

Update on COVID-19 in Canada: Epidemiology and Modelling

January 15th, 2021

Canada.ca/coronavirus



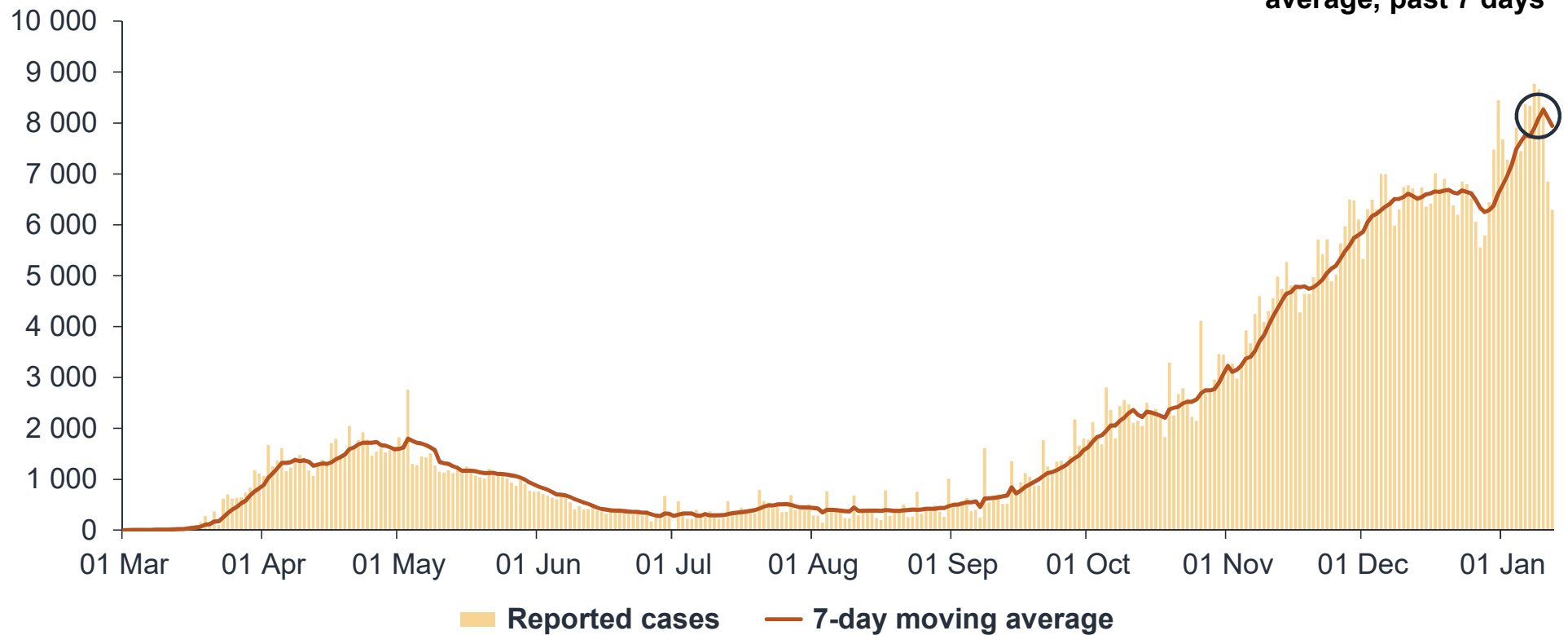
Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

