

'The window for action is right now': Epidemiologist on social distancing

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As the new coronavirus continues to spread, authorities around the world are encouraging people to limit their contact with others in an effort to stem the tide.

On Tuesday, for example, Ontario declared a state of emergency and announced 11 new cases of COVID-19, bringing the provincial total to 180. Alberta also declared a [public health emergency](#).

Ashleigh Tuite, an assistant professor in the epidemiology division of the University of Toronto's Dalla Lana School of Public Health, has worked with fellow U of T epidemiologist Professor David Fisman on mathematical models illustrating [the importance of "flattening the curve" to reduce the burden on the health-care system](#).

The disease-transmission models shouldn't be seen as exact predictions, but as guides to how countries can curb the number of cases and interrupt chains of transmission to make the virus's impact more manageable.

In an interview with U of T News, Tuite said the window for social distancing is narrow and stressed the need to take action before the outbreak gets out of hand.

Experts have mentioned a "turning point" or "golden moment" for social distancing. Can you explain what you mean by that, and have we acted in time?

The "golden moment" essentially refers to the calm before the storm. We know that the pandemic is coming and we have a period of time before exponential growth really takes off where we can take measures to slow COVID-19 transmission in the community. If we miss that window and don't act proactively, we may have to introduce far more restrictive measures to control the outbreak, as has been the experience in Italy.

In Ontario, the window for action is right now (or possibly last week).

It's too early to tell if we've reacted strongly or swiftly enough.

The school closures were an appropriate decision. It's become increasingly apparent that there is local transmission happening in the province and, with the return of travellers from March Break, we expect more cases. Each case acts as a "spark" that can potentially set off a chain of transmission. So proactively limiting social contacts (along with other [control measures](#)) will hopefully mitigate the spread and buy us the time we need to prepare and respond.

What are the signs that this is working or that we should be doing more?

We are going to learn by trial and error. It's hard to gauge the appropriate level of response and it will undoubtedly have to be dialed up and down, depending on what we see in terms of case numbers and hospitalizations.

The signs that this is working will be a health-care system that is not drowning, that is able to offer appropriate care to those who need it, and the absence of exponential growth in cases.

Unfortunately, we know that once the health-care system is overwhelmed—even if we implement stronger response measures immediately—there are going to be lags until we start seeing declines in cases. This occurs because a lot of the cases that appear in hospital will have been infected up to several weeks prior due to the lags between exposure, developing symptoms and severe disease.

Is there scientific consensus on whether asymptomatic people can spread the illness?

There seems to be consensus that there are a lot of undetected cases. Whether these cases are truly asymptomatic is unclear, although it does seem increasingly likely that there is a period of pre-symptomatic shedding of virus. A recent paper published in Science suggests that in the early stages of the pandemic, undocumented infections contributed substantially to transmission.

By now, social distancing has entered everyone's vocabulary. But can you explain the differences between distancing, self-quarantine and self-isolation?

Social distancing refers to maintaining a distance of two metres from others and avoiding large gatherings.

Self-isolation is the isolation of people infected with COVID-19, while self-quarantine refers to the isolation of people who have been exposed to a person infected with COVID-19.

The idea with self-quarantine is that, if an exposed person goes on to develop infection, they've already limited their contacts and this will limit onward transmission. It's especially important if we have asymptomatic or subclinical infections since we're less likely to detect these and self-isolation, which depends on recognizing a person is infected, is going to be less effective in these cases.

Some places that have community transmission are asking all citizens to act as if they have potentially been exposed to COVID-19. I think this is a helpful way to think about social distancing in general. If you were infected, how would you act to prevent infecting others? Try to adopt those behaviours regardless of whether you've been in contact with someone who has been infected and you'll help limit the spread.

What can we learn from countries that have responded to this crisis successfully and others, like Italy, that are struggling?

Proactive and decisive action makes a difference. Countries like South Korea, Singapore and Hong Kong have implemented very strong public health control measures, including increased testing and varying degrees of social distancing, and they are slowing transmission.

This doesn't mean that they don't continue to see cases—and it is a massive effort at great expense—but they've demonstrated that we have the tools we need to mitigate the epidemic.

Italy is an example of a country that had a more reactive response, waiting until their hospitals were starting to be overwhelmed before responding. They have now implemented very strong measures but that delay has certainly cost lives.

How will we know when to lift these social distancing measures and resume business as usual? What are the consequences of doing this too soon?

I think social distancing measures, at some level, are going to need to be in place for months, if not a year or two until we have a vaccine or the population has developed immunity. Once control measures are lifted, there's the potential for a resurgence in cases. We're effectively trying to slow the spread of COVID-19 and [social distancing](#) does that.

Do experts believe the changing of the seasons will affect the spread of the virus, and if so how?

This remains an open question. It's possible the warmer weather will attenuate spread, but if, like flu, that is the case, we expect that it will return in the fall with the return of cooler temperatures.

Provided by University of Toronto

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