Update on COVID-19 in Canada: Epidemiology and Modelling

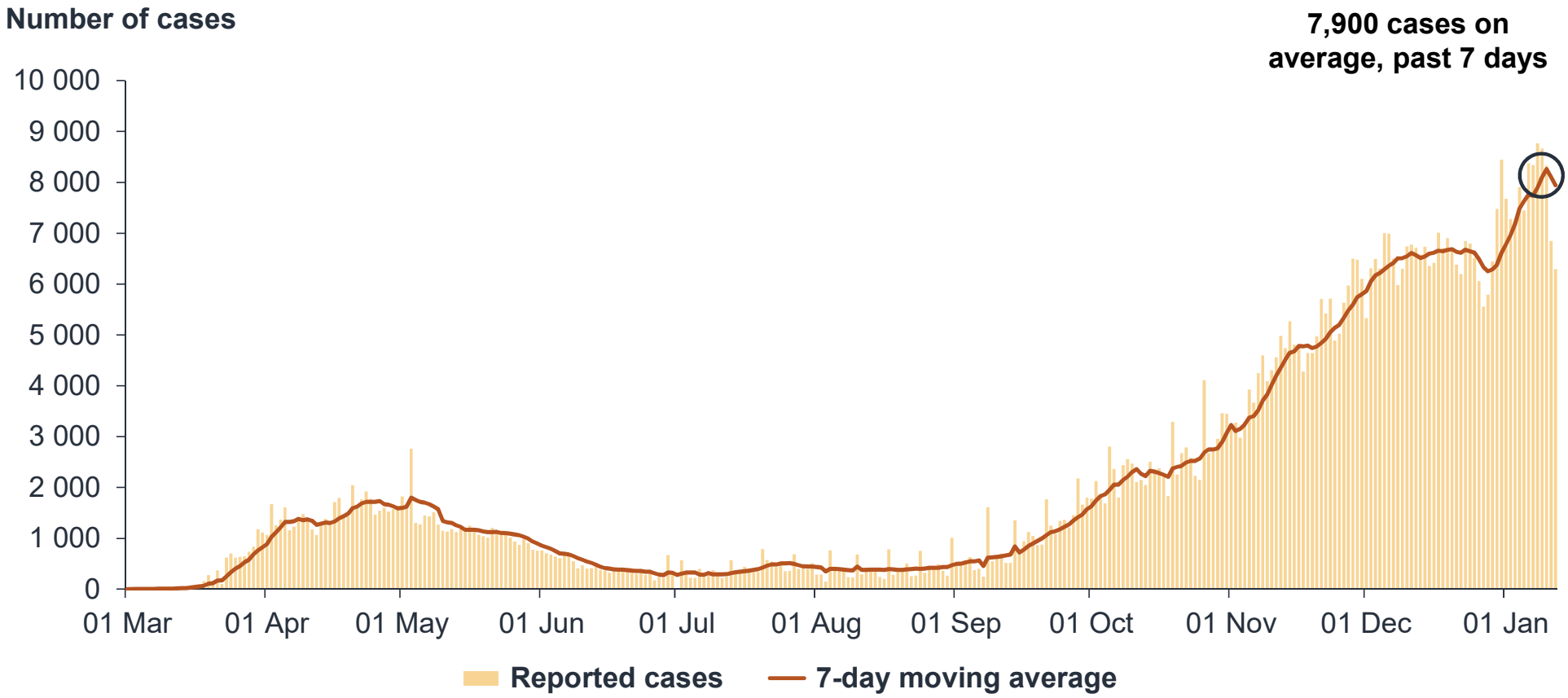
January 15th, 2021

Canada.ca/coronavirus

Public Health Agency of Canada
Agence de la santé publique du Canada

Canada

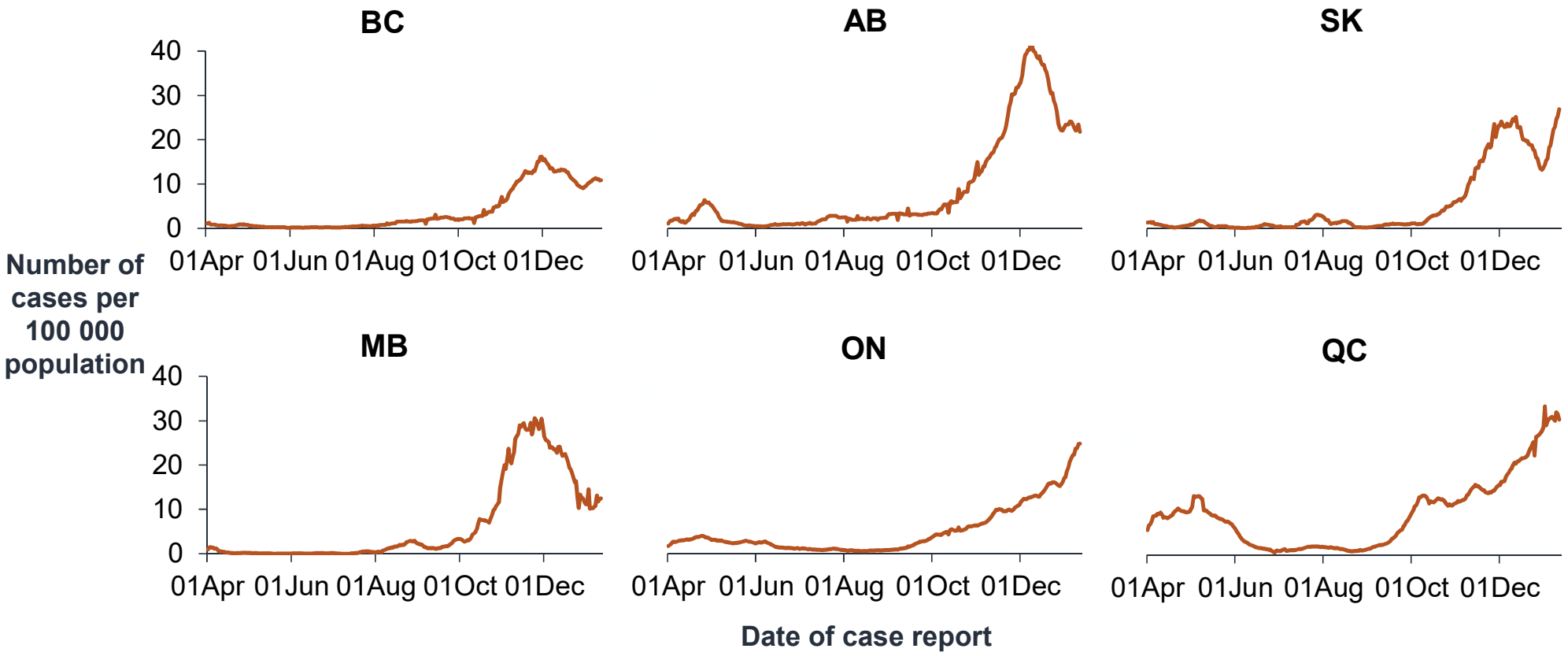
