



Office of the Commissioner
Community and Health Services Department

MEMORANDUM

To: Regional Chair Emmerson and Members of Regional Council

From: Katherine Chislett, Commissioner of Community and Health Services
Dr. Karim Kurji, Medical Officer of Health

Date: April 29, 2020

Re: Public Health Emergency Response to COVID-19 Global Pandemic

This memorandum provides an update on the work Public Health is doing to manage the COVID-19 Global Pandemic in York Region.

On January 23, 2020, the York Region Public Health Emergency Operation Centre was activated

The Public Health Emergency Operation Centre was activated at the direction of the Medical Officer of Health to prepare for and respond to COVID-19. The Health Emergency Operation Centre directs its efforts and resources toward the public health emergency response.

Public health is part of a system which guides the response. This system includes International, Federal, Provincial and Regional tables which guide mandates and directives for the response. Public health works closely with the Ministry of Health to manage and operationalize provincial policy and public health measures.

There are four key strategies for managing the COVID-19 emergency response: case and contact management, outbreak management, assessment centre testing and physical distancing measures

Since the beginning of this emergency, Public Health's focus and immediate actions have been on protecting the public. Attachment 1 details the four key strategies that have been implemented to manage the emergency response:

1. Case and contact management of confirmed and probable cases: In alignment with Ministry of Health directives, these activities focus on case investigations to understand the source of infection for confirmed COVID-19 cases and to identify individuals who

were exposed to cases. These close contacts are followed up and asked to self-isolate. This is often referred to as the “containment strategy” and is the proven way of controlling outbreaks

2. Outbreak management: Ill residents and staff are tested and control measures are implemented to prevent further spread of the illness.
3. Assessment centre testing: In York Region there are three COVID-19 assessment centres. The York Region Emergency Operations Centre liaises with each hospital to follow up on positive results and to send more people for testing.
4. Physical distancing: Physical distancing is a relatively new strategy implemented globally to reduce the spread of the illness. Communication and education was implemented very early in the pandemic as a measure to help prevent person to person transmission.

Region’s hospitals operate assessment centers, providing screening and are testing approximately 300 residents a day who present with symptoms of COVID

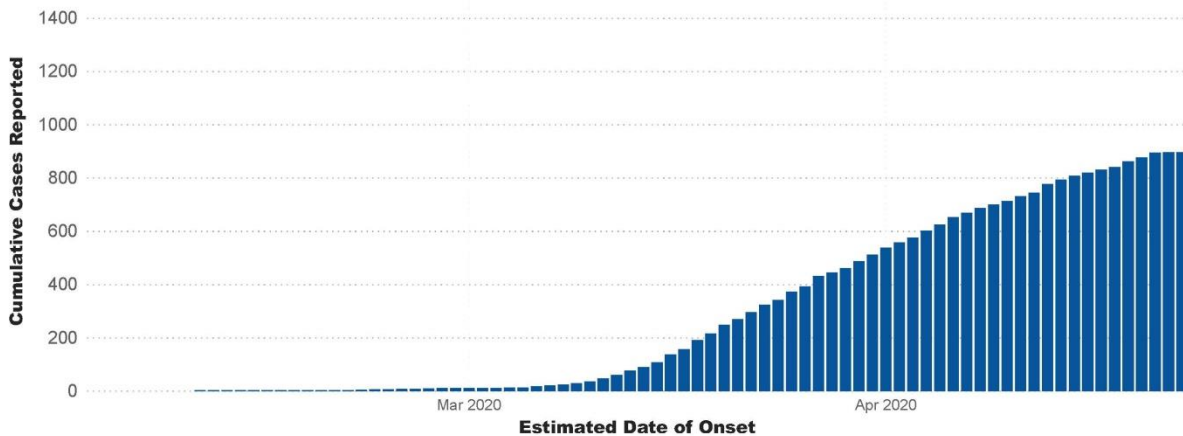
The three COVID-19 assessment centres in York Region are located at [Mackenzie Health](#), [Markham-Stouffville Hospital](#) and [Southlake Regional Health Centre](#). Each hospital manages their own assessment centres and screening criteria varies between centres. Combined, the three centres are testing approximately 300 cases per day.

