Update on COVID-19 in Canada: Epidemiology and Modelling

December 11th, 2020
Continued rise in national COVID-19 daily case counts

Over 6,500 cases daily, On average, past 7 days

Data as of December 8, 2020
Rapid growth is occurring in several provinces

Data as of December 8, 2020
More health regions are reporting higher rates of COVID-19 infection

49 of 99 health regions reporting > 100 cases per 100,000 population (highest: 707 per 100,000)

Data as of December 8, 2020

Note: Map only shows COVID-19 cases where health region had been attributed in source data
Data sources: COVID-19 Canada Open Data Working Group. Epidemiological Data from the COVID-19 Outbreak in Canada
Nationally, the percentage of people testing positive remains high

Data as of December 8, 2020
Data excluding Alberta because of differences in methods of computation
Escalating incidence among high-risk adults, aged 80 years and older

Number of reported cases per 100 000 population (7 day moving average)

Date of illness onset*

0 to 19  20 to 39  40 to 59  60 to 79  80+

Data as of December 8, 2020

*First available of illness onset, specimen collection, laboratory test date
Increasing number of outbreaks in long term care facilities* with widespread community transmission

Data as of December 7, 2020
* Including retirement residences. Data for December not included
Since September, reported COVID-19 cases have been increasing in First Nations communities

Data source: Indigenous Services Canada – by episode date
Data as of December 5, 2020
Hospitalizations continue to increase in most provinces west of the Atlantic region

Data as of December 8, 2020
With ongoing rapid epidemic growth, COVID-19 related deaths have been steadily rising.

Approaching 94 deaths daily on average, past 7 days

Data as of December 8, 2020
Short-term forecast indicates continuation of rapid growth

Cumulative cases predicted to December 25:
531,300 to 577,000

Cumulative deaths predicted to December 25:
14,410 to 14,920

Extrapolation based on recent trends using a forecasting model (with ranges of uncertainty)
Longer-range forecast shows overall for Canada we remain on a rapid growth trajectory

- If we **maintain** the current number of people we contact each day – the epidemic will continue to resurge: **Grey line**

- If we **increase** the current number of people we contact each day – the epidemic is forecast to resurge faster and stronger: **Orange line**

- If we **reduce** the current number of people we contact each day **to only essential activities** through combined individual precautions and public health measures – the epidemic is forecast to come under control in most locations: **Blue line**

Combined efforts of Canadians and Public health are needed now and through the holidays

• Nationally, we remain on a rapid growth trajectory.

• When we work together to implement and adhere to more stringent controls, we can bend the curve

• Safe and effective vaccines are in sight but our combined efforts are urgently needed to prevent severe illness and death, and reduce strain on hospitals and public health systems

• Always layer up with essential public health practices

If you’re sick, stay home. If you go out, layer up.
The more layers of protection you add, the lower your risk of infection and spreading the virus.

Each new case in Canada is spreading infection to more than one person, keeping the epidemic in a growth pattern.

Data as of December 7, 2020
Calculations are based on date of case report

When $R_t$ is consistently $> 1$, the epidemic is growing.

Since mid-August, Canada’s $R_t$ has been consistently $> 1$.
Long-range forecast indicates that a stronger response is needed now in all large Provinces to slow the spread of COVID-19.