Sharp increase in daily COVID-19 case counts nationally, since late December



Data as of January 12, 2021

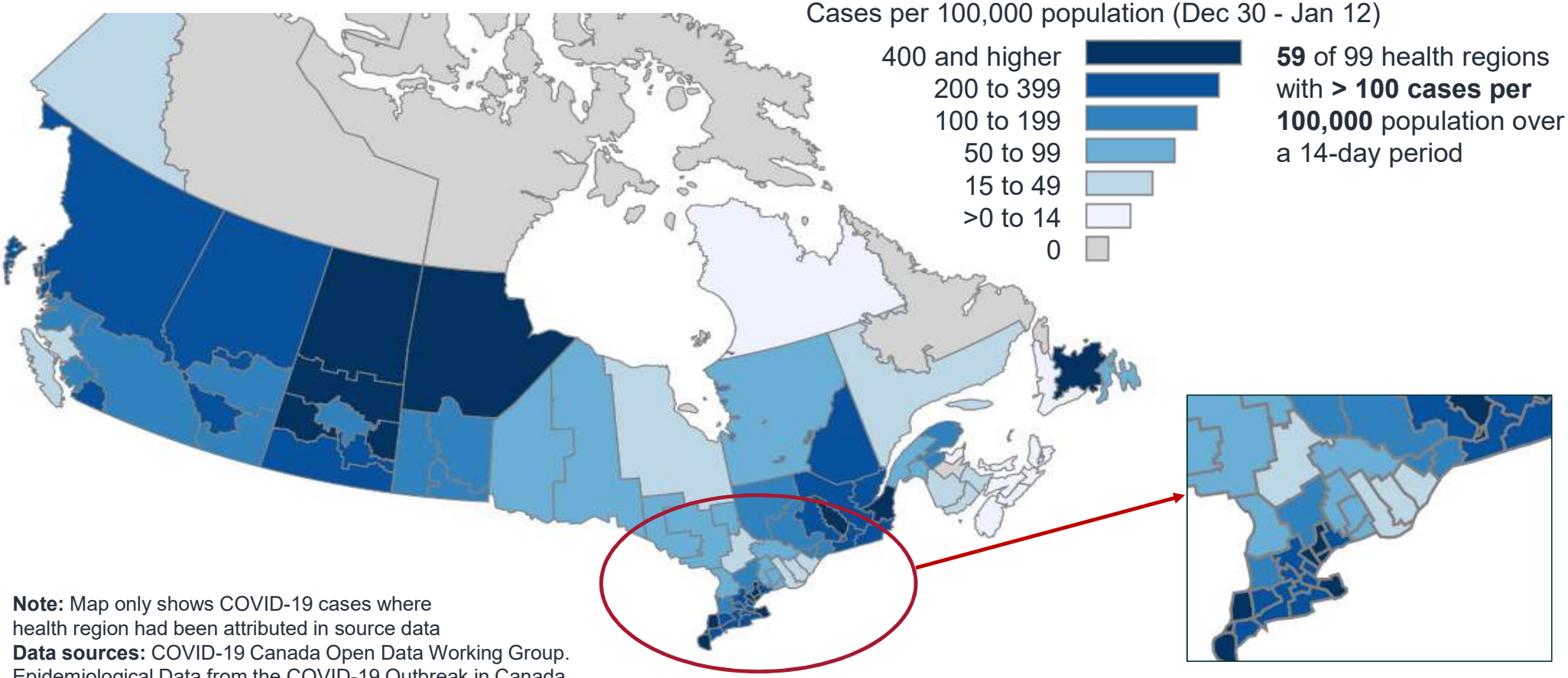
Note: *Less testing over the holiday period likely impacted daily case count, resulting in a brief decrease of the 7-day moving average*

