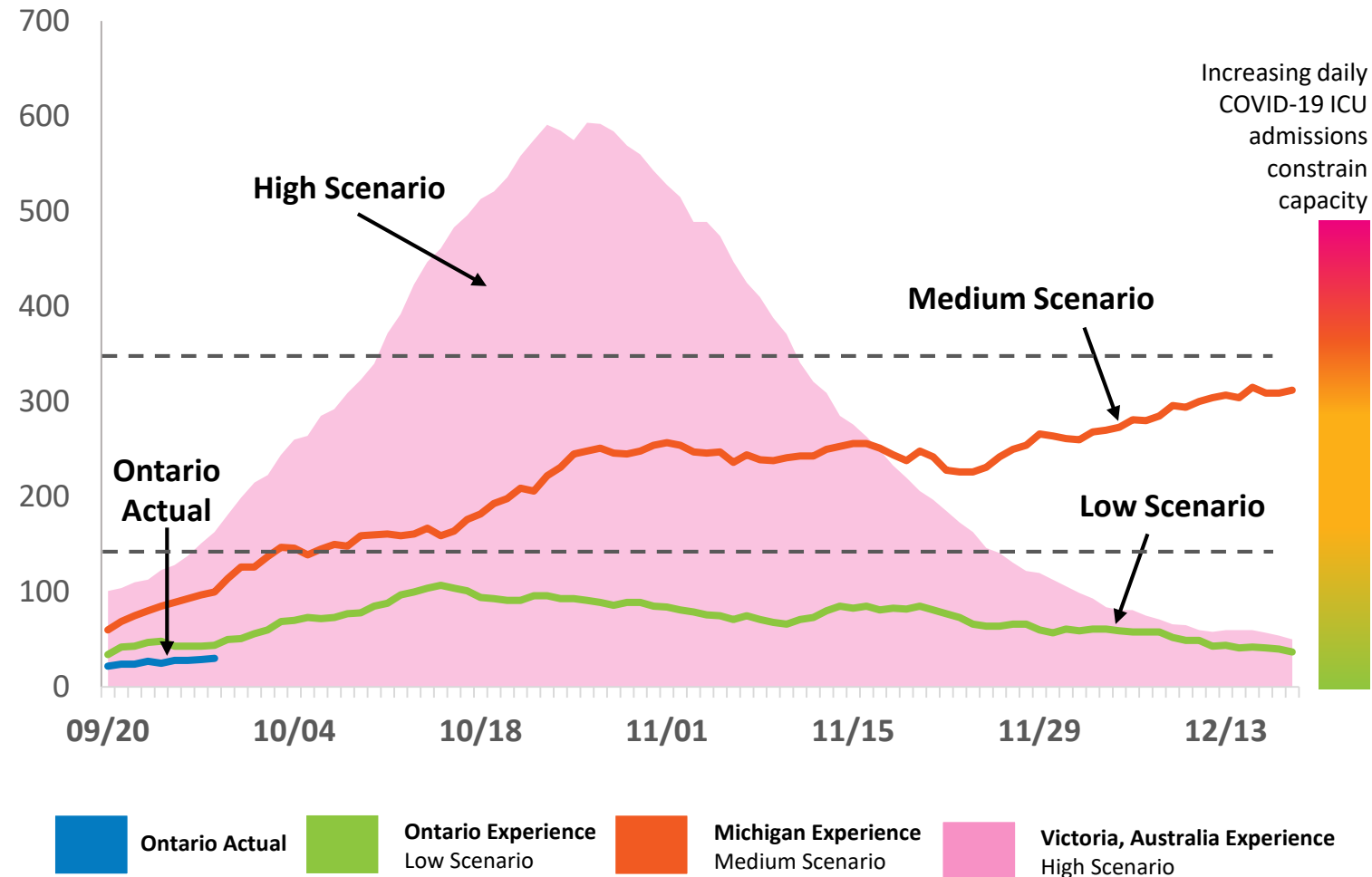
- Ontario's projection is based on current doubling time of 12 days (Sept 28).
- Jurisdictions are aligned at their first day that cases reached 300 per day.
- Seven day averages were used for the figure.

- Several of Ontario's peer jurisdictions have entered into a second COVID-19 wave.
- Ontario is currently on an upwards trajectory similar to what other jurisdictions have experienced.
- Cases are currently doubling approximately every 10-12 days.
- The most recent public health measures will take time to have an effect on case growth and the modelling projection for Ontario does not take their impact into account.
- Projections that extend too far are bound to be inaccurate as they can't incorporate unknowns
- This projection does not take into account the recent introduction of tightened public health measures.
- This forecasting suggests Ontario could be around 1,000 cases per day in the first half of October.

Various Scenarios Highlight Impact to ICUs

- We used the experiences of three different jurisdictions to create a range of scenarios predicting COVID's impact on ICU beds.
- The results inform us about how well we can preserve ICU resources for non-COVID patients.
- The **Low Scenario** is based on Ontario's first wave, but with a younger population affected as seen during the recent spike.
- The **Medium Scenario** is based on Michigan's experience with a mixture of old and young individuals affected.
- The **High Scenario** is based on the experience in Australia, using an older and more vulnerable affected population.
- We see that with under 150 COVID patients in ICU, we can maintain normal non-COVID capacity and all scheduled surgeries.
- Above 150 it becomes harder to support non-COVID care needs and above 350 it becomes impossible.

Forecast of Ontario's COVID-19 ICU Bed Occupancy



ICU Capacity is One Measure of the Pandemic's Impact

- COVID-19 affects the whole health care system.
- ICUs are an important resource but just one component of the broader health care system serving Ontarians.
- Increases in COVID-19 cases reduce our health care system's ability to respond to the continuum of health care needs of Ontarians.
- Through Wave 1, we observed significant impacts on access to primary care, home care, mental health and addictions services and scheduled surgeries.
- High rates of COVID-19 in the community contributed to outbreaks in long-term care homes.
- Deaths related to opioid use increased.
- That's why we need to keep ourselves healthy by following public health advice and guidance.

Everyday Actions Continue to Be the Best Defence

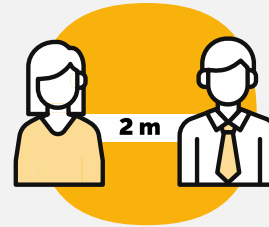
- We must continue taking necessary steps to reduce transmission and limit the spread of infection through personal choices and decision-making.
- The severity of a second wave will depend on our collective ability to continue following proper public health measures.



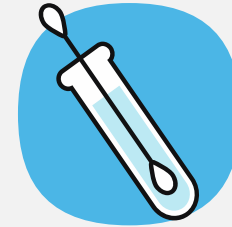
Wear a face mask when physical distancing is challenging or where it is mandatory to do so.



Wash your hands frequently and thoroughly.



Avoid large gatherings and practise physical distancing with those outside your household or social circle.



Stay home when ill, and keep children home from school when ill. Get tested and self-isolate if you think you might have COVID-19.