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

Number of cases

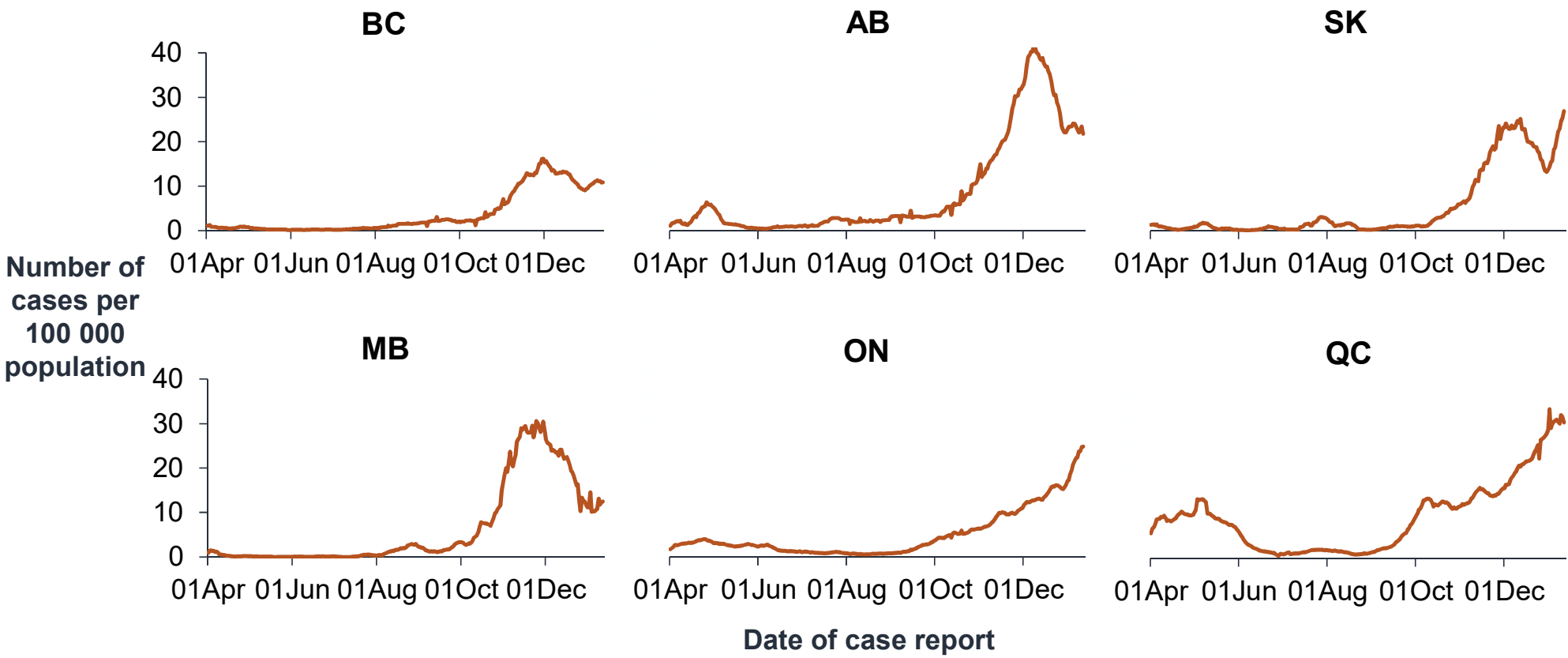


Data as of January 12, 2021

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

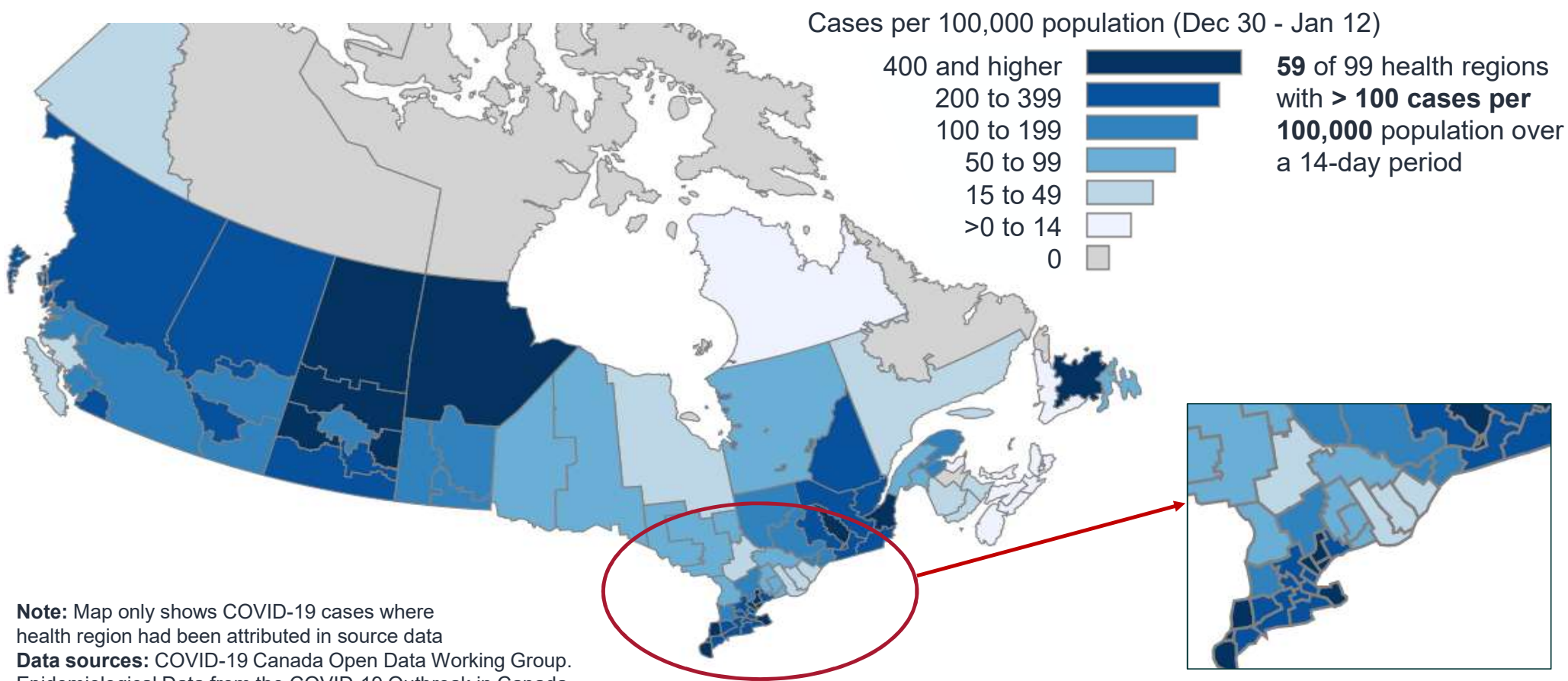


High incidence, especially in Quebec and Ontario, continues to drive rapid growth