High incidence, especially in Quebec and Ontario, continues to drive rapid growth



Data as of January 12, 2021

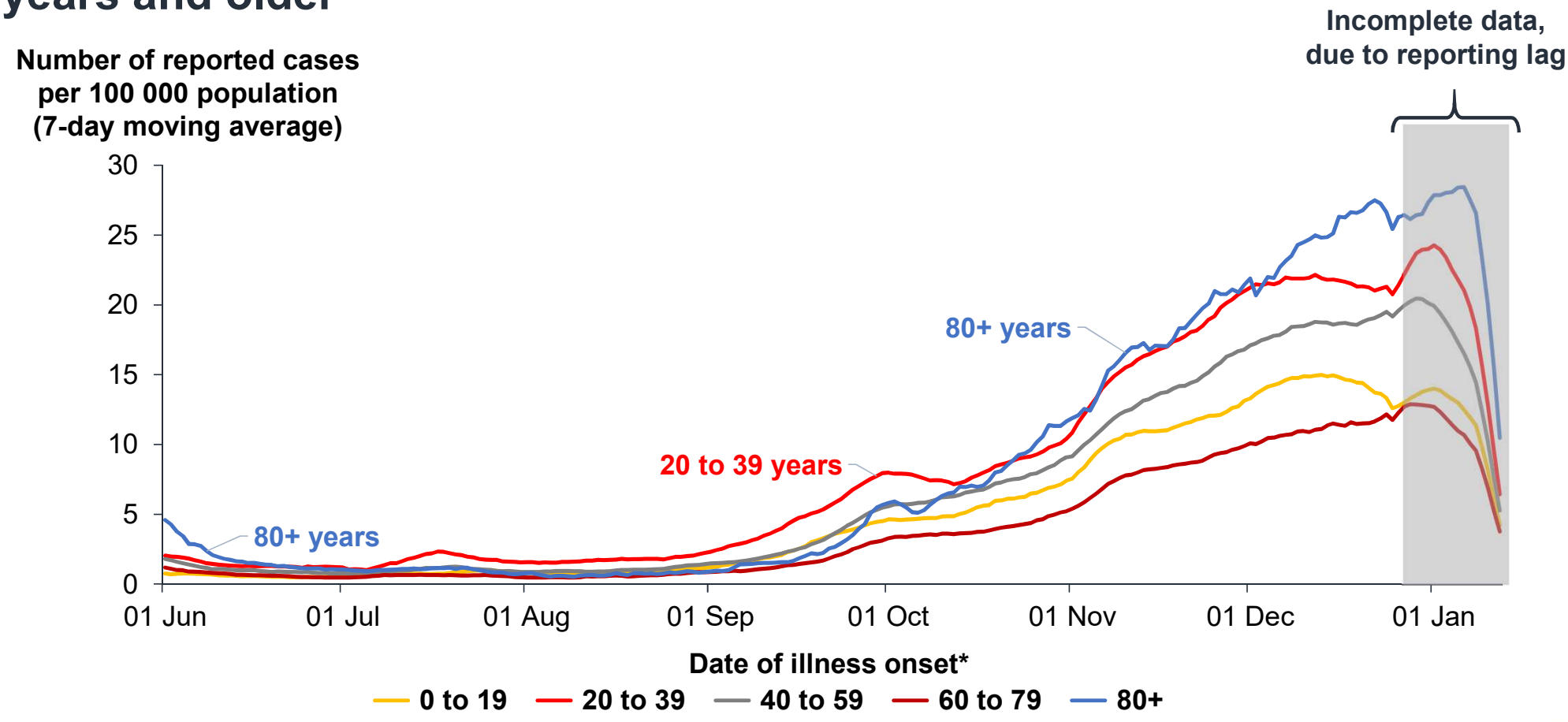
More health regions reporting higher rates of COVID-19 infection