Public Health liaises with the assessment centres to influence the relaxation of criteria used by the hospitals and to identify the difficulties faced by different groups in accessing testing. Public Health is also responsible for communicating results of testing to clients. In addition, clients may also directly access their test results through the on-line portal established by the Ministry of Health.

The cumulative number of confirmed COVID-19 cases in the Region continues to increase

The cumulative number of cases in the broader community, shown in Figure 1, has continued to increase, with approximately 1,448 cases confirmed as of April 28, 2020.

Figure 1
Cases in the Broader Community



Of these 1,448 cases 991 are from local transmission and 457 are from institutional outbreaks and the intended goal is see a plateau, with a decline in day-over day case increases.

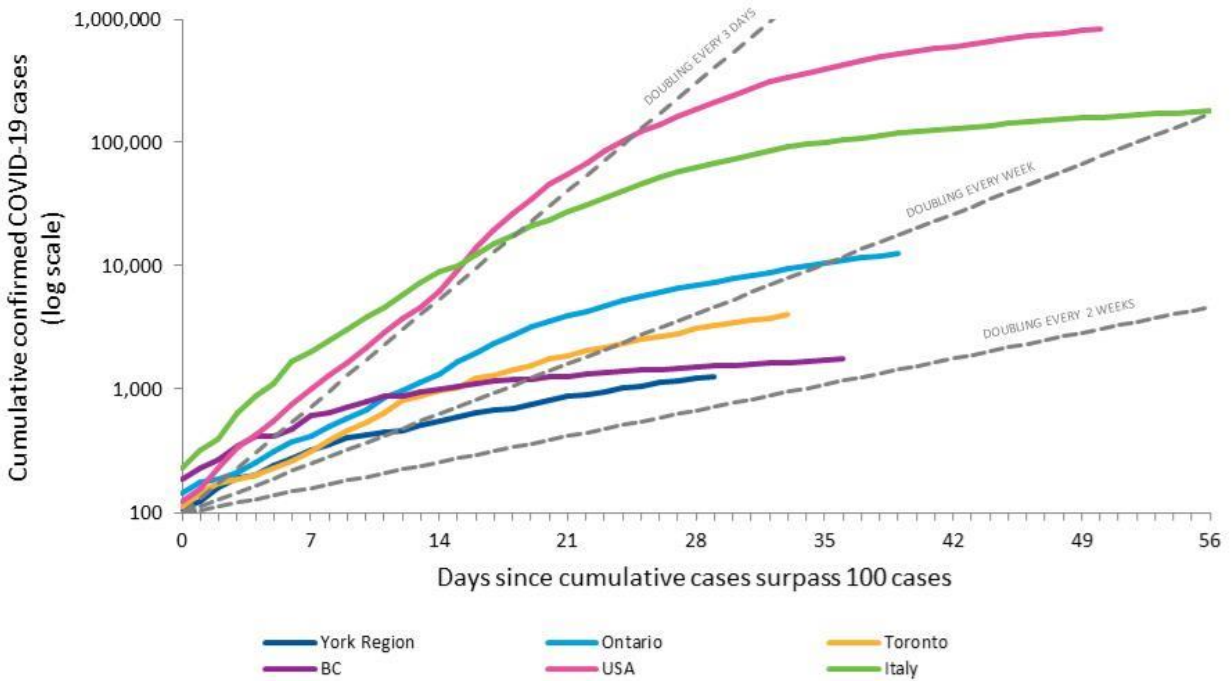
Information about the number of cumulative cases in the Region is shared with residents through the Region’s web-site and regular briefings. Providing in-depth information ensures transparency about the current challenges that the Region faces and where there has been progress towards flattening the curve for COVID-19.

Based on data to date, the slope of York Region’s curve is becoming shallower showing a slower growth of cases over time

The current York Region doubling time is slightly higher than 14 days. Doubling time refers to the amount of time (i.e. the number of days or weeks) it takes for the total number of cases to double. A higher doubling time means that the epidemic is spreading more slowly. Ideally, the doubling time should increase over time as the epidemic becomes better controlled. York Region’s curve is similar to the curve for the Province with a doubling time slightly larger than 14 days, or about two weeks, as shown in Figure 2.