Data as of January 12, 2021

More health regions reporting higher rates of COVID-19 infection

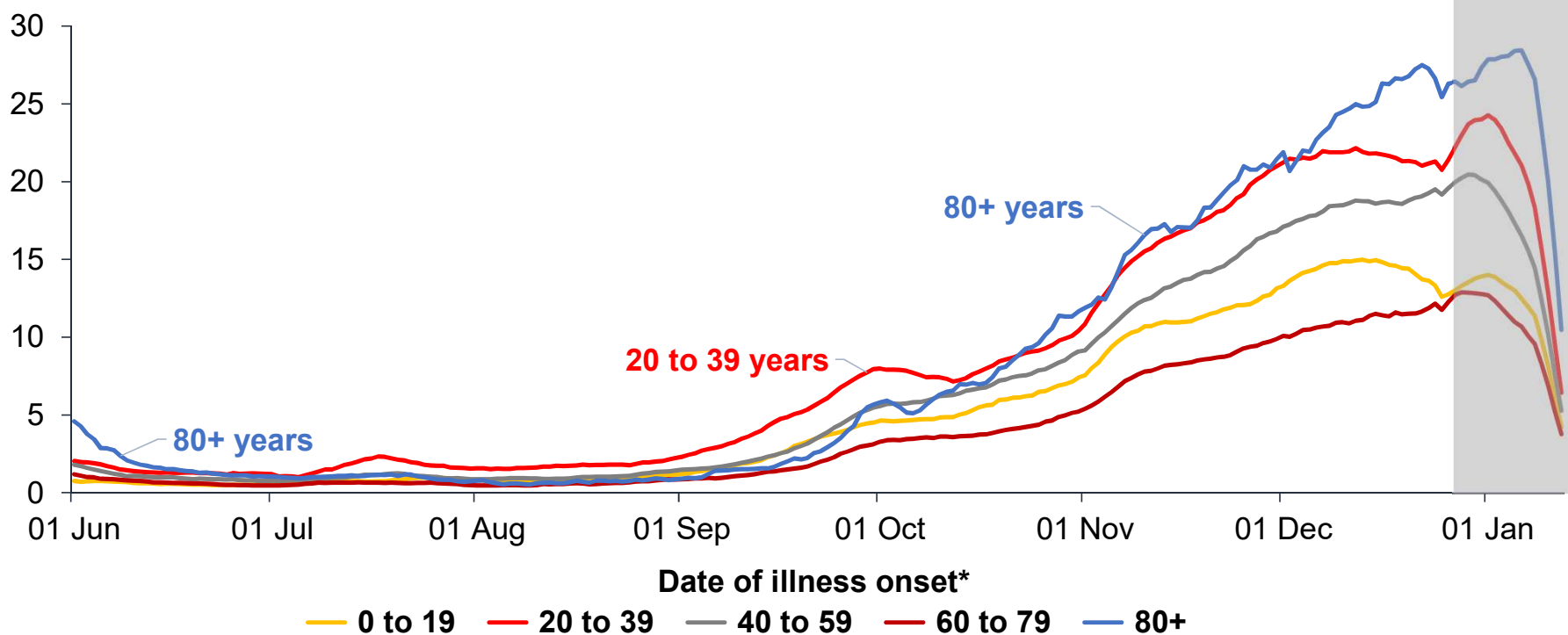


Data as of January 12, 2021

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

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

Incomplete data, due to reporting lag



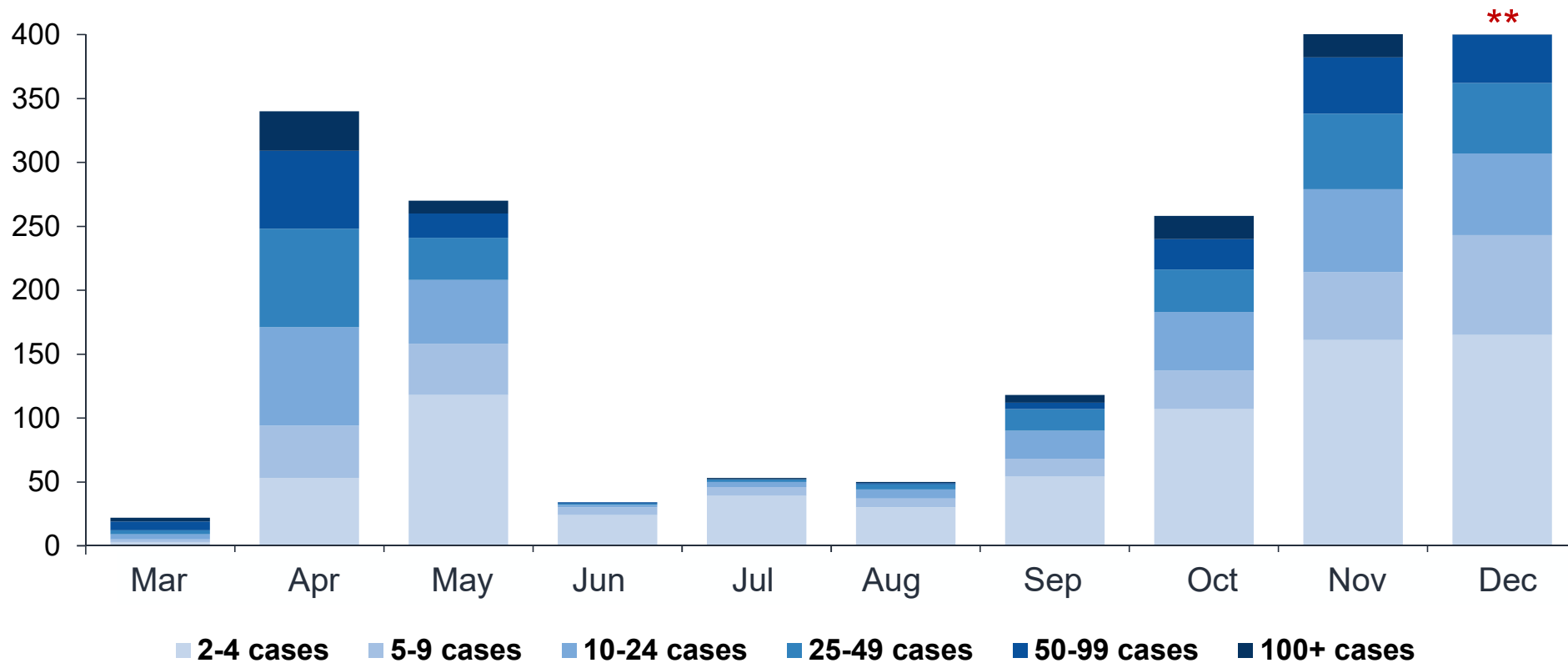
Data as of January 12, 2021