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

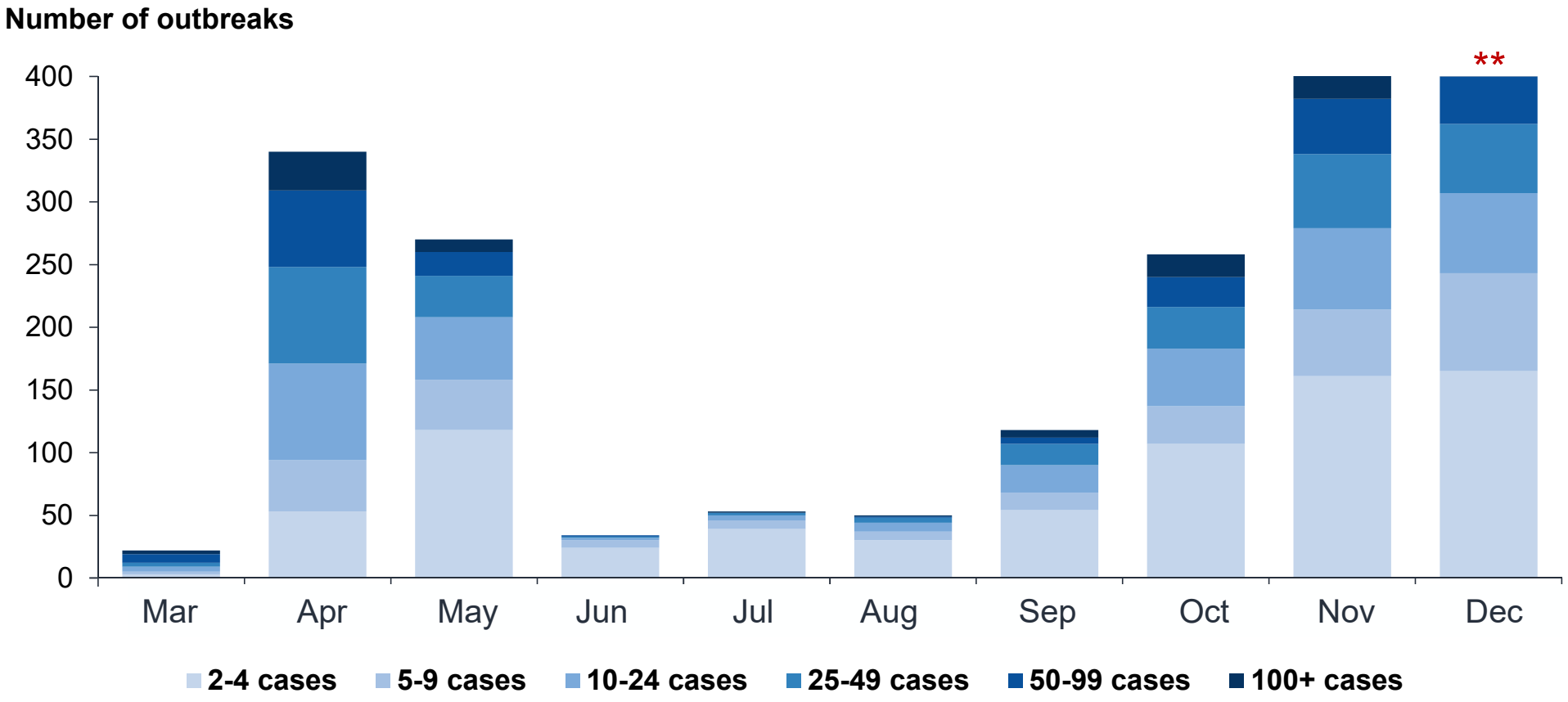
Data as of January 12, 2021

Continued escalation of incidence among high-risk adults aged 80 years and older



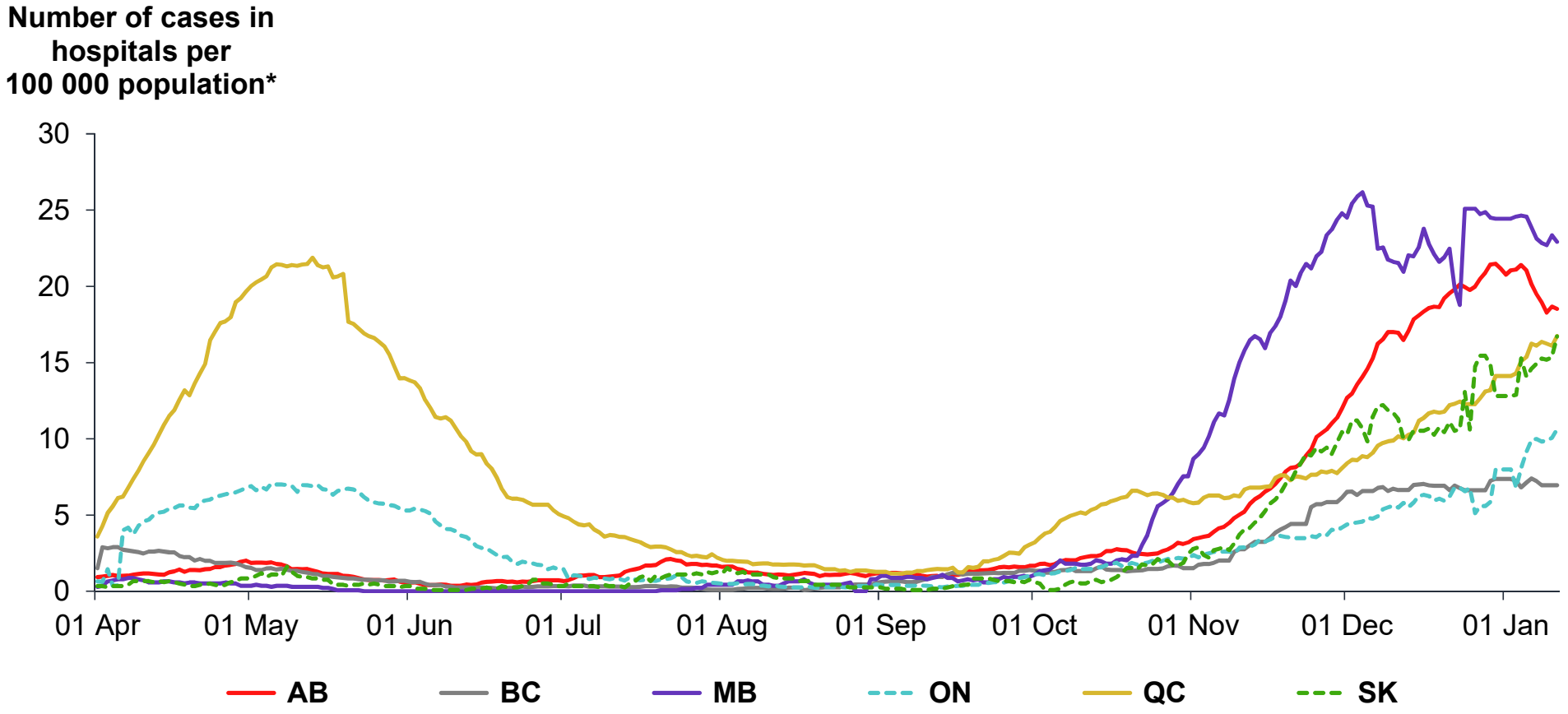
Data as of January 12, 2021
**First available of illness onset, specimen collection, laboratory test date*

