

Reopening Ontario to a “New Normal”

Five Public Health Pillars for a Safe Return

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Introduction

As we begin to move towards what we hope is the flattening of the curve and a manageable rate of COVID-19 cases in our system, we can look ahead to reopening Ontario, recognizing the province will need time to prepare. Many countries and provinces have recently unveiled plans to reopen their societies and begin to loosen restrictions that have been in place for weeks and months. Our government has released [A Framework for Reopening our Province](#), which outlines the phased approach and criteria to lift restrictions. As parts of the world begin to transition to a “new normal,” we have a great deal to learn from their experience.

This Ontario Medical Association (OMA) document does not recommend specific criteria or phases for reopening Ontario or prescribe when and which types of public activities and spaces can be reopened. Instead it recommends the public health measures that must be in place as Ontario is gradually reopened. Reopening the province needs to occur in a phased and gradual manner to safely balance the need to:

- Restart the economy and allow individuals to resume their livelihoods and a “new normal,” and
- Ramp up deferred services to allow individuals with non-COVID-19 conditions to receive care

While simultaneously:

- Continuing to protect all individuals from risk of exposure of COVID-19, particularly vulnerable populations, and
- Preserving health-care system capacity to respond to another outbreak/surge, by maintaining surge capacity in hospitals, particularly acute and critical care capacity.

Ontario has thus far managed to avoid the anticipated surge of COVID-19 cases beyond our system capacity that has been experienced in other countries. This has been accomplished through the rigorous implementation of measures across both the health system and broader society, in particular, an unprecedented shutdown of the province.

The imposition of physical distancing to reduce the risk of exposure to Ontarians — through the closures of non-essential business, winding down of deferrable health care services and separation of families and friends — has been instrumental in preventing the predicted surge. Although these efforts have not come without loss and hardship to vulnerable populations, front-line health-care workers and the economic and mental health of all Ontarians, these efforts have helped us move towards flattening the curve.

However, without a vaccine or treatment, the risk of a surge is ever-present. As Ontario begins to plan for reopening, consideration must be given to the fact that significant work and loss have brought us to this point of readiness and continued efforts and measures are required to safely transition to a “new normal.”

What we know from the experience of other countries and the biology of the virus is that we should not rush. We cannot immediately return — by default — to the previous normal. Rather, we must make a transition to a “new normal” so that we are able to control our ability to lift and impose restrictions as needed and avoid a potential surge. As seen in other jurisdictions, lifting restrictions too early can result in a second wave of infections. For example, the premature lifting of restrictions in the Japanese island of Hokkaido resulted in an even bigger second wave, with an increase of 80 per cent in infections since the first lockdown was lifted less than a month before.¹

Until a vaccine or other treatment is developed, five public health pillars must be in place for Ontario to be ready to reopen and throughout all phases of reopening. These pillars are:

- 1** Continuing personal protective measures, including wearing masks, physical distancing, influenza vaccination and hygiene practices
- 2** Continuing necessary testing, with investment in and uptake of innovative testing solutions, as well as serology testing and immunity research
- 3** Capacity to trace all case contacts and to enforce and support contact isolation
- 4** Protection of all populations and targeted approaches to protecting children and vulnerable populations
- 5** Balancing public trust in and public compliance with the other public health pillars to safely reopen Ontario

These public health measures have been continuously implemented by other countries that have successfully flattened the curve, notably South Korea and Taiwan.² These public health measures are interdependent and a lapse in any one could potentially result in a resurgence of COVID-19 cases in our province.

This document presents recommendations to support the five public health pillars that must be in place for Ontario to be ready to reopen and throughout all phases of reopening, recognizing that elements of these pillars can be gradually relaxed to align with disease progression in the population. These recommendations are based on both evidence and opinion, consider the

experience of other jurisdictions, and are precautionary in nature, as per the precautionary principle (see Appendix A for a brief summary of the research methodology used to develop the recommendations).

It is acknowledged the individual impact of any one pillar or recommendation is unknown and, given the rapidly evolving nature of evidence related to COVID-19, the precautionary principle must be used to guide the implementation of these recommendations. Specific principles and guidance for ramping up deferred health care services while maintaining health-system surge capacity are being developed by the OMA.

Executive Summary: Key Recommendations to Support the Five Pillars

A summary of key recommendations to support each of the five public health pillars is set out below. Further details on each recommendation are provided in the relevant section of this paper.

1

Continuing personal protective measures, including wearing masks, physical distancing, influenza vaccination and hygiene practices

- Hygiene practices should continue to be supported for individuals in public spaces as they reopen.
- Physical distancing should be considered as a key element in risk assessments for determining when and which public businesses and services should be reopened.
- Non-medical and homemade masks — in tandem with physical distancing and hygiene practices, together with public education on proper use and safe practices — should be recommended and made available for all Ontarians in public spaces, as a personal protective measure to protect not only others, but also themselves.
- Ontario should prepare to encourage and safely administer greater numbers of influenza vaccinations to protect the general population and high-risk groups from the flu and thereby from an increased risk of infection of COVID-19, while preserving health-care system capacity.
- Workplace policies — informed by best practices, in accordance with provincial and local guidance, as well as legal, policy and ethical considerations — will need to be developed and implemented by employers to allow individuals to return to workplaces safely.
- Workplaces that are able to have their employees work from home are encouraged to continue to do so. Whenever possible, workplaces should minimize unnecessary in-person interaction and preserve physical distancing.
- Workplaces should give careful consideration to staff needs, including (though not limited to) child-care circumstances, transit options and the health and well-being of employees and their close contacts.

- Ongoing hygiene measures and establishing physical distancing on public transit — to the greatest extent possible, without limiting its use and acknowledging the challenges posed by transit infrastructure — will be key to enabling many people to return to the workplace and keep society functioning.

2

Continuing necessary testing, with investment in and uptake of innovative testing solutions, as well as serology testing and immunity research

- Sufficient testing capacity for all COVID-19 cases and vulnerable individuals must be in place before reopening can begin.
- Testing should continue to prioritize symptomatic essential workers and their families, as well as vulnerable populations, settings, and communities. Testing should allow for proactive asymptomatic testing of these individuals as capacity grows.
- Sufficient testing capacity must be sustainable in terms of laboratory capacity, equipment availability and procurement, health human resources, and Personal Protective Equipment (PPE) for testers — particularly as workers' and laboratories' non-COVID-19 work begins to resume and increased non-COVID-19 laboratory-based testing is required for deferred health services.
- Innovative solutions should be explored and adopted to produce more and faster results, including point-of-care testing, drive-through testing and test pooling.
- Those who test positive must continue to be isolated, with clearly communicated enforcement measures in place as well as supports for the health and well-being of those in isolation.
- Serological testing should be utilized — when available and accurate — to understand COVID-19 spread in the population.
- Serological testing should not be used to designate individuals as immune to COVID-19 until research has been undertaken to determine if past infection confers immunity, how long immunity lasts, the influence of various strains on immunity and what serological test results indicate about immunity.

3

Capacity to trace all case contacts and to enforce and support contact isolation

- Fast and thorough contact tracing is an essential measure for safe reopening. Ontario needs to bolster its contact tracing capacity to be able to meet its targets for safe reopening.
- Sufficient capacity likely will require a larger workforce of contact tracers, particularly when those currently redeployed to tracing return to their original work.
- Increased capacity should be enabled by innovative technology solutions, such as Bluetooth applications. However, these solutions must have sufficient privacy protection and be paired with significant efforts to reach majority population uptake

to be effective. These solutions can only contribute to — not replace — manual tracing.