*First available of illness onset, specimen collection, laboratory test date



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

Number of outbreaks

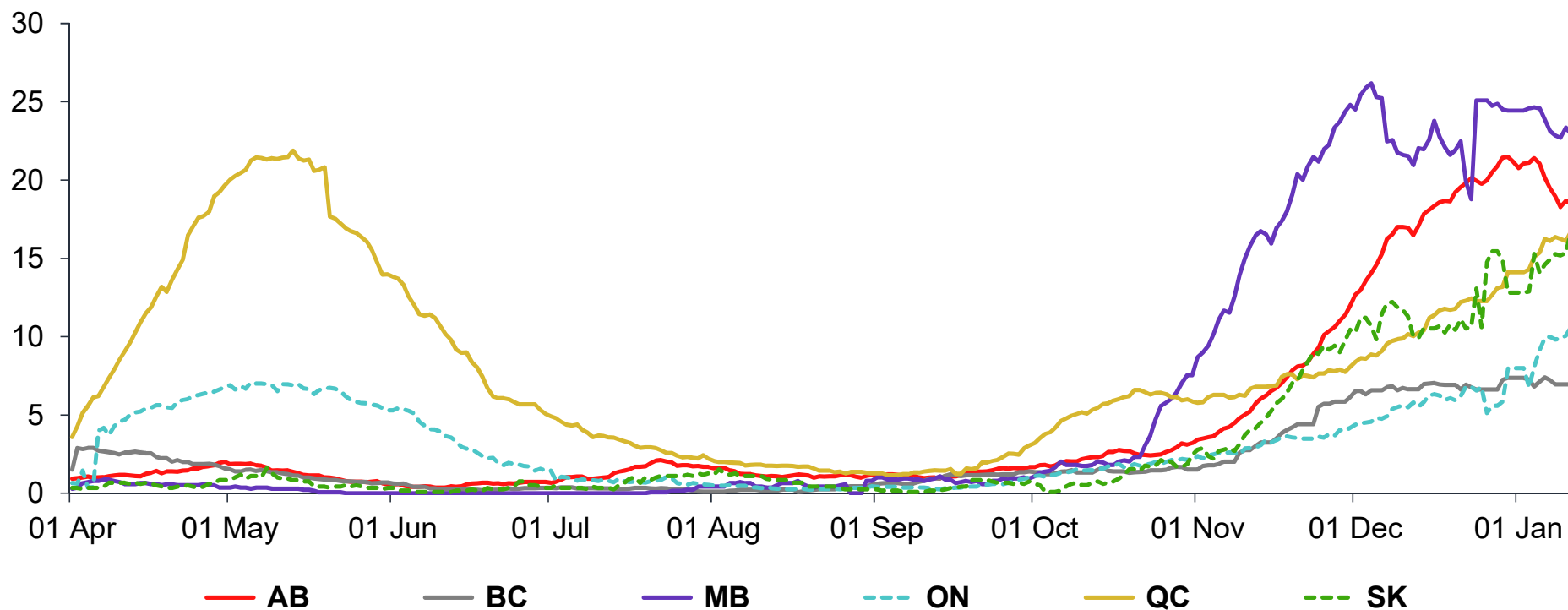


Data as of January 12, 2021; by date outbreak first reported

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

Number of cases in hospitals per 100 000 population*