Widespread community transmission and increased outbreaks in long-term care facilities*



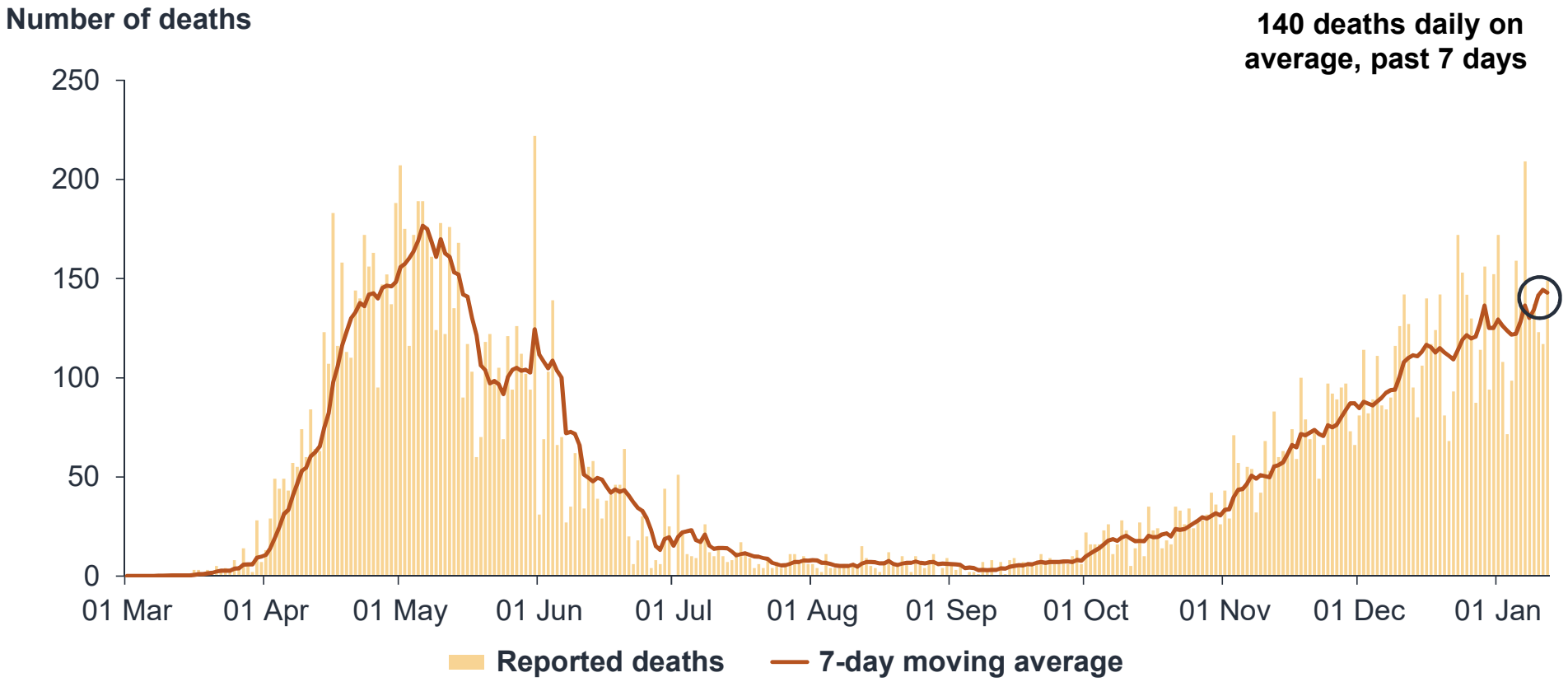
Data as of January 12, 2021; by date outbreak first reported
*Note: *Including retirement residences. Data for outbreaks occurring in January have been excluded. Data based on publically reported information. **Underestimated due to reduced reporting in December.*

Steady upward trend in hospitalizations in provinces with sustained high infection rates



