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GTA

Modelling shows chance of close to 4,000 COVID-19 cases a day by April if new variant of virus takes hold

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Ontario could see nearly 4,000 new [COVID-19](#) cases per day by the end of March if a new variant of the virus becomes established in the population and the Province sticks to its plan to reopen all schools on Feb. 10, new forecasting shows.

The projections, by Markham-based [Scarsin Corporation](#), which specializes in disease forecasting for global pharmaceutical companies, raise the spectre of the need for more lockdowns and school closures with the proliferation of the new B117 variant, thought to be about 56 per cent more transmissible than the regular variant.

“The government of Ontario’s plan to reopen schools will prevent the province from getting to 1,000 cases per day any time in the foreseeable future, because of the aggressiveness of the new variant,” said Paul Minshull, CEO of Scarsin. “I recognize the Province feels it can mitigate the risk with vaccines, but that’s far from certain given the delays.

“When you do the math, it can get scary very quickly.”

The Scarsin modelling looks at four scenarios that could unfold in the coming weeks if the Province proceeds with its plan to reopen all schools on Feb. 10. (Schools in seven southern public health units are already slated to reopen Monday.) The modelling takes into account vaccine shortages expected by the Province over the next two weeks, and plots expected increases in new COVID-19 cases with increasing percentages of the B117 variant, which is assumed in the model to be 55 per cent more transmissible than the existing form of the virus.

The first scenario assumes just four per cent of those infected with COVID-19 have the new variant and projects that, with all schools reopening on Feb. 10, the province will see 1,623 new cases on March 31, about 1,000 fewer than the amount the Province is recording now.

The second scenario assumes that the new variant makes up 10 per cent of all COVID-19 infections. In this case, Scarsin forecasts that there will be 2,052 cases per day on March 31.

Under the third scenario, the new variant makes up 25 per cent of all COVID-19 infections and results in 2,790 cases per day on March 31.

In the fourth and most dire projection, Scarsin assumes that 40 per cent of all new COVID-19 cases are the new variant. If this scenario plays out, Ontario could see as many as 3,790 new cases per day.

Scarsin's forecasts incorporate more than 70 different variables that can be changed daily to reflect the impact of interventions, such as school reopenings, the number of people receiving the vaccine, and workplace and community mobility. The company forecasts the spread of COVID-19, and resulting hospitalizations and deaths, depending on where infections occur, such as homes, schools, workplaces and long-term-care centres.

"It's crucial to manage all of these assumptions on a daily basis, given the important transition point we're at in Ontario," said Minshull. "It's incredibly important to be disciplined around the lockdown in order to really get us down. If you ease up in any way during this period, you're going to start to see spread growing again, even with the amount of vaccines that are being deployed."

Earlier this week, Dr. David Williams, Ontario's chief medical officer of health, said COVID-19 cases should be "around or below 1,000 new cases a day" [before the Province contemplates ending the lockdown](#).

On Friday, Ontario reported 2,662 new cases, bringing the rolling seven-day-average to 2,703 daily cases.

While schools in seven public health units are scheduled to reopen next week, the government has said students in the "hot spot" zones of Toronto, Peel, York, Hamilton and Windsor-Essex, will not be returning to the classroom until Feb. 10 at the earliest.

"When you start assuming that the variant has become more and more established in the population, you go from a situation where you have declining cases to a situation where you would have essentially what looks like a third wave," said Ashleigh Tuite, an infectious disease epidemiologist and mathematical modeler at the Dalla Lana School of Public Health.

"I think what this shows is the importance of getting the number of cases down as low as possible as quickly as possible, because once the variant becomes established, you have this fairly rapid increase in transmission, which translates into what looks like a third wave."

As for the likelihood of spread in schools, this is a point on which scientists can't seem to agree, Tuite noted. But kids become important if we start to see a more transmissible strain of the virus, she added.

"If you have it circulating in children and if children are more likely to be asymptomatic and you're not testing them, the potential for it to become established and circulate in our communities before we recognize it is higher," she said.

"If we don't have really good surveillance happening in schools, given the spectre of this variant and the potential that it could be circulating in those settings without us seeing it, it really becomes a problem."

Colin Furness, an infection control epidemiologist at the University of Toronto, said that, while it's very difficult to say how accurate forecasts are, they are very useful in giving a sense of best and worst cases.

He noted that while the B117 variant is estimated to be about 56 per cent more transmissible than the regular variant, based on British data, "a virus can actually mutate according to its local conditions," meaning its contagiousness could be a function of genetics, weather, culture or other factors.

"Just because it was measured at 56 per cent (more transmissible) in southeast England does not mean that it's 56 per cent here. It could be higher or lower. Different weather for starters. So there's uncertainty there," he said.

Furness said adding to uncertainty is the way the virus spreads, something that could come down to luck. For example, if the variant becomes involved in a superspreader event, it will spread much faster than if it slowly trickles into the country through travelers who quarantine upon arrival.

"And that's when vaccinations start to matter. (Scarsin's) model is going to be making assumptions about all of these particular factors," he said. "But what models are good for doing is not telling us what's going to happen, but what could happen."

Furness said he believes schools will not open on Feb. 10.

"My gut tells me there's been too much travel, there's been too much selfishness, there's been too much carelessness and it doesn't take that much," he said. "If we do, I don't think they're going to stay open long because of the variant, because of the travel. I'd love to be wrong."



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