- Public awareness and education campaigns should be developed to inform Ontarians about the critical need for systemic contact tracing.
- Individual privacy concerns must be balanced with broader public safety measures to protect individuals and to instill confidence and uptake of these supports.

4

Protection of all populations and targeted approaches to protecting children and vulnerable populations

- Continued protection of all Ontarians from risk of exposure to COVID-19 is fundamental.
- A nuanced approach should be taken when making decisions about reopening schools and child-care facilities, to protect children, teachers and parents.
- Consideration must be given to the unique needs of children, particularly their social and emotional development in a time of prolonged isolation.
- Vulnerable populations will need to move through the transition phases more slowly than the general public. They should be provided with specific guidance and social supports to facilitate this.
- Strategies to address the COVID-19 crisis in congregate living facilities, such as long-term care facilities and shelters, should be done in conjunction with key system stakeholders.

5

Balancing public trust in and public compliance with the other public health pillars to safely reopen Ontario

- Education and communication are key to achieve public trust in and public compliance with the other public health pillars.
- Engaging communities and businesses, as well as conducting public surveys and online polls, can help inform transition planning and ensure trust and compliance.

1

Continuing personal protective measures, including wearing masks, physical distancing, influenza vaccination and hygiene practices

As Ontario moves through the reopening phases and until a COVID-19 vaccine or treatment is developed, continuing personal protective measures — including wearing masks, physical distancing, influenza vaccination and hygiene practices — will be key to reducing the risk of transmission of the virus.^{3,4,5,6}

Hygiene Practices

Hygiene practices for individuals include hand washing, avoiding touching the face, respiratory etiquette (coughing and sneezing into a tissue/elbow) and disinfecting frequently used items and surfaces. As public spaces reopen, hygiene practices should continue to be supported for individuals. For example, access to hand washing facilities and hand sanitizer should be provided in spaces where feasible and commonly touched surfaces and items should be regularly disinfected.

Physical Distancing

Physical distancing practices for individuals include staying at least two metres (six feet) away from others whenever possible, limiting contact with others and staying home when sick.

Relaxation of physical distancing measures will occur over time, as the province transitions through phases (e.g., allowing for increased interpersonal contacts). However, physical distancing will continue to be fundamental to reducing the risk of transmission of the virus and should be considered a key element in risk assessments for reopening public businesses and services, i.e., the extent to which activities can be modified to ensure people remain two metres apart.⁷ Examples include separating tables in restaurants so people are at least two metres apart, not allowing people to sit face-to-face, erecting physical barriers to separate people and using floor markings to indicate where people should stand.⁸

Masks

The use of masks has perhaps been one of the most contentious aspects of the world's response to the pandemic, due to global shortages of masks for health-care workers and fluctuating guidance on the efficacy of their use for the general public. Initial guidance from the World Health Organization (WHO) and public health experts at the outset of the pandemic suggested masks should only be worn by those who were sick and those caring for them.

In Canada and Ontario, guidance on the use of non-medical or homemade masks by the general public continues to be framed as a way for infected people to protect others, i.e., masks should be worn by sick people to prevent transmitting the virus to others, especially when physical distancing cannot be maintained; but it has not been proven that they protect healthy persons wearing them.^{9,10,11,12}

However, new evidence has shown that masks — even homemade ones, to some (albeit lesser) degree — work to prevent infected people from making others sick and to protect healthy people from getting infected, especially when used in tandem with physical distancing and hygiene practices.⁸

Many countries have since recommended that members of the general public wear masks or face coverings when outside, with a significant number mandating that masks be worn during some public activities, such as being on transit and in stores.⁸ Most notably, countries that have successfully flattened the curve, including Taiwan and South Korea, have seen extensive mask-wearing by the public.⁸

While the evidence continues to be contended, the precautionary principle states that sometimes we should act “just in case”, even without definitive evidence. In a pandemic, “the search for perfect evidence may be the enemy of good policy.”¹³ The degree to which wearing non-medical or homemade masks is still contested. However, if these masks prevent even a limited amount of transmission of COVID-19, lives could be saved.¹³

In addition to being potentially effective, masks are also simple to use and cheap. As such, the use of non-medical and homemade masks— in tandem with physical distancing and hygiene practices and coupled with public education on proper utilization of PPE — should be recommended for all Ontarians in public spaces as a personal protective measure to protect not only others, but also themselves. Individual decisions about whether to follow this recommendation should be based on their assessment of the potential benefit versus potential risk/expense of wearing a mask.

To get people to wear masks, masks must be made available. Medical-grade masks should continue to be preserved as part of the PPE required for health-care and other essential workers to safely care for patients and protect Ontarians. The short supply of these vital masks continues to be felt by health-care workers in Ontario.

Meanwhile, other means to provide the general public with access to non-medical and homemade masks should be explored. In Belgium, for example, the federal government and states will provide every citizen with at least one standard fabric mask, free of charge, as well as two filters to put into masks that have been bought or made.¹⁴ In the Czech Republic, citizens mobilized within days to make and distribute homemade masks after the government issued a mandatory requirement for all individuals who leave their house to wear masks.¹⁵ France has promised to produce masks for all residents who wish to wear one.¹⁶

Public education on the proper and safe use of masks will continue to be important, as more people begin to wear them. In particular, it will be important to communicate that masks alone do not prevent transmission of the virus and that they must be worn while practising other protective measures, such as physical distancing and hygiene practices.

Flu Shots

As was recommended when COVID-19 began spreading, broader uptake of influenza vaccinations can yield many benefits and should be considered as reopening begins to coincide with the next flu season.^{17,18,19,20,21}

While flu shots do not confer direct benefit for or protection from COVID-19 infection, they can indirectly benefit individuals (particularly those in high-risk groups) by minimizing their risk of contracting the flu and going through a period of ill-health that could compromise their immune response should they also be exposed to COVID-19.^{17,20} Further, flu shots can keep individuals out of primary care and hospitals, where COVID-19 exposure may occur.

At a system level, reducing the high burden of illness and health-care utilization brought by the flu will be a significant advantage to preserve system capacity for continued catch-up on deferred services, ongoing health-care needs for patients with COVID-19 and necessary surge capacity for potential future outbreaks.¹⁷

Further, with significantly higher influenza vaccination rates in the population, there can be less uncertainty around a patient presenting with flu-like symptoms. Moreover, surveillance on the prevalence of flu-like symptoms can more easily predict surge risks of COVID-19, if significantly fewer people can contract the flu.^{17,20} For example, Australia and New Zealand, which are approaching their annual flu seasons, have begun offering flu vaccinations early, prioritizing health-care workers, seniors and those with underlying health conditions.¹⁷ As well, Australia's public communication about what individuals can do to protect themselves against COVID-19, recommends getting the flu shot.²¹

While Canada currently has a 20 per cent flu vaccination rate, expert opinion is that we should reach 80 per cent to achieve significant benefits.¹⁷ To accomplish this, Ontario should expand its public communication efforts to encourage flu shot uptake. The province must also communicate clearly to the public why flu shots are important — to protect their own health and as a way to help the health-care system fight COVID-19 (despite the fact that flu shots do not directly protect against COVID-19).