Data as of January 12, 2021
** 7-day moving average*

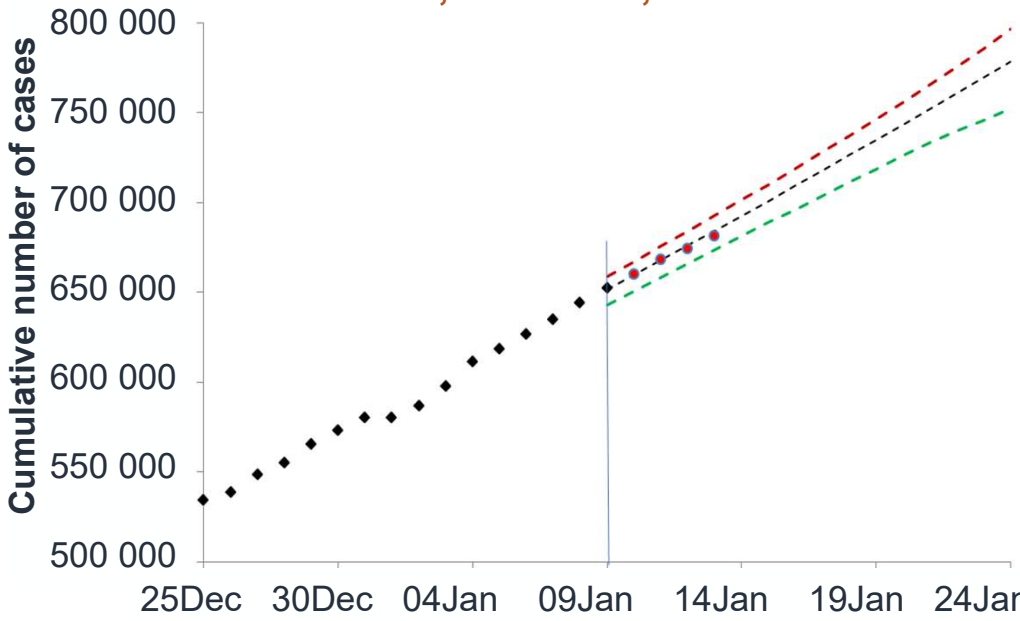
COVID-19 related deaths steadily rising and may soon exceed levels seen during the first peak