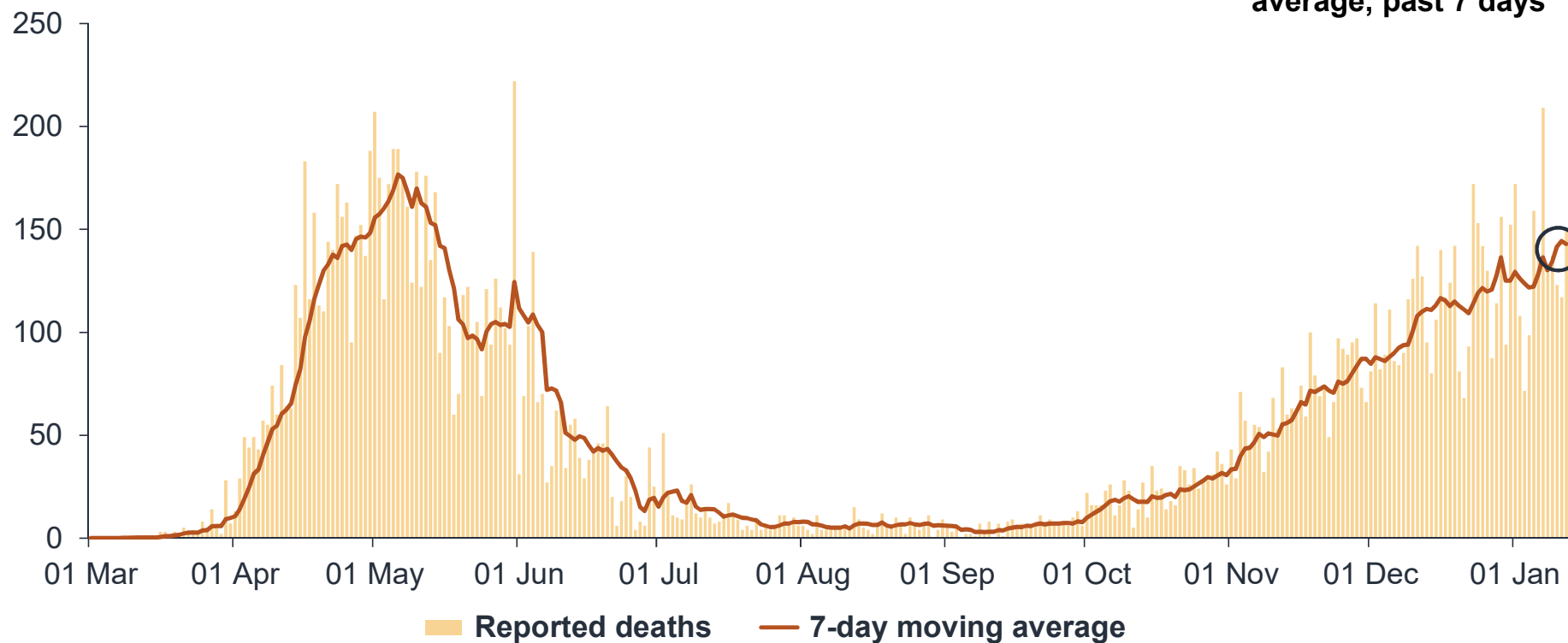


Data as of January 12, 2021
* 7-day moving average

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

Number of deaths

140 deaths daily on average, past 7 days

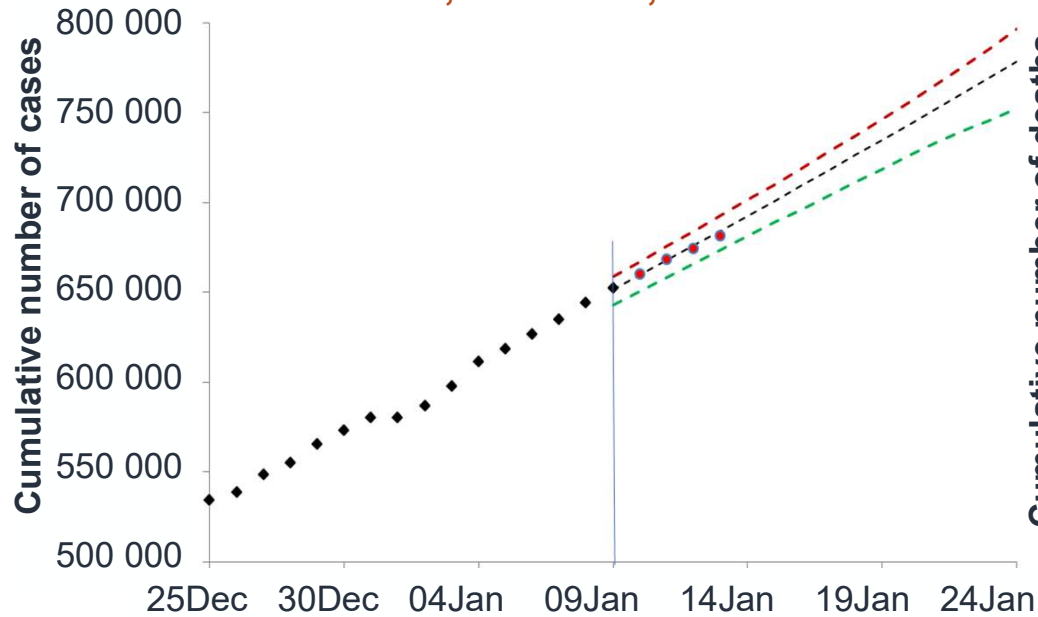


Data as of January 12, 2021

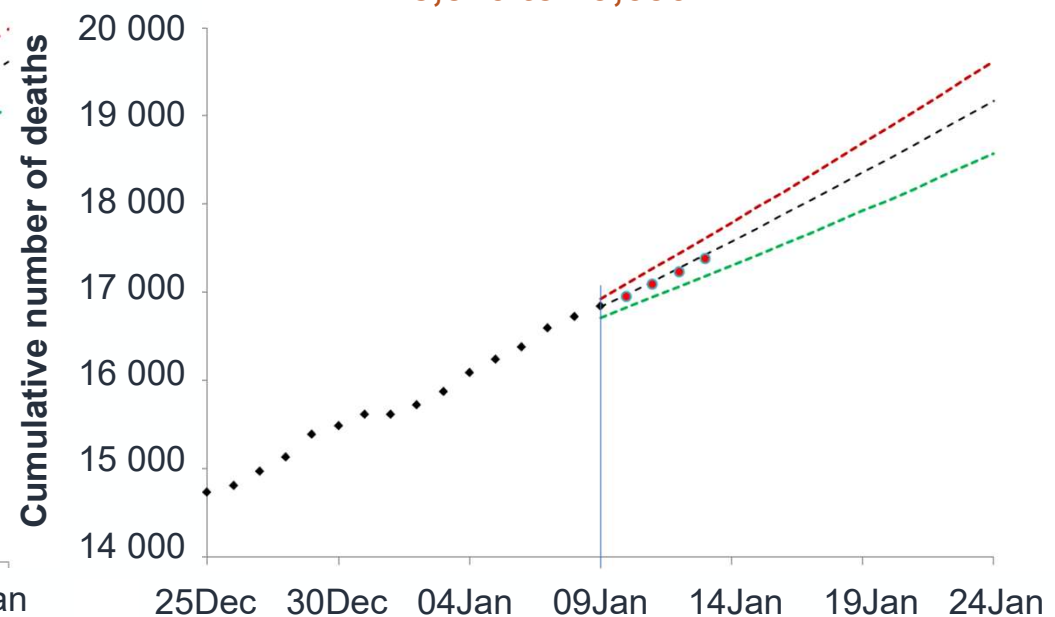


Short-term forecast shows continuation of rapid growth