Ontario should also prepare a strategy for a greater number of individuals to safely receive the flu shot — in time for flu season and without putting themselves or others at risk from COVID-19. As cases of COVID-19 continue to occur, patients may be reluctant to receive a flu shot in a health-care setting. Strategies should therefore be developed to ensure physical distancing is possible for the administration of flu shots that does not compromise individuals' ability to receive a shot in a timely manner. Creative solutions recommended and utilized in other jurisdictions for COVID-19 testing to limit both patient-patient interaction and patient-health care-provider interaction — such as drive-through strategies as described in Part 3 — should be considered for flu shot administration.

While the flu season in Ontario is not imminent, the province must prepare early to ensure it has the necessary equipment and number of vaccinations ready to meet an increased demand with fewer available health system resources. South Africa, for example, has indicated that it

does not have a sufficient supply of flu vaccinations for its impending flu season and will therefore need to prioritize those who should be immunized.^{17,22}

Workplaces

One of the key drivers for reopening Ontario is to restart the economy and allow individuals to return to their jobs. Many workplaces have adapted to remote work and, when possible, that should continue. Remote work reduces the risk of transmission of the virus by minimizing unnecessary in-person interactions. This is almost certainly key to preventing a future surge.

Others may require a return to a physical workplace, especially those who work in industries or services where remote work is not possible and being at the physical workplace is essential to perform the work. Access to appropriate personal protective measures within such workplaces will be fundamental to ensure workers can return safely. Workplace policies — informed by best practices, in accordance with provincial and local guidance, as well as legal, policy and ethical considerations — will need to be developed and implemented by employers.

Some suggested best practices for workplaces during the pandemic are set out below. Specifics will vary by industry/sector and by what is practically feasible to implement in the workplace. These best practices may change in the future, based on disease progression.

Physical distancing

- Continue to work from home if you can do so effectively.^{5,7}
 - This particularly applies to those who need to take public transit or those in a vulnerable group, such as older people or those with co-morbidities.⁸
 - Employers should support this with work-from-home policies and flexible sick leaves that encourage people to stay home when sick.⁷
 - Flexible policies should also allow workers to stay home to care for a sick family member.²³
- Create staggered shifts and flexible schedules.²³
 - Flexible hours will allow workers who use public transportation to avoid rush hour.²⁴
- Increase use of email and teleconferencing.²⁴
- Structure entries and elevators to avoid crowding, including (where possible) floor markings to indicate two-metre distances.^{8,25}
- Avoid physical meetings and working face-to-face.⁸
 - Where face-to-face contact is essential, keep it to 15 minutes or less whenever possible²⁵ and use PPE when possible.
- Teams should be cohorted and kept as small as possible.²⁵
 - Teams should be kept as separate as possible and physically work only with each other (i.e., multiple departments should not meet physically together)
- Encourage staff to bring their own food where possible, and shift canteens/distributors to takeaway.²⁵
- Extend eating times to avoiding crowding.⁸

- Separate people as much as possible, including staff and clients. If possible, create physical barriers such as cubicles, Plexiglas windows, etc.^{8,24}

Symptomatic individuals/testing/contact tracing

- Symptomatic individuals should stay home if sick and isolate for 14 days, as per provincial and public health guidance. They should be allowed to return to work only when occupational health and safety criteria have been met (criteria to return may vary, based on the setting).²³
- Symptomatic individuals should immediately leave the workplace and get tested. Contacts should be monitored or quarantined.⁸
 - Work-related contacts should be kept track of, e.g., mark every interaction on a calendar.⁸
- Employers should not require workers to provide sick notes to validate illness or return to work, given the current strain on the health-care system.^{23,26,27}
- Policies and procedures should be implemented for workforce contact tracing following an employee's COVID-19-positive test result.²⁸

Personal protective measures

- All individuals going back to work should wear non-medical or homemade masks.⁷
 - Individuals who share common spaces should be required to wear masks at all times.
 - Special consideration may be required for individuals who are physically or psychologically unable to wear a mask for a prolonged period of time.
- Sufficient supplies of hand washing facilities (soap and water, hand washing stations) and hand sanitizer, tissues and no-touch disposal receptacles should be provided everywhere.^{8,26}
- Use PPE where available and appropriate.⁵
 - The type of PPE required and circumstances requiring its use will vary by industry/sector, depending on the nature of the work involved.
- Use posters and other reminders to encourage workers to practise handwashing and respiratory etiquette.^{23,25}

Disinfection and sanitation of workplace

- Regularly clean and disinfect common and high-traffic areas and surfaces, using standard cleaning products.^{23,25,28}
- Discourage workers from using co-workers' spaces and items; if it is necessary for them to do so, clean and disinfect these spaces and items before and after use.²⁶

Business travel

- The federal government has recommended that all Canadians avoid all non-essential travel and self-isolate for 14 days upon return from any travel outside Canada.²⁴
- Weigh the risks and benefits of any essential travel and consider postponing, cancelling or participating virtually.²⁴

Communication

- Employers should increase communications to staff and clients about the measures they are taking to prevent risk of exposure to COVID-19 in the work setting.²⁴

From a legal perspective, under the "general duty clause" of the *Occupational Health and Safety Act*, an employer has a general obligation to take reasonable precautions to protect the health and safety of its workers.²⁹ In the context of a pandemic, an employer can also expect workers to exercise their right to refuse unsafe work, based on what they perceive as inadequate protections.

During the severe acute respiratory syndrome (SARS) outbreak, airline employees who initiated work refusals were sent back to work by the Ministry of Labour in two cases. In these cases, the employers were credited for following the guidance of public health authorities in developing their workplace protection policies. Doing so helped support their position that they were providing adequate protections and a sufficiently safe workplace that did not justify work refusals.

For the duration of the COVID-19 pandemic, it is essential that employers implement appropriate protective measures by following the latest guidance of their municipal and provincial public health agencies, as well as the latest guidance of the Public Health Agency of Canada. Doing so will mitigate the success of work refusals. Workplaces that cannot have employees work from home, but also cannot reopen safely, may need to consider layoffs, closing, or other options.

Collecting personal information on and surveying employees on this level is unprecedented. Generally speaking, employers are not covered by a particular statute but rather common law. The Office of the Privacy Commissioner of Canada's guidelines on privacy at work indicate that an employer's need for information should be balanced with an employee's right to privacy.

For usual personal information, the privacy commissioner outlines what is needed to establish and maintain that balance:³⁰

- The employer should say what personal information it collects from employees, why it collects it and what it does with it.
- Collection, use or disclosure of personal information should normally be done only with an employee's knowledge and consent.
- The employer should only collect personal information that's necessary for its stated purpose and collect it by fair and lawful means.
- The employer should normally use or disclose personal information only for the purposes for which it is collected and keep it only as long as it's needed for those purposes, unless it has the employee's consent to do something else with it or is legally required to use or disclose it for other purposes.
- Employees' personal information must be accurate, complete and up to date.
- Employees should be able to access their personal information and be able to challenge the accuracy and completeness of it.

Presumably, the standard for personal information regarding health status and tracking location would be even higher.

Businesses may wish to consider the use of tracking and tracking technology within the workplace. Any use of a tracking app — either drawing on a provincial level app or implementing workplace tracking apps — would have to abide by the principles outlined in Part 3 of this paper. Further, employers who use temperature checks as a screening mechanism need to be mindful of the considerations outlined in Part 2 of this paper.

