

Update on COVID-19 in Canada: Epidemiology and Preparedness

April 1, 2022

Canada.ca/coronavirus



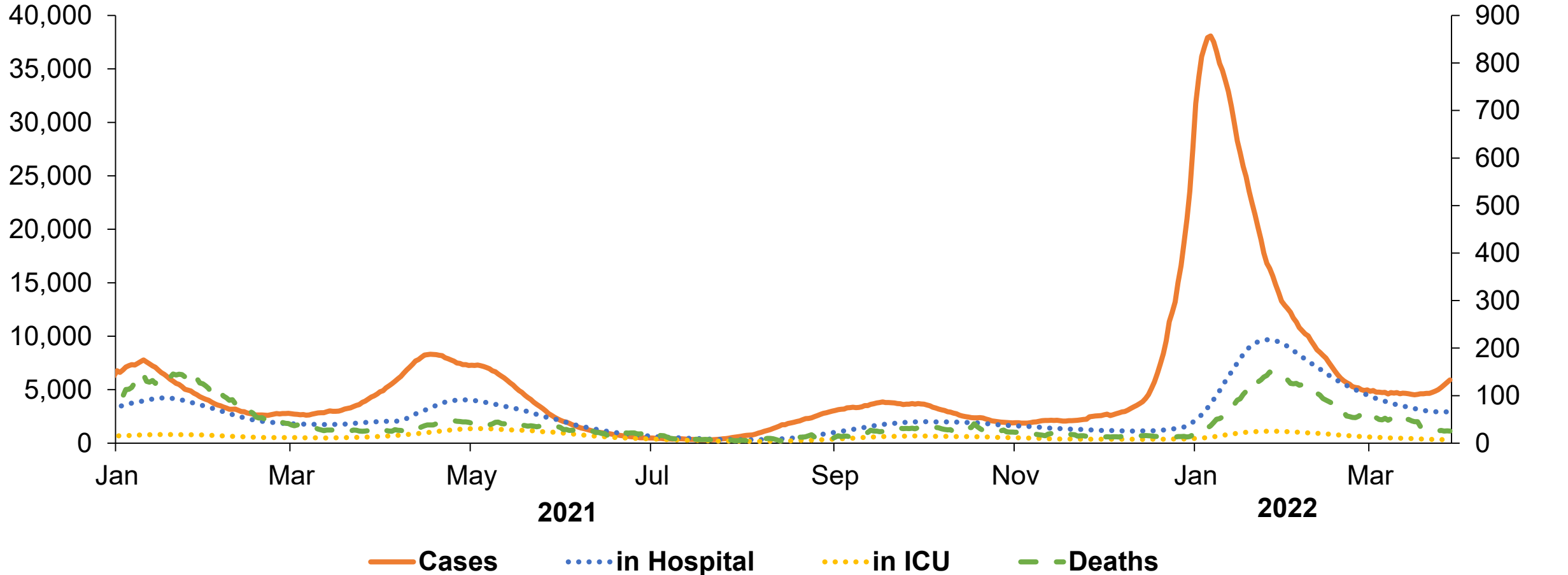
Public Health
Agency of Canada

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Canada

While cases and severe outcomes have declined significantly since the peak of the Omicron wave, disease activity remains elevated and is rising in some parts of the country

Number (cases/
in hospital / in ICU)



Data as of March 28, 2022

Source: Provincial and Territorial Ministry of Health websites..

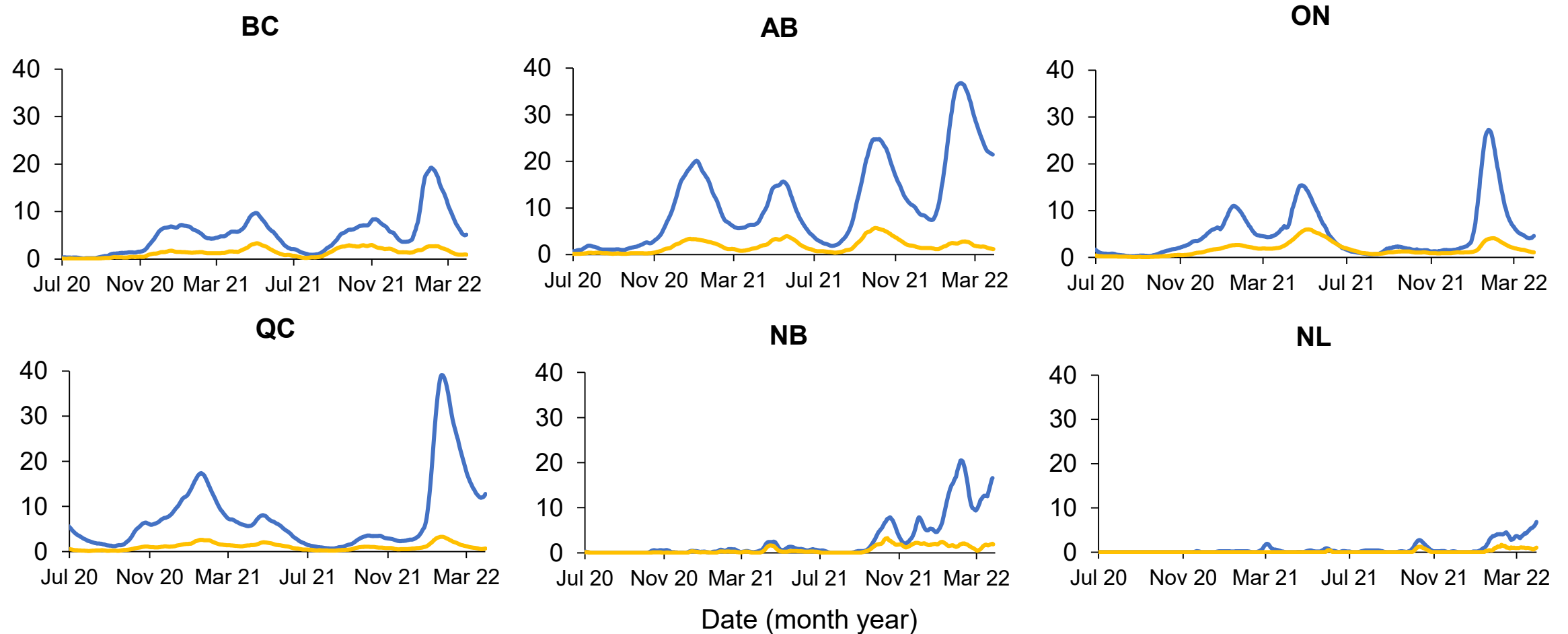
Note: Trend lines reflect 7-day moving averages. Cases and deaths data include data from nine of thirteen Canadian provinces and territories. Total hospitalizations and ICU admissions include all people in hospital and in ICU on that day. Hospitalizations and ICU counts include data from five of thirteen Canadian provinces and territories. Due to changes in COVID-19 testing policies and capacity limitations in many jurisdictions starting in late December 2021, case counts will underestimate the total burden of disease. Similar numbers of cases and number in hospital are likely due to a combination of factors, including changes in testing strategy resulting in identification of a smaller proportion of cases, prioritization of testing hospitalized patients cases more likely to develop severe outcomes, and hospitalizations representing the total number in hospital (census) as opposed to the number of new hospitalizations over time.



