Update on COVID-19 in Canada: Epidemiology and Modelling

November 20th, 2020
National daily case counts of COVID-19 increasing significantly

Data as of November 17, 2020

4,776 cases
On average, past 7-days
Rapid growth is occurring in several provinces

Data as of November 17, 2020
More health regions are reporting higher rates of COVID-19 infection

48 health regions are reporting ≥50 cases per 100,000 population

COVID-19 cases per 100,000 population (past 14 days)

Data as of November 17, 2020

Note: Map only shows COVID-19 cases where health region had been attributed in source data.
Each new case in Canada is spreading infection to more than one person, keeping the epidemic in a growth pattern.

Data as of November 14, 2020
Calculations are based on date of case report

Since mid-August
Canada’s $R_t$ has been consistently $> 1$

When $R_t$ is consistently $> 1$, the epidemic is growing
The percentage of people testing positive is increasing nationally

Data as of November 16, 2020

National metrics do not capture lab testing data for AB post Nov. 5th due to non-reporting.
Escalating incidence among high-risk adults, aged 80 years and older

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

Date of illness onset*

01Jun 01Jul 01Aug 01Sep 01Oct 01Nov

0 2 4 6 8 10 12 14

80+ years

20 to 39 years

80+ years

Incomplete data due to reporting lag

Data as of November 17, 2020

*First available of illness onset, specimen collection, laboratory test date
Number and size of outbreaks are increasing in a variety of settings

- More and larger outbreaks (>50 individuals) affecting long-term care homes and healthcare settings
- Outbreaks in long-term care homes put elderly residents at risk of life-threatening illness
- Outbreaks in health care settings affect patients and health care professionals alike and put a strain on health system capacity
- Indigenous communities are now seeing rapidly rising case numbers
- Outbreaks are also being reported in schools and linked to social gatherings
Hospitalizations have increased following the increase in reported cases

Data as of November 17, 2020
Experience of other countries warns of a surge in hospitalizations following disease resurgence

Data as of November 7, 2020
Data sources: European Center for Disease Control and Prevention (ECDC) – COVID Tracking Project
Increasing number of COVID-19-related deaths following weeks of increased disease activity in Canada

Data as of November 17, 2020

65 deaths
On average, past 7 days
Short-term forecast indicates continuation of rapid growth

Cumulative cases predicted to November 30: 366,500 to 378,600

Cumulative deaths predicted to November 30: 11,870 to 12,120

Cumulatively reported cases in Canada by November 14 ---- Prediction to November 30

- Lower 95% prediction limit
- Upper 95% prediction limit
- Cases added since November 14 when the prediction was made

Extrapolation based on recent trends using a forecasting model (with ranges of uncertainty)
Longer-range forecast indicates that a stronger response is needed now to slow the spread of COVID-19

- 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**

Slow the spread of COVID-19 throughout the holiday season

- Every effort you can make as an individual matters
- Strictly and consistently maintain personal protective practices
- Follow the advice of local health authorities
- Limit errands and outings to the essential
- Keep in-person activities to household members whenever possible
- Plan ahead for safer holidays and get creative
Longer-range forecast indicates that a stronger response is needed now to slow the spread of COVID-19