In addition to legal and policy considerations, ethical considerations around potential moral conflicts and choices must also be made by employers when planning for a potential return to the workplace. While vulnerable populations such as seniors or those who have co-morbidities should continue to be supported by key health-policy decisions, based on their high risk of infection, ethical considerations can arise, particularly for those individuals who fall outside these groups. Income and social inequities exist among different workers and even different members of the same workplace, for example, executives can drive themselves to the office, while support staff rely on public transit, exposing them to an increased risk of infection.³¹

Prolonged school and child-care closures may also mean more women than men need to stay at home, leading to further gender inequities in the workplace.³¹

Further, best practices to facilitate physical distancing in the office include limiting the number of individuals in the workplace and in-person meetings, which raises the question of the value of physically returning to the workplace in certain settings.³¹

Transit

Transit is key to enabling many people to return to the workplace and to keeping society functioning, especially for under-resourced populations.⁷

As restrictions are lifted, the use of public transport will rise, leading to an increased risk of crowding and creating a high-risk setting. Individuals will need to be encouraged to travel by their own means where possible (e.g., walking, biking, driving) to reserve public transport use for those who need it most and to avoid rush hour/peak travel periods.¹⁴

Employers can also protect workers by creating flexible/staggered hours, so workers relying on public transit to get to work can avoid rush hour.²⁵

Continued hygiene measures and establishing physical distancing on transit to the greatest extent possible, without limiting its use and acknowledging the challenges posed by transit infrastructure, will also be an important consideration.

Installing barriers in confined-space transportation, such as taxis, to separate passengers from cab drivers, may be required.⁸

A reasonable balance must be struck between minimizing unnecessary or avoidable transit use and ensuring transit remains available to those who need it most.

Key recommendations to support this pillar:

- Hygiene practices should continue to be supported for individuals in public spaces as they reopen.
- Physical distancing should be considered as a key element in risk assessments for determining when and which public businesses and services should be reopened.
- Non-medical and homemade masks — in tandem with physical distancing and hygiene practices, together with public education on proper use and safe practices — should be recommended and made available for all Ontarians in public spaces, as a personal protective measure to protect not only others, but also themselves.
- Ontario should prepare to encourage and safely administer greater numbers of influenza vaccinations to protect the general population and high-risk groups from the flu and from an increased risk of infection of COVID-19, while preserving health-care system capacity.
- Workplace policies — informed by best practices, in accordance with provincial and local guidance, as well as legal, policy and ethical considerations — will need to be developed and implemented by employers to allow individuals to return to workplaces safely.
- Workplaces that are able to have their employees work from home are encouraged to continue to do so. Whenever possible, workplaces should minimize unnecessary in-person interaction and preserve physical distancing.
- Workplaces should give careful consideration to staff needs, including (though not limited to) child-care circumstances, transit options and the health and well-being of employees and their close contacts.
- Ongoing hygiene measures and establishing physical distancing on public transit — to the greatest extent possible, without limiting its use and acknowledging the challenges posed by transit infrastructure — will be key to enabling many people to return to the workplace and keep society functioning.

2

Continuing necessary testing, with investment in and uptake of innovative testing solutions, as well as serology testing and immunity research

To proceed with a phased reopening of the economy and society, Ontario needs to:

- Have and be able to maintain a clear picture of the prevalence of COVID-19 in the population

- Observe and analyze how prevalence is affected by the reduction in pandemic-related restrictions, and
- Be able to see indications of potential future surges.

Further, research and investment in serological testing will be necessary to:

- Discover how COVID-19 has already spread throughout the province
- Understand the potential and limits of immunity after infection, and
- Revise reopening plans accordingly.

Diagnostic Testing

Capacity to quickly provide and process COVID-19 diagnostic tests is essential to begin and maintain less restrictive phases. This capacity must be sustainable. Point-of-care testing in particular can:

- Provide a safer testing experience for patients and health-care workers
- Contribute to a more accurate and timelier picture of COVID-19 prevalence
- Enable a more sustainable testing capacity, and
- Ease the strain on public health, university, hospital, and private laboratories and allow their non-COVID-19 work to begin to resume, without hindering testing efforts.

Capacity should provide access to diagnostic testing for all those with COVID-19 symptoms, close contacts¹, essential workers and vulnerable populations.^{32,3} Countries that have controlled their COVID-19 epidemics demonstrate that testing capacity should ideally be significant enough that three per cent or fewer cases test positive.³²

Vulnerable populations include seniors and those with underlying health conditions, as well as those living in vulnerable settings such as long-term care, retirement homes and other communal living spaces such as shelters. Vulnerable populations may also be those in potentially vulnerable communities such as rural and remote and First Nations settings.

Maintaining the desired capacity requires laboratory capacity, coupled with point-of-care testing availability, secure continual procurement of necessary testing equipment, a sufficient public health workforce to meet testing needs (especially as health care workers return to providing deferred care), and sufficient PPE for those conducting tests.

Further, capacity to conduct proactive, regular testing of asymptomatic essential workers, vulnerable populations and those in vulnerable settings and communities should be considered. This is currently being piloted in hospitals in the UK.³³ It has been found that testing health-care workers and other vulnerable populations weekly, whether or not they have symptoms, can reduce their contribution to transmission by 25-33 per cent, in addition to the reduction that results when an individual with symptoms self-isolates.³³

¹ Decisions around testing asymptomatic close contacts are discussed below.

Testing is an important measure on its own to indicate COVID-19 spread and prevalence and it is also a key component of contact tracing, which is discussed further in Part 3 of this paper. There are conflicting recommendations in the literature around the need to test asymptomatic close contacts of positive cases identified through contact tracing; however, approximately 45 per cent of infections come from asymptomatic individuals who do not yet know they are infected.^{34,32} Ideally, other public health measures outlined in this paper will contribute to lessening these individuals' contribution to transmission. However, not testing them as soon as possible means tracing of their own close contacts cannot begin until symptoms appear and more time has elapsed for the virus to spread amongst this network of contacts. Further, even the literature that recommends simply isolating contacts until symptoms appear recognizes that quickly testing and diagnosing these contacts will encourage their adherence to self-isolation.³³

The closeness of contacts falls along a spectrum of interaction and potential exposure, with some higher risk than others, as laid out by the [European Centre for Disease Prevention and Control](#).³⁵ Nuanced guidance around which contacts merit testing would be beneficial for contact tracers and other public health workers, and to ensure that all those who should be tested are being tested without overburdening testing capacity.

To be an enabling component of contact tracing overall, testing must be done in a manner that is accessible and fast, so that contact tracers know as soon as possible who are positive COVID-19 cases and start tracing, identifying, and isolating their close contacts. Innovative testing solutions should be considered and invested in to ensure that testing can occur in greater numbers and more quickly. These include point-of-care testing, drive-through testing, and test pooling. Further detail is outlined in Part 3 of this paper.

Innovative Testing Solutions

Point-of-care testing will be a critical enabler of the speed and reach necessary for effective contact tracing and such methods should be instituted and utilized as soon as possible. Ontario has already invested in one of the two point-of-care testing solutions approved in Canada³⁶ by purchasing just under one million test kits,³⁷ Ontario should expedite the uptake and spread of point-of-care testing in advance of reopening, as quick results will be even more important once individuals have fewer barriers to being in close contact with others.

Individuals should also feel safe seeking testing. Many individuals have indicated that a barrier to testing is not their fear of finding out whether they have COVID-19, but their fear of putting themselves in close proximity to many other individuals who do have it in an effort to find out.