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



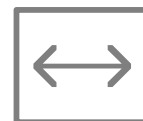
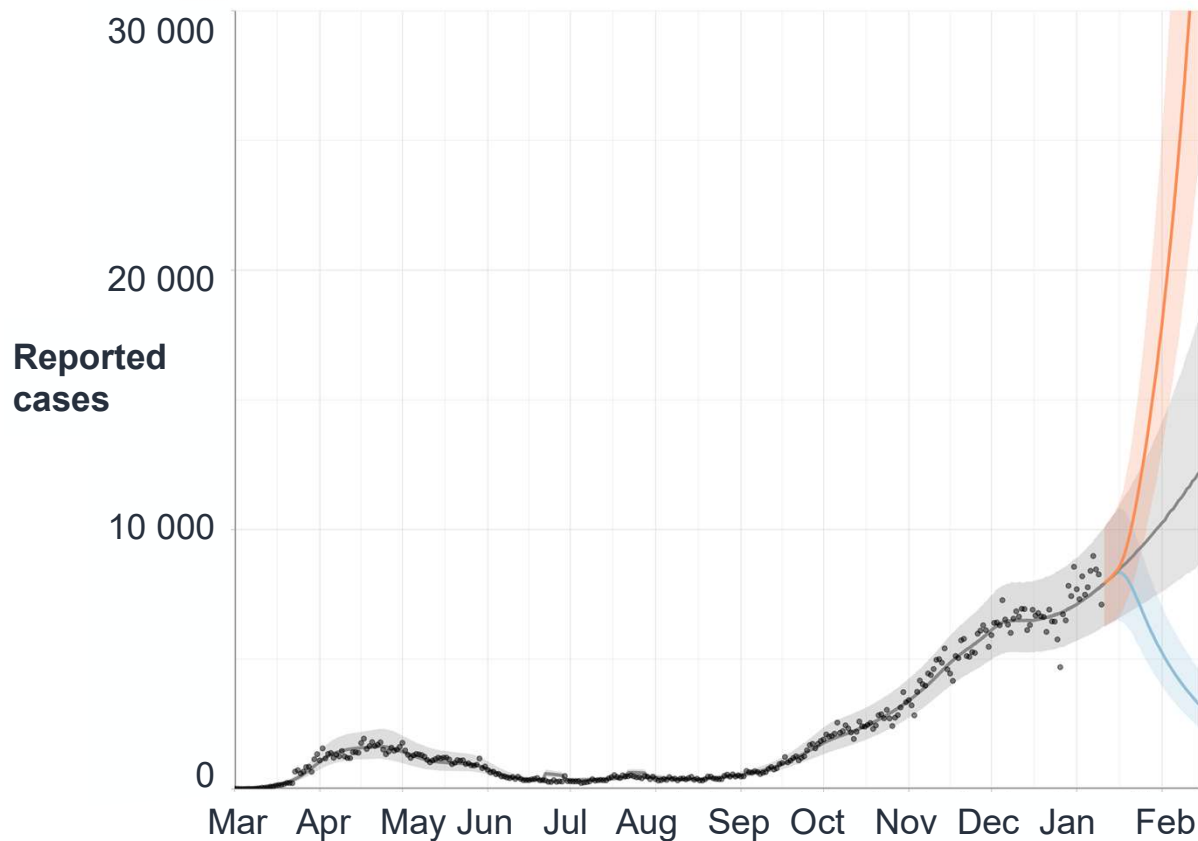
Cumulative deaths predicted to January 24, 2021:
18,570 to 19,630



- ◆ 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.

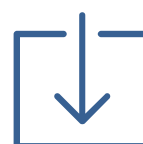
Longer-range forecast shows, overall for Canada, we remain on a rapid growth trajectory