Figure 2

Cumulative confirmed COVID-19 cases, number of days since the 100th case, York Region and selected jurisdictions



The purpose of Figure 2 is to understand the spread of COVID-19 over time.

- The shape of the curve tells us how quickly the epidemic is growing, and whether it is speeding up or slowing down
- The straight lines are reference landmarks to demonstrate the steepness of different doubling rates, each representing a different time that it takes for the cumulative number of COVID-19 cases to double in size
- It is presented on a logarithmic scale to make it easier to visualize exponential growth
- Time is represented as “days since cumulative cases surpass 100 cases” to support comparisons between different jurisdictions with different epidemic timeframes

As the exponential growth slows down, fewer cases are added to the cumulative total, and the line becomes horizontal. A more controlled epidemic has the following characteristics:

- It has fewer cumulative cases, which you can see as a line closer to the bottom of the graph

- It has a longer doubling time, which you can see as a more shallow upward slope to the graph

For York Region, based on our data to date:

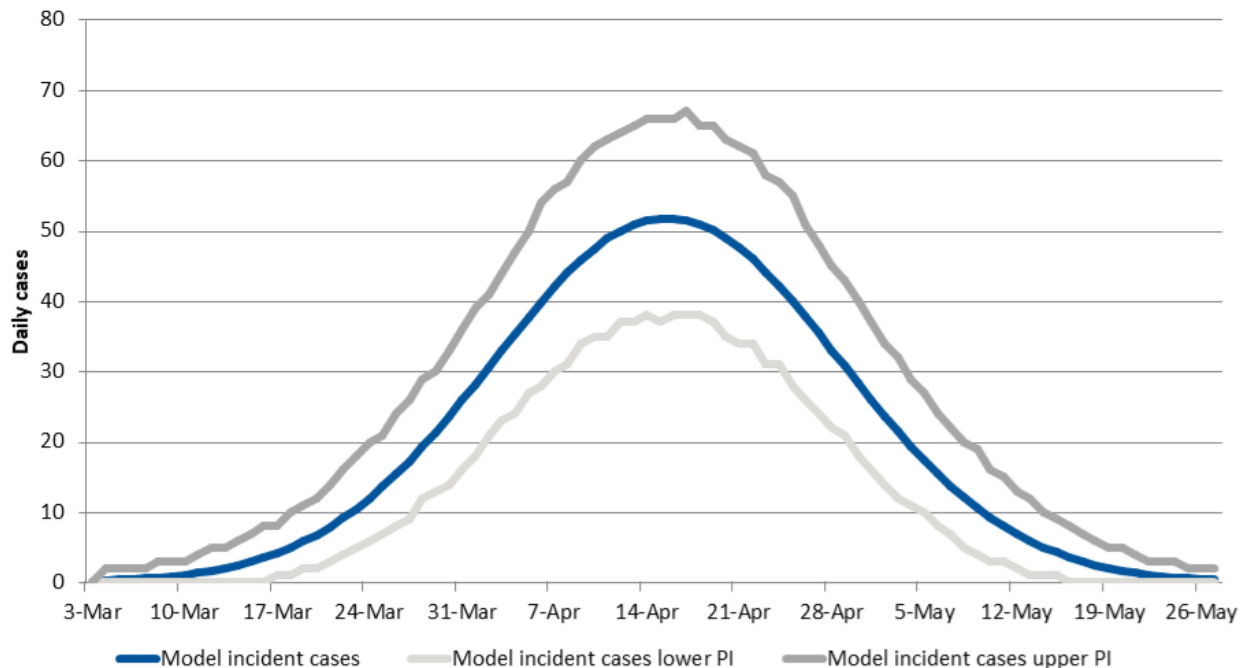
- The epidemic grew more quickly in the first one to two weeks after reaching 100 cases. In the most recent two weeks, the growth of the epidemic has slowed. This is consistent with physical distancing as an intervention to reduce transmission in York Region
- Compared to the reference line of doubling every two weeks, the York Region curve is shallower, which shows that the current York Region doubling time is slightly higher than 14 days. This is similar to the slope of the Ontario curve, for the most recent two weeks

York Region is currently in the peak of the COVID-19 Epidemic

Figure 3 shows a model estimate for York Region daily cases. Based on the model, York Region is currently in the peak of the epidemic. With the same level of public health intervention and testing, the Region should see an overall decrease in the number of cases reported per day over time.