Models such as drive-through testing (as developed in South Korea and utilized in many jurisdictions) help to limit patients' exposure to each other, limit testing workers' exposure to patients and instill patient comfort and confidence in the safety of being tested.^{32,38,39} For example, two hospital systems in Hamilton, Ontario have partnered with local public health and municipal supports to initiate a drive-through testing centre. It is operated by two local family health teams and staffed by primary care clinicians. Each test takes three-and-a-half minutes to

conduct and there is a parallel system for those who do not have access to a car or cannot drive.^{38,39} These drive-through centres are currently testing with traditional tests and patients are able to check their results online when they are available following laboratory testing. However, this system can become even more effective and efficient when point-of-care testing is spread throughout the province.

Test pooling has been an established practice for previous infection testing and it has been studied for COVID-19 in Germany, Austria, Israel and the United States.^{40,41,32} It has also been utilized for COVID-19 by public health authorities in the state of Nebraska. Test pooling involves pooling patients' samples, so that if a pool tests negative an entire group of patients can be cleared immediately. If a pool tests positive, each sample within that pool is tested.^{32,40,41} A German study indicated that this can increase their daily testing rate by approximately ten times without compromising the accuracy of results.^{32,40,41} Test pooling can be considered in Ontario as a means to dramatically increase timely laboratory-based testing capacity to complement the introduction of point-of-care testing.

In addition to these innovative solutions for diagnostic testing, temperature checks have been considered as a means of population monitoring without consuming testing supplies. However, these are not recommended as an adequate measure of COVID-19 status.⁸ Temperature checks only indicate those who are experiencing symptoms and specifically symptoms of fever, thereby neglecting those who are not yet symptomatic or experiencing other symptoms. Further, thermometers with sufficient sensitivity are unaffordable for population monitoring, particularly balanced against the ineffectiveness of temperature-testing as an indication of COVID-19 status.⁸

Given the nature of COVID-19 and infection rates across Ontario, it is arguable that temperature checks may be a reasonable screening mechanism in these circumstances. However, experts indicate employers wishing to conduct temperature checks for employees returning to work should be mindful of the following.

- Any checks should be conducted using the least intrusive methods available (e.g., non-contact infrared thermometers vs. contact thermometers).
- Qualified individuals would need to be available to administer the test and ensure that the test is conducted in a safe manner, such that there is no enhanced risk of employees being infected by each other or the test administrator.
- Advance written notice to workers of the temperature check requirement would need to be provided, including the means by which the check will be conducted and that the purpose (i.e., to promote a safe workplace and help reduce the spread of COVID-19).
- Medical advice may need to be obtained with respect to what body temperatures are of concern.
- Records of individuals who test within ordinary temperature ranges (as determined by a medical expert) should not be retained by the employer.
- Individuals who test at or above a level that concerns a medical expert should not be allowed access to the workplace, but rather be discreetly asked to leave the facility and to seek medical advice.

Isolation of Positive Cases

As is recommended currently, isolation of positive cases is an essential strategy for reducing the spread of COVID-19. Isolation of positive cases will become even more important as reopening begins and contact among individuals increases even gradually. To ensure individuals with COVID-19 safely isolate, Ontario should enforce self-isolation and support those in self-isolation.

Currently, Ontario's Chief Medical Officer of Health has recommended that local health officials utilize their authority under the *Health Protection and Promotion Act* to mandate and enforce self-isolation of positive cases.⁴² Enforcement so far in Canada has primarily involved telephone or in-person spot checks, with financial and imprisonment penalties for those who have broken isolation.⁴³ Therefore, there will need to be a sufficient work force to conduct such enforcement, particularly as reopening may make self-isolation more difficult.

Other enforcement options may also be worth considering. In South Korea, for example, each person in isolation is assigned a case officer who checks in twice a day and a mobile app notifies the officer if the contact breaks isolation.⁴⁴ In Hong Kong, GPS-enabled bracelets and wristbands with unique QR codes to be scanned by one's mobile device have been used to monitor individuals' maintenance of self-isolation.⁴⁵

Technological tools have already raised concerns of privacy and Ontario does not yet have evidence that it will require such strict measures. Ontario should have a clear enforcement system in place to begin reopening, but this system should be reviewed regularly to understand if stricter measures are necessary and merit exploration.

Information should also be clearly communicated to the public around who will need to self-isolate, for how long, the power of public health authorities to mandate such isolation and what enforcement and penalties may look like for individuals who do not follow their individual public health requirements. Again, this will be especially important for individuals as segments of society reopen, both to ensure they understand the importance of self-isolating and for employers to understand that they must respect an individual's requirement to self-isolate even if their workplace has resumed operations.

In parallel with enforcement, continued support for individuals in mandatory quarantine will also be vital to maintaining individuals' health and well-being and will likely contribute to an individual's ability to maintain isolation. Economic support and job protection should be continued for those unable to work during isolations, as well as social supports, technological supports (including ensured access to the Internet), mental health supports and essential needs supports.

The province should also establish supports for those requiring isolation who live in congregate settings, who are homeless, or who may be unsafe in their homes for prolonged periods of time, due to such circumstances as domestic violence. For example, Toronto's University Health

Network collaborated with Toronto Public Health, Inner City Health Associates, and Doctors Without Borders to establish the COVID-19 Recovery Site for homeless individuals with COVID-19 to be able to safely self-isolate.⁴⁶ Such facilities should be available in all communities that require them.

Serology Testing

Serology tests are used to identify whether people have been exposed to COVID-19 by looking at their immune response and identifying whether antibodies to the virus have been developed following infection. These differ from diagnostic tests, which indicate only the presence of viral material during infection.⁴⁷ According to Health Canada and the WHO, serological tests are not appropriate for early diagnosis of COVID-19, largely due to length of time required from the start of infection to develop antibodies.⁴⁸

Serological tests will be an important tool to understand how far COVID-19 has spread throughout the population and will help to inform immunity levels in Ontario. There is significant interest in the potential of these tests and the ability to indicate those who are safe to return to school, work, and the front lines of the pandemic. However, testing for immunity cannot yet be considered a means to indicate readiness for easing restrictions or accelerating reopening, given the ongoing research into immunity after COVID-19 infection, guidance from the WHO and experts^{49,33} and the need to abide by the precautionary principle.

No serological tests have yet been approved for use in Canada,⁴⁸ but there are three types in development and/or available in other jurisdictions.⁴⁷ These include point-of-care Rapid Diagnostic Tests that can indicate in 10-30 minutes if a person has antibodies against COVID-19, but not how many or if they are sufficient for future infection.

There are lab-based tests —enzyme-linked immunosorbent assays (ELISA) — which can indicate in one to five hours if antibodies are present as well as how many. However, these cannot conclude a person’s immunity.

A third type of serological test is the neutralization assay tests that, in three to five days, indicate whether a person has antibodies and if those antibodies are able to protect against future infection. However, these do not indicate how long someone may be immune.⁴⁷

Serological tests therefore provide different types of results and conclusions about a person’s history with and potential future response to COVID-19. Each of these may have a utility in informing Ontario’s future and long-term response to COVID-19, but this utility is not yet fully understood.⁴⁹

While these tests are being developed, their use must therefore be preceded by evidence to inform the meaning of their results. It is currently unknown how long antibodies remain detectable, the relationship between presence of antibodies and immunity to future infection and how long a patient with antibodies is protected from future infection.⁴⁸ Further, serological tests — even with high sensitivity — will include error.