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**



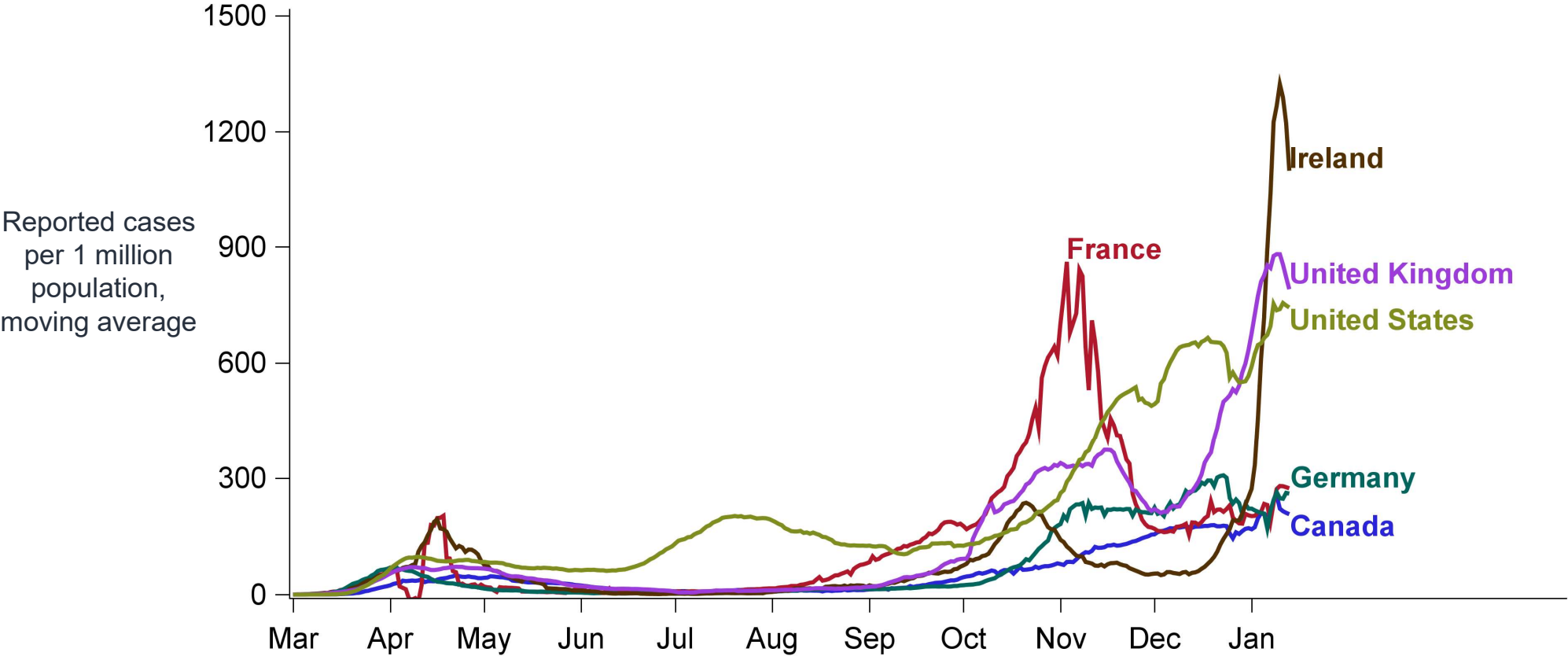
If we **reduce** the current number of people we contact each day **to only essential activities** through **combined** individual precautions and public health measures – the epidemic is forecast to come under control in most locations: **Blue line**