Figure 3

Incidence Decay and Exponential Adjustment (IDEA) Model Estimates, Daily Cases



Note: PI stands for Prediction Interval. A 95% prediction interval of future cases for a given day tells us those future cases will fall into that range 95% of the time. There is a 5% chance that future cases will not fall into this interval. The lower PI is the lower extreme of the IDEA model's estimates, and the upper PI is the upper extreme of the IDEA model's estimates.

The Incidence Decay and Exponential Adjustment model is a simple mathematical function that uses basic epidemiological information (e.g., daily incidence counts) to estimate an overall shape of the epidemic curve.

The emphasis on interpreting the Incidence Decay and Exponential Adjustment model is on the overall shapes produced by the model, not the specific details such as dates or case counts. Overall, the Incidence Decay and Exponential Adjustment model estimates that York Region is currently in the peak of the epidemic, and that if we were to continue with the same level of current public health intervention (physical distancing) as well as the same level of testing, then we would start seeing an overall decrease in the number of cases reported per day.

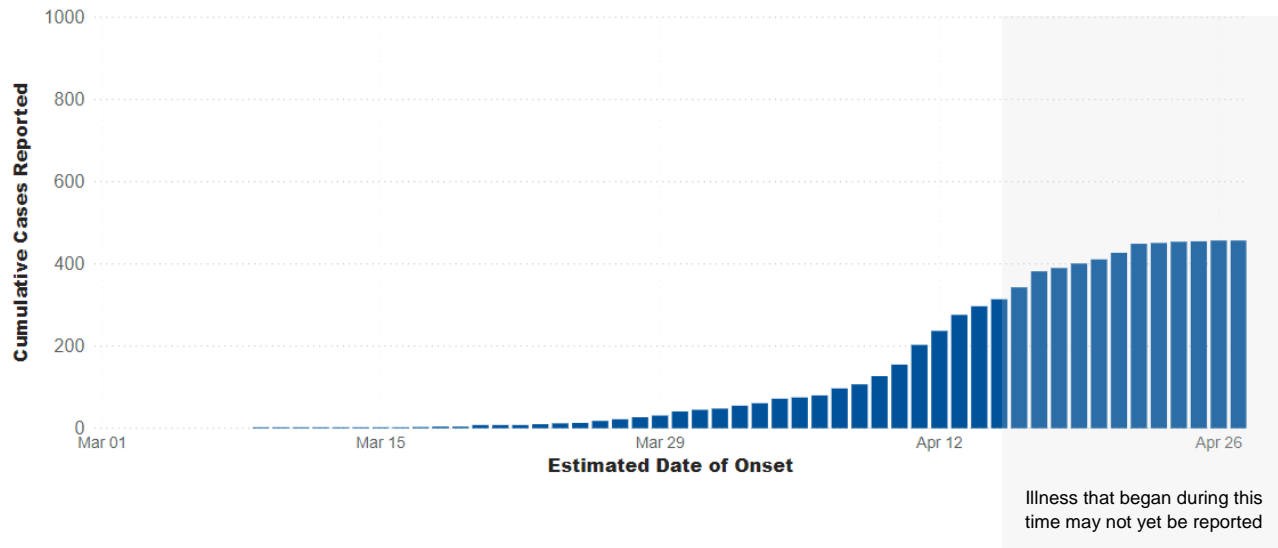
York Region is taking action to address outbreaks in congregate living facilities and to prevent outbreaks

Congregate living facilities refers to housing where the residents share facilities, such as dining areas, kitchens, washrooms, and sometimes bedrooms. Examples include long term care homes, retirement homes, community living facilities (such as housing with supports, homes for special care, homes for people with developmental disabilities), violence against women shelters and emergency and transitional housing (shelters for people who are homeless). Because so many areas of these homes are shared, and because there are staff who may unwittingly bring the disease into the homes, congregate homes are at high risk.