Until this information is known, utilizing serological testing to confer designations of immunity through tools such as immunity passports can put individuals at risk by falsely designating individuals as immune simply because antibodies are present or because they were immune for a limited period of time. Immunity passports may also restrict societal access to individuals who falsely test negative if immunity is even confirmed. Research will be essential to determining whether reopening should be more cautious if immunity after infection is limited and/or short-lived, or whether reopening can be accelerated with confidence in immunity. An understanding of COVID-19 immunity will be an incredibly important tool for understanding necessary system responses and system capacity needed for potential future outbreaks in the long term. Therefore, investment in related research is highly recommended for long-term economic and societal reopening.

When that evidence becomes available and once serological tests are approved for research and surveillance purposes in Canada, they should be utilized to determine how much COVID-19 spread throughout Ontario communities that was unknown as a result of prioritizing limited testing resources.

Key recommendations to support this pillar:

- Sufficient testing capacity for all COVID-19 cases and vulnerable individuals must be in place before reopening can begin.
- Testing should continue to prioritize symptomatic essential workers and their families, as well as vulnerable populations, settings, and communities. Testing should allow for proactive asymptomatic testing of these individuals as capacity grows.
- Sufficient testing capacity must be sustainable in terms of laboratory capacity, equipment availability and procurement, health human resources, and PPE for testers — particularly as workers' and laboratories' non-COVID-19 work begins to resume and increased non-COVID-19 laboratory-based testing is required for deferred health services.
- Innovative solutions should be explored and adopted to produce more and faster results, including point-of-care testing, drive-through testing and test pooling.
- Those who test positive must continue to be isolated, with clearly communicated enforcement measures in place as well as supports for the health and well-being of those in isolation.
- Serological testing should be utilized — when available and accurate — to understand COVID-19 spread in the population.
- Serological testing should not be used to designate individuals as immune to COVID-19 until research has been undertaken to determine if past infection confers immunity, how long immunity lasts, the influence of various strains on immunity and what serological test results indicate about immunity.

Capacity to trace all case contacts and to enforce and support contact isolation

Contact tracing can be one of the most effective ways to reduce COVID-19 transmission and enable a gradual reopening of society. Instead of quarantining all but the most essential workers, rigorous contact tracing can facilitate safe reopening by identifying those who may be at risk through contact with someone who has COVID-19 and isolating the contacts to minimize spread from an infected individual.^{50,32}

Close contacts have been defined by the European Centre for Disease Prevention and Control as primarily those who have had face-to-face contact with a COVID-19 case within two metres for more than 15 minutes, with [further detailed guidance](#) to help inform tracers.³⁵

The Ontario government has committed itself to contact tracing as a public health measure, and one of its criteria for phasing out restrictions is that 90 per cent of case contacts can be traced within one day.⁵¹ This level of contacts reached and the quick turnaround time are important components of rigorous contact tracing in limiting the amount of time potentially infectious individuals unknowingly infect others. These targets are also supported in evidence as sufficient for the effectiveness of contact tracing to meaningfully reduce COVID-19 transmission.³²

Contact tracing is an essential measure for the province to continue bringing down case levels as it reopens. In addition, reopening should not begin until case levels are such that thorough contact tracing is feasible.³² Currently, the number of cases is such that Ontario does not have a sufficient contact tracing workforce to meet effective tracing targets. There are ways to increase that capacity, but current quarantine measures should continue until Ontario has sufficient tracing capacity.

Further, as described above, testing capacity must simultaneously be available to contribute to contact tracing effectiveness and for contacts that are traced who require testing. There are two key strategies Ontario can use to increase tracing capacity: increasing the public health workforce and adopting technological enablers.

Public Health Workforce

Different jurisdictions have indicated different numbers of tracers required for their populations, as well as rates at which tracers could trace a case. In Wuhan, for example, a team of five tracers could trace all of a case's contacts in one day, a similar target to Ontario's.^{32,50} Wuhan employed 9,000 tracers for its population of 11 million. However, as discussed below, China has access to significantly more tracking data than Ontario tracers do.^{32,50}

Massachusetts is hiring 1,000 new tracers for its population of seven million. Qualifications include a high school or equivalent education, official language speaking and writing ability and the ability to show empathy to distressed individuals.^{32,50}

If it is not already doing so, Ontario should determine how many tracers will be necessary to meet its contact tracing targets and hire and train new tracers to meet this need in advance of reopening. While during the pandemic many individuals have volunteered to contribute to contact tracing,⁵² once reopening occurs this workforce may decline. Further, the current workforce is not meeting the necessary target of 90 per cent of contacts traced in one day.

Technology Enablers

In addition to hiring tracers, technology can support the public health workforce in meeting these targets by acting as a force multiplier.⁵⁰

Contact tracing is currently done manually, involving interviews with cases to determine where they have been, who they may have been in contact with and for how long each of those contacts lasted.⁵⁰ This is time consuming, relies significantly on individuals' memories in a stressful time and requires tracers to track down contacts the individual does not necessarily know or have contact information for.³²

Many technology enablers have been utilized or proposed in other jurisdictions to speed up the process and fill gaps in contact identification. Numerous countries, including South Korea, Taiwan, and China, are utilizing GPS data, credit card data, transit data and CCTV to identify case contacts.^{32,50} While these methods ensure that data is available for any individual as needed, there are significant hurdles to this method for Ontario, including privacy concerns among the public and the feasibility of integrating various data sources.

Ontario has indicated its interest in utilizing a mobile phone app that relies on Bluetooth technology to support contact tracing. Bluetooth apps are able to identify when two users are within close contact for longer than a baseline amount of time and indicate to app users when someone they have been in prolonged, close contact with has been diagnosed with COVID-19.

Experts agree that Bluetooth apps have the potential to be incredibly effective and many other jurisdictions, including Singapore, Iceland and Poland utilize such apps. Alberta is the first Canadian province to launch a contact tracing app.^{32,50,53,54}

Apple and Google are also currently collaborating to improve compatibility among their systems and applications to support contact tracing apps, with this work expected to be completed in May. In the following months, they plan to release their own contact tracing app.^{32,50,55}

However, experiences in these and other jurisdictions demonstrate that apps are only as effective as their uptake. According to the WHO, approximately 40-70 per cent of the population would need to be actively using these apps for them to yield meaningful results.³ Singapore, for example, has seen 20 per cent of its population download the app, with fewer still consistently utilizing it (i.e., setting up the app, keeping it running and keeping Bluetooth enabled on one's device at all times).³²

Ontario should continue to pursue Bluetooth apps to support manual contact tracing, but developing the technology will need to be paired with strategies to encourage sufficient uptake of downloading the app, utilizing it and consistently allowing it to run. This will require public communication — which could be aided by incentives — to initiate app downloads, and sustained communication to remind users to utilize the app and keep their Bluetooth enabled.

Ottawa Public Health has already indicated it is planning to work with a third-party developer to develop a contact tracing app.⁵⁶ However, evidence indicates that such apps should be instituted across a larger area to be most effective.⁵⁰ The Ontario government should therefore quickly begin to plan for the use of a contact tracing app to ensure that a consistent system is available as different regions are ready for it.