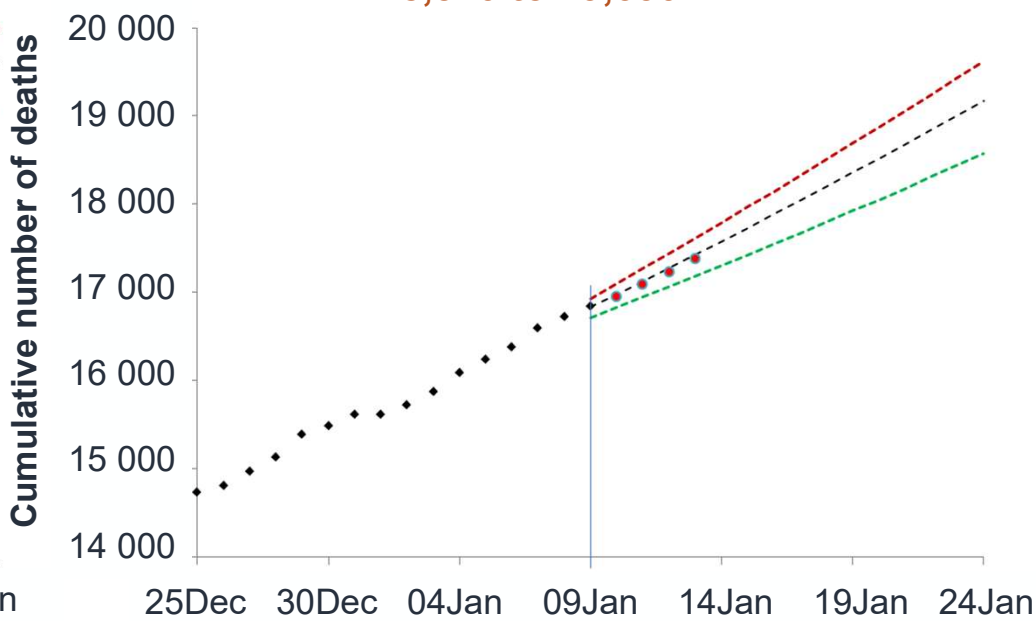
Data as of January 12, 2021

Short-term forecast shows continuation of rapid growth

Cumulative cases predicted to January 24, 2021:
752,400 to 796,630



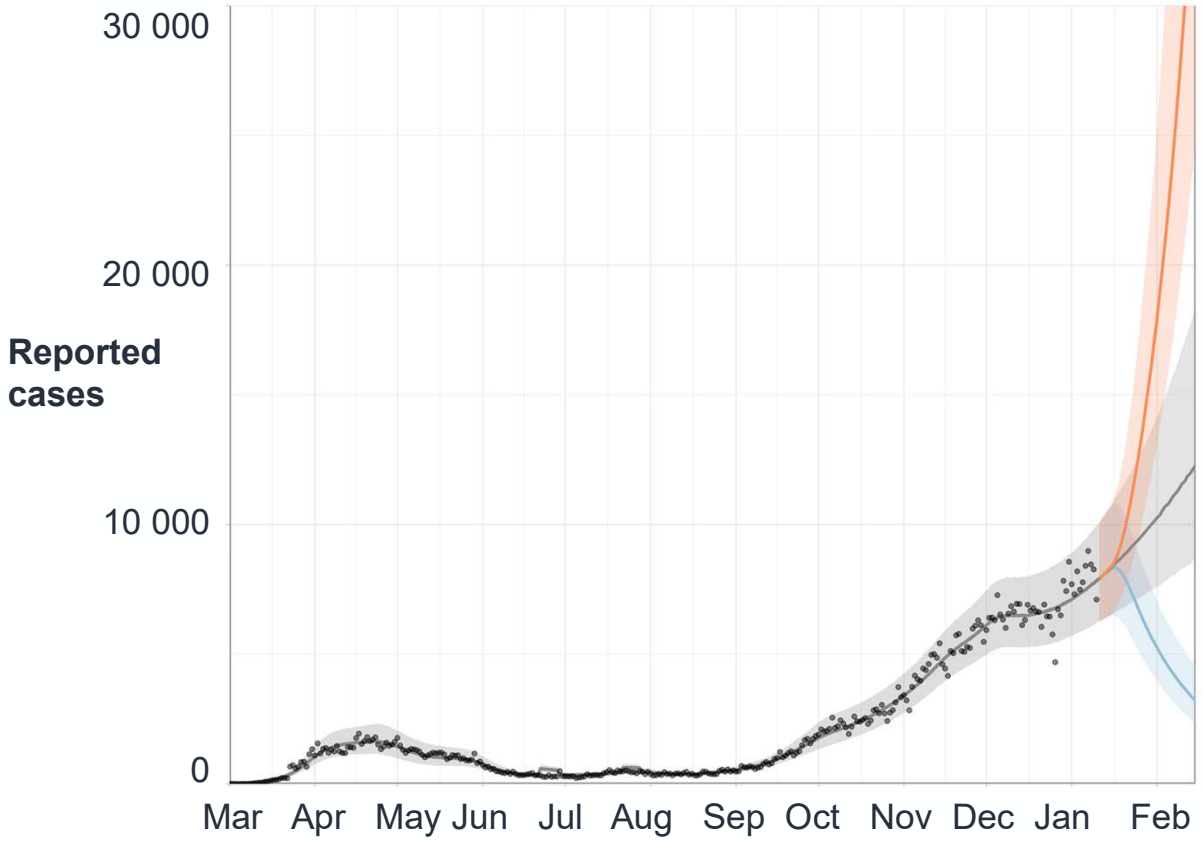
Cumulative deaths predicted to January 24, 2021:
18,570 to 19,630



Cumulatively reported cases in Canada by Jan. 9, 2021
Cases added since Jan. 9 when the prediction was made
Prediction to Jan. 24, 2021
Lower 95% prediction limit
Upper 95% prediction limit

Extrapolation based on recent trends using a forecasting model (with ranges of uncertainty). Data as of January 12, 2021.

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**

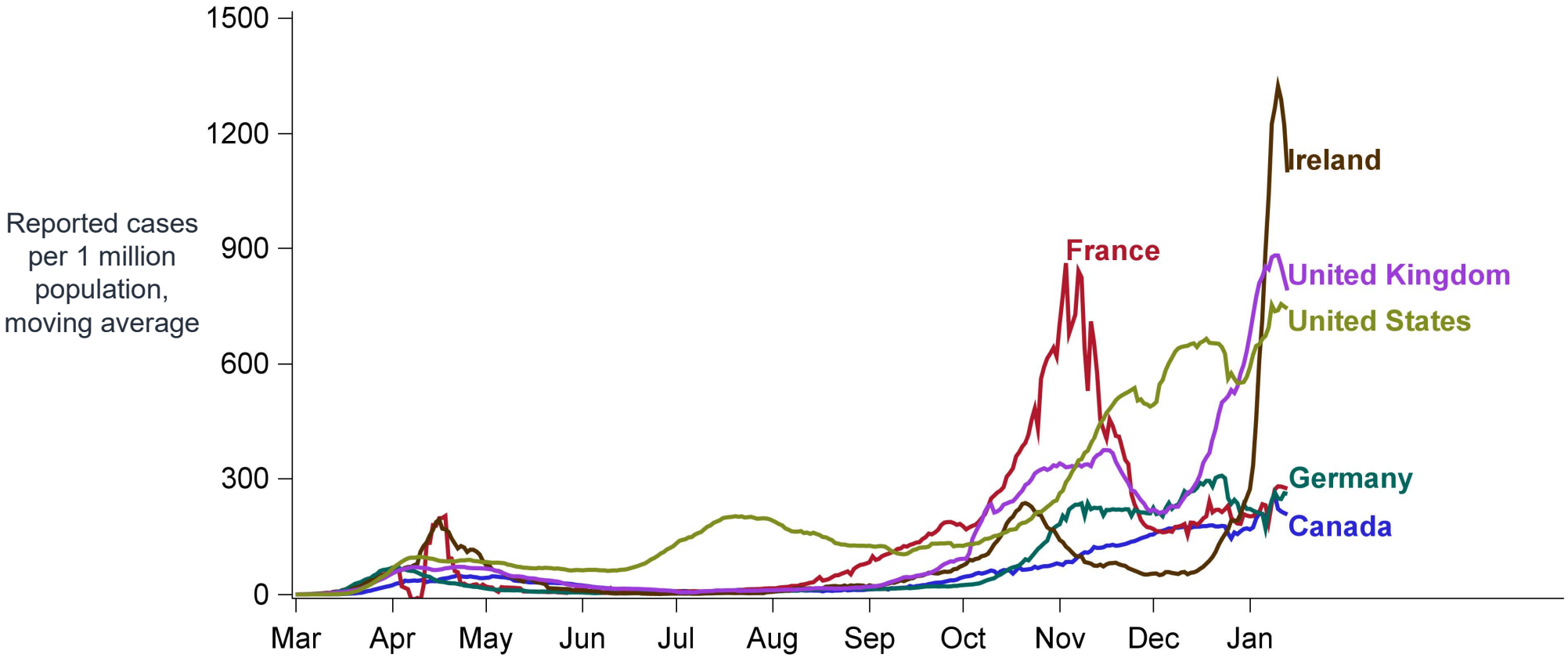
If we **increase** the current number of people we contact each day – the epidemic is forecast to resurge faster and stronger: **Orange line**

