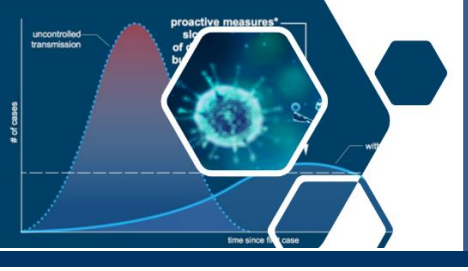

The evidence profiled below was selected from credible academic and grey literature sources and based on potential applicability to the Ontario Modelling Table.

CONFOUNDING FACTORS

Fighting fake news in the COVID-19 era: Policy insights from an equilibrium model
Policy Sciences. Sept 9, 2020

The COVID-19 crisis has revealed structural failures in governance and coordination on a global scale. With related policy interventions dependent on verifiable evidence, pandemics require governments to not only consider the input of experts but also ensure that scientific evidence is translated for public understanding. However, misinformation and 'fake news', including content shared through social media, compromise the efficacy of evidence-based policy interventions and undermine the credibility of scientific expertise with potentially longer-term consequences. The study introduces a formal mathematical model to examine factors influencing the behaviour of social media users when encountering fake news. The model illustrates that direct efforts by social media platforms and governments, along with informal pressure from social networks, can reduce the likelihood that users who encounter fake news embrace and further circulate it. This study has implications at a practical level for crisis response in politically fractious settings and at a theoretical level for research about post-truth and the construction of fact. *Read.*

COVID-19 Modelling

Rapid real-time tracking of non-pharmaceutical interventions (NPIs) and their association with SARS-CoV-2 positivity: The COVID-19 Pandemic Pulse Study
Clinical Infectious Diseases. September 2, 2020.

The study authors sampled 1,030 individuals in Maryland from June 17 to 28, 2020 to capture socio-demographically and geographically resolved information about NPI adoption, access to SARS-CoV-2 testing, and COVID-19 positivity. Ninety-two percent of the sample reported traveling for essential service, 66% visited family or friends, 18% used public transportation, and 26% reported attending at least one gathering of 10 or more people. Most participants practiced social distancing, but the likelihood of doing so increased with age. Eighty-one percent of those over 65 years reported always practicing social distancing at outdoor activities compared to 58% of those aged 18-24 years. Fifty-three percent reported always wearing a mask when visiting indoor and outdoor locations. Race and income were associated with self-reported mask use. Seventy-two percent of Blacks reported always wearing a mask outdoors compared to 44% of Whites. Sixty-two percent of those earning a household income less than $20,000/year reported always wearing a mask outdoors compared to 48% of those with household income greater than

$70,000/year. Many participants reported not being able to get a test and 53% of participants reported waiting more than three days to receive a test result. COVID-19 positivity was significantly more common among younger participants, those reporting more movement frequency, and those who adhered less strictly to social distancing practices. This study demonstrates the value of continued monitoring of NPI adoption, access to testing, and SARS-CoV-2 transmission. *Read.*

Impact of delays on effectiveness of contact tracing strategies for COVID-19: A modelling study
The Lancet Public Health. July 16, 2020.

The study authors evaluated the impact of delays and coverage proportions of contact tracing strategies using a stochastic mathematical model. They considered a two-step contact tracing process. The first step involved an index case acquiring an infection, then after a short latent period becoming infectious, and then possibly symptomatic. The second step involved tracing contacts of the index case. The authors calculated effective reproduction numbers for a particular contact tracing strategy for a population with physical distancing measures and various scenarios for isolation of index cases and tracing of their contacts. The analysis demonstrated that reducing testing delays is the most important factor for improving contact tracing effectiveness. If testing delay exceeds three days, then even the most efficient contact tracing strategy cannot reduce the R value below 1. Reducing the tracing delay also helps improve contact tracing effectiveness, but this effect declines with increased testing delay. The authors also found that mobile app-based contact tracing is much more effective than conventional tracing, but its effectiveness becomes reduced with lower coverage. Altogether, results indicate that access to testing should be a priority and that mobile app-based contact tracing might reduce delays in the contact tracing process. *Read.*

Cost Modelling

Projected health care resource needs for an effective response to COVID-19 in 73 low-income and middle-income countries: A modelling study
The Lancet Global Health. September 9, 2020.

This study estimates the cost of implementing nine pillars of preparedness and response plans in 73 low-income and middle-income countries. These nine pillars are: 1) country-level coordination, planning, and monitoring; 2) risk communication and community engagement; 3) surveillance, rapid-response teams, and case investigation; 4) points of entry and international travel and transport; 5) national laboratories; 6) infection prevention and control; 7) case management; 8) operational support and logistics; and, 9) maintaining essential health services and systems. Analyses considered case and death data from susceptible, exposed, infected, and recovered or removed (SEIR) models for each country, capital and one-time costs (e.g., upgrading laboratories for diagnostic testing), commodity costs (e.g., personal protection equipment and COVID-19 treatments), and human resource costs (e.g., salaries). The total cost

estimate for the COVID-19 response in these 73 countries would equate to $52.45 billion over four weeks. If transmission were to increase or decrease by 50%, the costs would be $61.92 billion and $33.08 billion, respectively. For cost breakdown, case management represented 54%, essential services represented 21%, rapid response and case investigation represented 14%, and infection prevention and control represented 9%. The results demonstrate that the cost of a COVID-19 response will escalate if transmission is not contained. *Read.*