In addition to Bluetooth-based applications, GPS-based or hybrid Bluetooth and GPS-based applications are also being explored and recommended by some.³² While Bluetooth applications only track information related to instances of prolonged, close contacts with other app users and who those users were, GPS-based applications track location-data on where those contacts took place.^{32,57} GPS-based applications therefore entail greater privacy concerns related to real-time surveillance. Further, Apple and Google have stated that their collaborative technology will not support applications that utilize location data.⁵⁷ Given the feasibility of Bluetooth-based technology, while protecting privacy more thoroughly, an Ontario contact tracing app should use Bluetooth-based technology rather than GPS to minimize real-time surveillance.

An alternative technology enabler that has been developed is QR codes for individuals to effectively track their own movement in public spaces.³² Through this mechanism, users would have a mobile application that would scan a QR code upon entering various public places, such as a grocery store or a pharmacy. If the user becomes infected, there is a timestamped map of where they have been. As with a Bluetooth app, uptake is key to effectiveness, with mandatory rather than voluntary usage yielding higher uptake and effectiveness.³²

For each technology option, manual contact tracing is still required either to fill in gaps for those cases or contacts not utilizing a tracing app and to let contacts know how they should proceed.^{32,50} Further, strategies for digital contact tracing must entail training for contact tracers on how to effectively utilize this new technology.

Privacy

Privacy is a significant concern for many in relation to contact tracing technology. Privacy must be thoroughly considered to protect individuals and also to instill confidence and promote uptake of technology. Privacy concerns should also be tempered by the fact that privacy of an infected individual in a public health emergency is balanced against their clear public health risk to those around them.^{32,58} Technologies should nonetheless prioritize privacy and be planned with the following in mind.

- Limit data gathered to only what is needed.³²

- For a positive case: Who they were in contact with and for how long, as well as where they went if using GPS-based technology.
- For a contact of that case: That there was a contact, for how long and where, if using GPS-based technology.
- An individual's data should only be available and accessible as far back as the length of time in which contacts would be traced, i.e., the three previous weeks. Data should be automatically deleted when it has passed this point.³²
- There should be a clearly defined exit strategy built in from the outset, guaranteeing that once it is determined that contact tracing technology is no longer needed, all data will be deleted and outlining what will inform that determination.^{59,32}
- Jurisdictions should attempt to minimize the number of circulating apps and thus the potential for data misuse or breach. To the extent possible, there should be one app per province and these apps should be able to speak to one another.
- Data trusts should be considered as an intervening level between app vendors and government/government agents. These trusts should be comprised of various stakeholders and should be involved in decision-making with respect to data collection, use, disclosure and destruction.
- It is important to be cautious about how data is collected and handled, who stores the data and who has access.⁵⁹
- Explicit limits should be placed on the scope of collection and robust data anonymization should be developed.⁵⁹
- Consider that anonymized data can be re-identified.⁵⁹
- Be transparent with the public about what data is being collected, how long it exists, what it is used for, who has access to it and how they can consent or refuse consent to their data.³² Explore ways to automatically expunge data.

Amnesty International, along with over 100 other organizations that focus on privacy, technology and society, issued a statement calling for limits on app-based COVID-19 surveillance.⁶⁰ Eight conditions were developed with respect to government tracing projects.

1. Surveillance would have to be "lawful, necessary and proportionate."
2. Extensions of monitoring and surveillance would have to have sunset clauses.
3. The use of data would have to be limited to COVID-19 purposes.
4. Data security and anonymity would have to be protected and shown to be protected based on evidence.
5. Digital surveillance would have to address the risk of exacerbating discrimination and marginalization.
6. Any sharing of data with third parties would have to be defined in law.
7. There would have to be safeguards against abuse and the rights of citizens to respond to abuses.
8. "Meaningful participation" by all "relevant stakeholders" would be required, including that of public health experts and marginalized groups.

The following additional conditions should be considered for businesses thinking of using tracking apps in their workplaces.

- The use of data would have to be limited to COVID-19 purposes and data would be immediately deleted when no longer needed.
- Any sharing of data with third parties would have to be defined and approved by the employee.
- A data committee should be established that includes staff as stakeholders.

Isolation of Contacts

Isolation of case contacts is a vital component of contact tracing. As with cases that test positive, isolation of cases and contacts should be both enforced and those in isolation should be supported.³²

Enforcement is essential to ensure that case contacts maintain their isolation, particularly as a gradually reopened society makes self-isolation more difficult. As with testing, mandated isolation and enforcement measures must be clearly communicated to the public to inform individuals and employers of the importance of following self-isolation.

Contacts in self-isolation must also continue to have access to economic support and job security protection, as well as social and mental health supports. For more details on isolation of contacts, see *Isolation of Positive Cases* in Part 2 of this paper.

Key recommendations to support this pillar:

- Fast and thorough contact tracing is an essential measure for safe reopening. Ontario needs to bolster its contact tracing capacity to be able to meet its targets for safe reopening.
- Sufficient capacity likely will require a larger workforce of contact tracers, particularly when those currently redeployed to tracing return to their original work.
- Increased capacity should be enabled by innovative technology solutions, such as Bluetooth applications. However, these solutions must have sufficient privacy protection and be paired with significant efforts to reach majority population uptake to be effective. These solutions can only contribute to — not replace — manual tracing.
- Public awareness and education campaigns should be developed to inform Ontarians about the critical need for systemic contact tracing.
- Individual privacy concerns must be balanced with broader public safety measures to protect individuals and to instill confidence and uptake of these supports.

Protection of all populations and targeted approaches to protecting children and vulnerable populations

The continued protection of all Ontarians from risk of exposure to COVID-19 is fundamental. Two populations on opposite ends of the risk spectrum that raise unique concerns and will require targeted approaches are: children and vulnerable populations.

Children

Many countries have included reopening schools and child-care facilities as part of their phased plans to lift restrictions. In addition to the importance of continuing the education of children (especially those with learning difficulties and special needs who require focused teaching), reopening schools and child-care facilities will be necessary for many parents to return to the workplace, and in turn, restart the economy.

However, a nuanced approach should be taken when making decisions about reopening schools and child-care facilities, recognizing that a mandated approach — i.e., all kids back to school — will not protect all children, teachers and parents. While most children will generally be at a lower risk of developing severe symptoms of the virus, some kids who have underlying health conditions, as well as some teachers and staff, may be at higher risk. Parents may also be at high risk if their children get infected and bring the disease at home.⁷

As such, options should be provided for parents who choose to not let their children return to school, especially if those children or the family members they reside with are in high-risk groups. This will require the offering of online learning for children who are unable to return when schools reopen.^{61,62}

Further, while physical distancing is fundamental to reducing the risk of transmission of the virus and a future surge, consideration must be given to the unique needs of children, particularly their social and emotional development in a time of prolonged isolation.

Establishing social bubbles with close family/friends to expand social contact with a limited and exclusive group of people has been proposed around the world.⁶³ This concept is designed to maintain the rigour of physical distancing by keeping the bubble small and exclusive to limit risk of transmission, while also allowing for increased social interaction to support the mental health and well-being of individuals and reduce social isolation. The concept originated in New Zealand, which has begun its reopening. Residents must stay at home but can expand their bubble to reconnect with close family, bring in caregivers, or support isolated people.⁶⁴ The bubble must be kept exclusive and protected and anyone within the bubble who feels unwell should self-isolate. New Brunswick is the first Canadian province to allow for the establishment of a two-household bubble, in which two households that mutually agree can physically interact.⁶⁵

While the ability to test and contact trace people, as well as a data and risk analysis, needs to be in place before recommendations can be made on expanding socialization, the concept of forming bubbles could be a consideration for children.⁶³ For example, establishing small and

exclusive playgroups for children could help support their social development during this time of broader physical distancing.⁶⁶ This would allow children to play and interact with their friends, while keeping the risk of transmission between and outside households minimal.