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

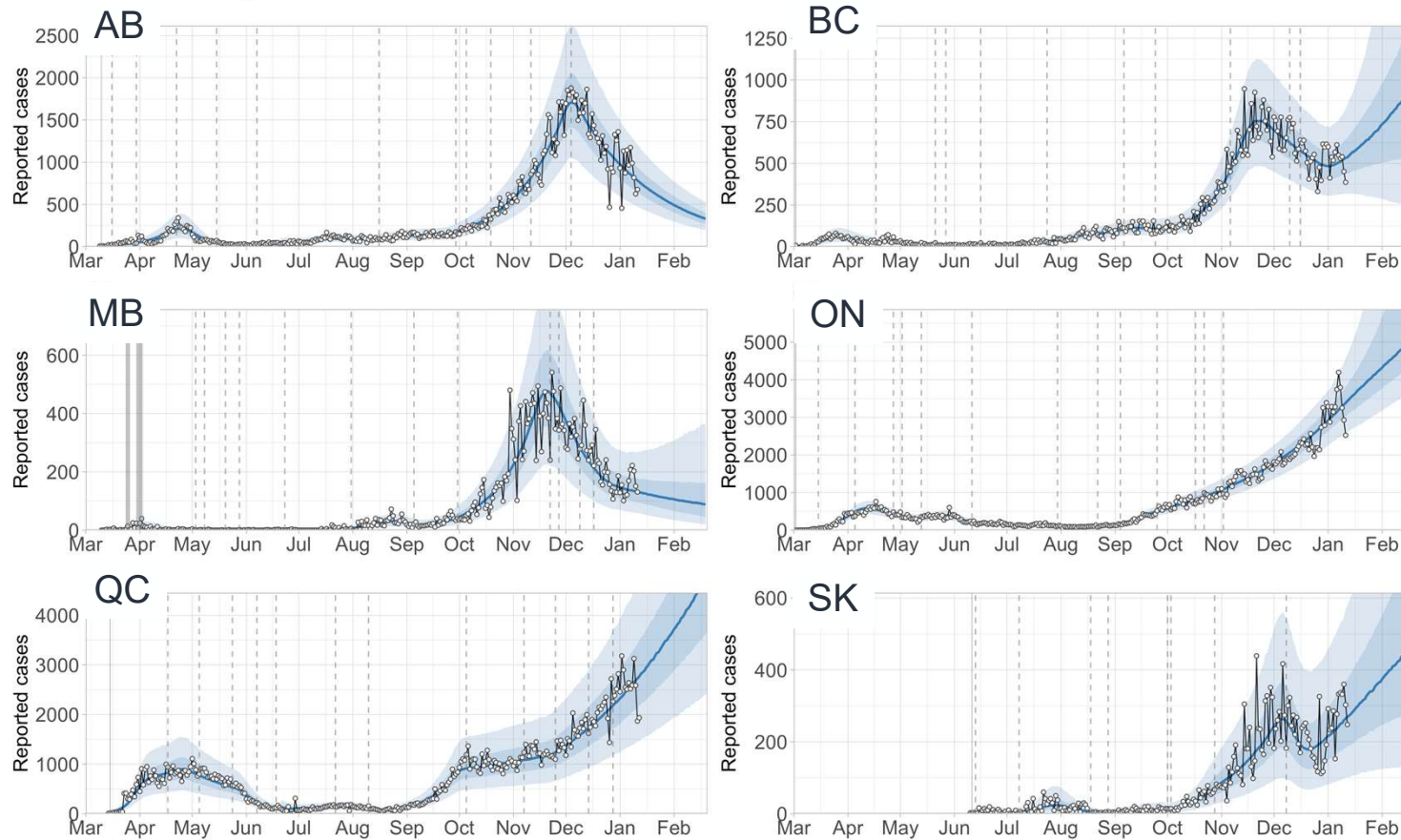
Upcoming months will be very challenging for Canada – we must redouble efforts and hold firm to see our way through

- 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 are 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 12, 2021

Projected incidence for the next 3 months (blue line) with 50 and 95% credibility intervals (shaded areas).