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**

Data as of January 12, 2021

Methods: Anderson SC et al. 2020. Estimating the impact of COVID-19 control measures using a Bayesian model of physical distancing.
https://www.medrxiv.org/content/10.1101/2020.04.17.20070086v1

Quick, strong and sustained measures are needed to interrupt rapid growth and maintain COVID-19 control



Data as of January 13, 2021

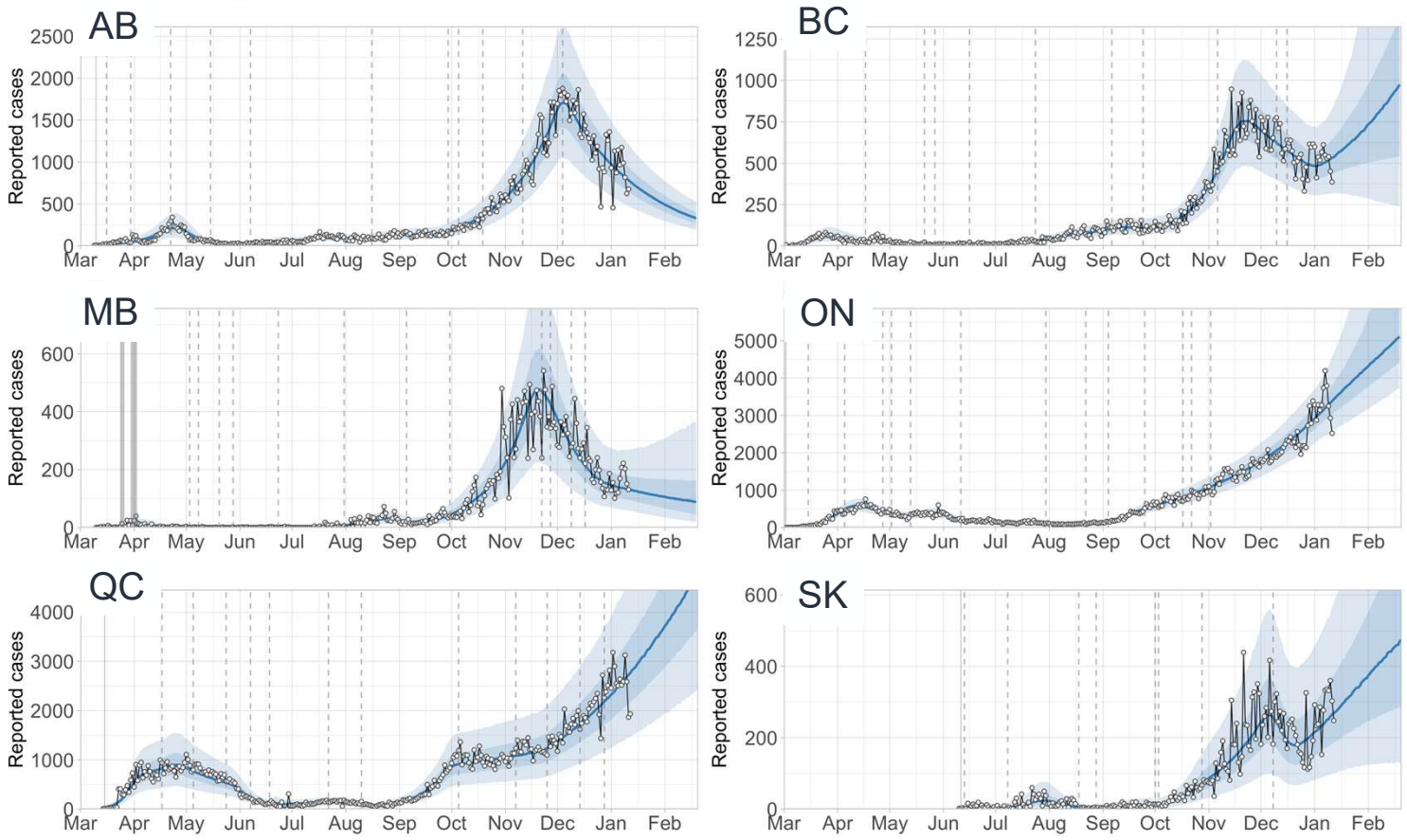
Upcoming months will be very challenging for Canada – we must redouble efforts and hold firm to see our way through

- Reducing COVID-19 activity is urgently needed as rollout of safe and effective COVID-19 vaccines begins
  - protect those at highest risk of severe outcomes.
  - protect critical healthcare and public health capacity from being overwhelmed

- All Canadians asked to maintain public health practices and follow public health advice, including to:
  - limit outings and activities to just the essentials
  - avoid all non-essential travel outside of Canada

Appendix

Longer range forecast indicates that a stronger response is needed now in several provinces to slow the spread of COVID-19



Data as of January 21, 2021
Projected incidence for the next 3 months (blue line) with 50 and 95% credibility intervals (shaded areas).