Vulnerable populations

Vulnerable individuals, namely seniors and those with underlying health conditions, are at an increased risk of contracting COVID-19.

While plans to reopen the province will be issued to all individuals, specific consideration and guidance must be provided to these vulnerable individuals, outlining what is recommended in each phase.⁶⁷ In particular, these vulnerable populations will need to move through the transition phases more slowly than the general public. This means that while restrictions are gradually lifted, vulnerable populations will need to continue to exercise caution by continuing to stay home, minimizing their risk to exposure and resuming non-essential public interactions in later phases (with the continued practice of physical distancing).^{67,28}

In addition, individuals who live with vulnerable residents will also need to exercise caution and be aware that by resuming regular activities in public, such as going to work, they may carry the virus back home. As such, these individuals should take precautions to isolate from vulnerable residents.²⁸

However, this means that adequate social supports will need to be provided so vulnerable individuals can continue to comply with restrictions, including the ability to receive medicine, food and testing.⁶

For other vulnerable populations, such as those living in long-term care facilities, retirement homes and shelters, government strategies to address the unique COVID-19 crises in these settings and for these populations should continue in consultation with relevant stakeholders.

For example, the City of Toronto has identified housing security as a public health strategy for COVID-19, given the importance of self-isolation and physical distancing and in addition to the myriad other health and well-being benefits afforded by secure housing. As a result, it has partnered with a local hospital network and a local property developer to create access to housing for those experiencing homelessness during COVID-19.⁶⁸ This is in addition to the aforementioned centres the city has established in partnership for individuals to recover from COVID-19 or maintain self-isolation while awaiting test results.^{46,68} This strategy incorporates assistance for these individuals in transitioning to short-term housing, as well as securing long-term housing.

The City of Toronto is also providing supports for those experiencing homelessness who have not yet transitioned to housing, including creating sanitation and washroom locations across the city as access to these has been impacted by COVID-19-related closures.⁶⁹ Recognizing the continued risk of COVID-19 to vulnerable populations such as those experiencing homelessness, even as the prevalence lessens amongst the general population, will be necessary to safely and equitably continue responding to COVID-19 and begin reopening society.

Key recommendations to support this pillar:

- Continued protection of all Ontarians from risk of exposure to COVID-19 is fundamental.
- A nuanced approach should be taken when making decisions about reopening schools and child-care facilities, to protect children, teachers and parents.
- Consideration must be given to the unique needs of children, particularly their social and emotional development in a time of prolonged isolation.
- Vulnerable populations will need to move through the transition phases more slowly than the general public. They should be provided with specific guidance and social supports to facilitate this.
- Strategies to address the COVID-19 crisis in congregate living facilities, such as long-term care facilities and shelters, should be done in conjunction with key system stakeholders.

5

Balancing public trust in a public compliance with the other public health pillars to safely reopen Ontario

As the province begins to reopen, the public needs to have trust that the aforementioned public health measures are in place for them to safely resume some aspects of public life. However, this must be balanced with the need to ensure the public continues to comply with the measures for it to remain safe to lift restrictions. Education and communication are key to achieve this balance.

Communication should be simple, timely, effective, evidence-based and transparent to build public trust.³ As restrictions are lifted, communication and education should be provided on:

- The triggers being used to loosen or re-introduce restrictions and move through phases, including emphasizing the possibility that within a transition phase, restrictions may be relaxed and enforced repeatedly to respond to a resurgence³
- How to comply with the public health measures in place and protect yourself,⁷ and
- The risks and protective measures that can be expected from businesses and other community members.⁷

For example, in South Korea, emergency alert texts are sent from officials to residents, including regular reminders and instructions on physical distancing, hand washing, coughing etiquette and details on exact locations and movements of COVID-19-positive people.⁷⁰ While getting the right message across is crucial, delivering it in the right and timely way is just as important. The more effective communication and education can be in ensuring compliance

with public health measures, the less the system will need to resort to stricter enforcement such as fines and penalties.

Engaging the community and businesses to inform decisions on reopening and the measures that are needed in place is also crucial to ensure trust and compliance.⁷ Social and behavioural insights can be highly valuable for transition planning. Surveys and online polls can help gather public knowledge and risk perceptions, including acceptance of restrictions, mental and physical health, behaviours, information needs and misperceptions.³ This information can, in turn, help system leaders plan transitions by anticipating public reaction, testing measures and ensuring the public is ready to comply with new measures and transitions.³

Key recommendations to support this pillar:

- Education and communication are key to achieve public trust in and public compliance with the other public health pillars.
- Engaging communities and businesses, as well as conducting public surveys and online polls, can help inform transition planning and ensure trust and compliance.

Conclusion

As Ontario moves forward on its *Framework for Reopening our Province*, the five pillars identified in this paper will be essential to ensure the province is ready to reopen safely. It will be important to utilize these measures in concert, as each supports and enables the others. However, given the high risk of subsequent outbreaks and waves of the virus, instituting these pillars cannot be viewed as a licence to accelerate reopening — which should remain phased and gradual — and these pillars should be maintained until a vaccine or treatment is developed. There also needs to be both willingness and capacity to lift and re-impose restrictions throughout the phases of return.

Readiness to return will vary by individuals and communities, who will move through the phases of reopening at different paces. The establishment of these pillars must recognize potential additional needs of those that are particularly vulnerable to COVID-19 or vulnerable to its economic and societal impacts.

These pillars have been demonstratively effective in other jurisdictions and/or in the rapidly evolving scientific literature and are public health measures Ontario should use throughout its phased approach. However, they are not exhaustive of all available measures and policy tools for mitigating future outbreaks. Federal and provincial travel restrictions and travel-related isolation directives, for example, have proven essential tools in flattening Ontario's curve, and their continuation or modification may be important components of safe reopening. Public health measures must be supported by key economic and social policy actions to ensure the health and well-being of individuals and communities are protected as we move gradually towards a "new normal."

Appendix A: Research Methodology

These recommendations were developed based on research conducted by the OMA's Research and Environmental Scanning department. The search identified 140 unique sources and this was augmented with targeted searches for evidence related to identified priorities.

Scholarly sources were utilized as available. However, given the novel nature of COVID-19, grey literature was the primary source of evidence available, particularly reports and guidance issued by national and international health organizations and centres for health research, with support from media sources. These were reviewed for their relevance in terms of public health measures utilized by other jurisdictions and/or proposed by experts and evaluated for their applicability to the Ontario context. Seventy sources were identified for inclusion accordingly.

The authors attempted to discuss measures that are recommended in Ontario, as well as those that have been widely used or proposed elsewhere but are not recommended for the Ontario context.

Evidence was reviewed as it was available between April 17 and May 1, 2020. Given the rapidly changing nature of evidence related to COVID-19, information may become available that affects the applicability or expected effectiveness of these recommendations. Further, while these recommendations are based on implemented experience and/or expert advice, the individual impact of these proposed measures is as yet unknown and the precautionary principle must be used to guide the implementation of these recommendations.

Endnotes

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