An outbreak is declared if any resident or staff tests positive for COVID-19. Figure 4, shows the cumulative number of institutional related cases has continued to increase, with 457 cases of confirmed institutional related infections as of April 28, 2020.

Figure 4

Cases in Long Term Care Homes, Retirement Homes, and Congregate Living Facilities



An outbreak is usually declared to be over when there are 14 days in a row with no newly reported cases of illness

For settings in an outbreak, Public Health monitors the facility daily. The goal is to see a plateau, with a decline in day-over-day case increases.

On April 21, 2020, the Ministry of Health and Ministry of Long-Term Care committed to further action to ensure the safety of staff and residents in Long-Term Care/Retirement homes setting by announcing proactive surveillance testing. On April 22, 2020, Ontario Health announced these actions would be expanded to also include community living facilities. Key actions include:

- Screening for everyone entering the residential setting, including residents who have left the premises, staff, volunteers and others.
- Use of enhanced personal protective equipment measures for staff and essential visitor use of surgical/procedural masks at all times to be used while visiting
- Testing procedure guidance for when a staff member or resident has symptoms that may be COVID-19
- Have staff limit their work locations and messaging to reinforce the guidelines for staff working in multiple locations

Public Health is leading a strategy to provide prevention supports to congregate living homes in partnership with Paramedic and Seniors Services, Central Region Ontario Health (replacement for Central Local Integrated Health Network) and the three York Region hospitals. Supports include expanded testing of staff and residents, help with staffing, training and support on

infection protection and control protocols, and to access personal protective equipment (see Attachment 2).

The response to a possible second wave in late fall/winter will depend upon immunity, public health and social measures, and the capacity of health care and public health systems

Studies suggest a second wave may occur during the late fall/winter. Resurgence of cases could be worse than the first wave given it may correspond with the flu and cold season, but not enough is known at this time to be certain. Outbreaks and sporadic cases may occur at any time.

Occurrence of future waves and outbreaks will depend on:

- Immunity developed within the community
- Public health measures (e.g., enhanced testing, case management, contact tracing, surveillance)
- Social measures (continuing to practice physical distancing, hand hygiene, possible universal masking if recommended and respiratory etiquette)
- Capacity of health care and public health systems

Until therapeutic interventions (such as a vaccine or treatment modalities) are widely available, the current strategies used by Public Health will continue to be relied upon to mitigate transmission of COVID-19 (contact tracing, outbreak management, physical distancing and hand hygiene).

Easing physical distancing measures will involve careful consideration of de-escalation indicators and continued emphasis on public health guidelines

On April 27, 2020, the province announced [A Framework for Reopening our Province](#). The framework includes a gradual three-stage approach – protect, restart, recover. The framework is a road-map, not a calendar. Easing of public health measures will be based on advice from the Province’s Chief Medical Officer of Health and health experts using a range of criteria, including

- A consistent two to four week decrease in the number of new daily COVID-19 cases, including a decrease in the rate of cases that cannot be traced to a source and a decrease in the number of new cases in hospitals
- Sufficient acute and critical care capacity, including access to ventilators and ongoing availability of personal protective equipment
- Approximately 90% of new COVID-19 contacts are being reached by local public health officials within one day, with guidance and direction to contain community spread

- Ongoing testing of suspected COVID 19 cases, especially of vulnerable populations, to detect new outbreaks quickly and a shift to new and other ways of testing and contact tracing to promote widespread tacking of cases

Easing physical distancing restrictions will require continued emphasis on public health guidelines on hand hygiene, staying at home if sick, respiratory etiquette, and disinfection practices.

Enhanced Public Health monitoring and strategic actions will continue to be required until our population has been vaccinated

Public Health will maintain an enhanced response until the population has been vaccinated. With an estimated twelve to eighteen month time frame for vaccine availability, a stable staffing model will be needed to balance a continued emergency response and a return to other public health essential programing. Immunization planning is underway. While physician offices and pharmacies may be able to administer the vaccine, the Ministry of Health may require that vaccines may only be administered by public health units to ensure monitoring and safety.

For more information on the memo, please contact Dr. Karim Kurji, Medical Officer of Health, at 1-877-646-9675 ext. 74012.

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Attachments (2)
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