While regional variation continues, hospitalization trends could rise in the coming weeks given recent increases in disease activity

Number in hospital / in ICU
per 100,000 population

Hospitalization trend ———
ICU trend ———



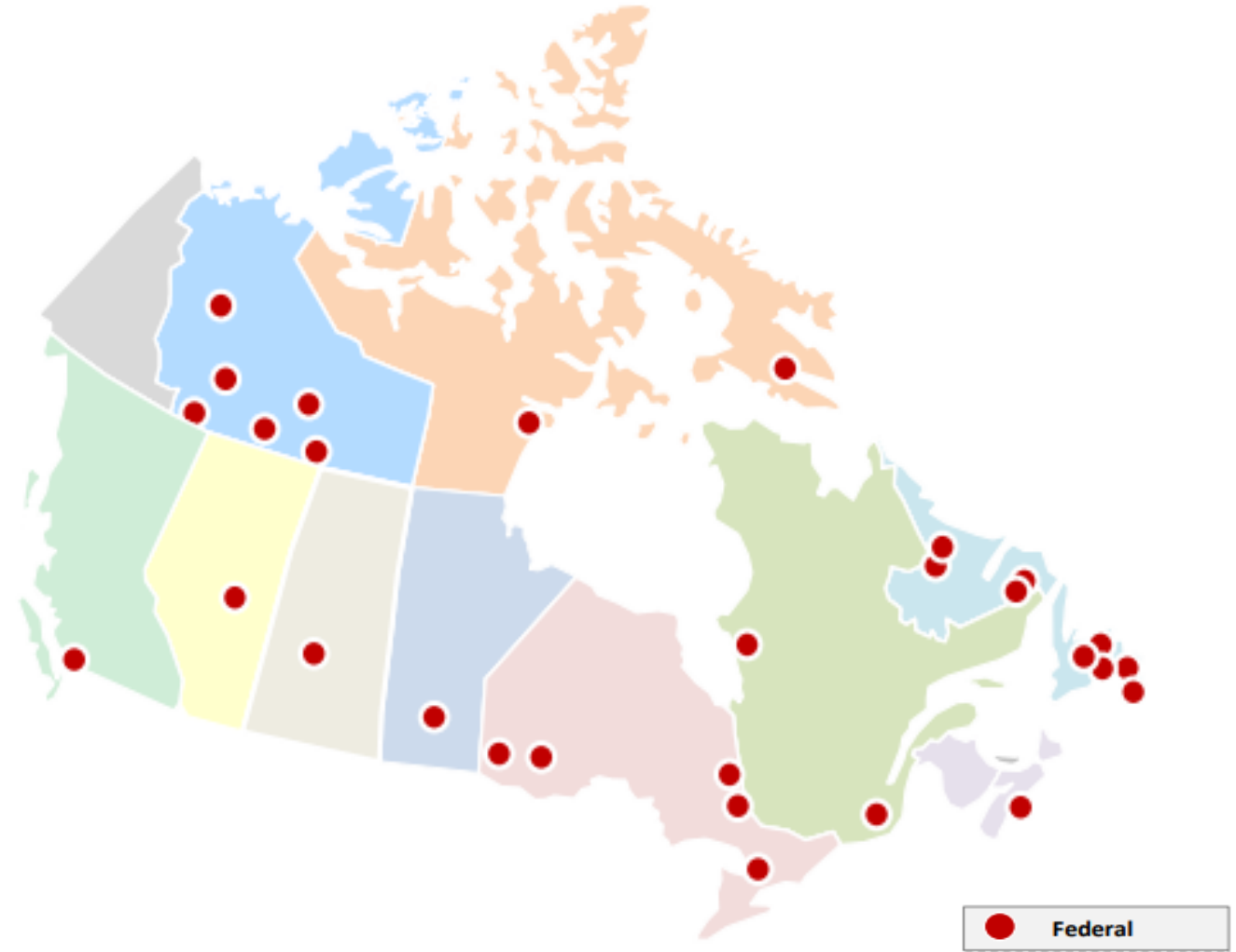
Data as of March 30 (ON, BC, QC, NL), March 28 (AB), and March 26, 2022 (NB).

Source: Provincial and Territorial Ministry of Health websites.

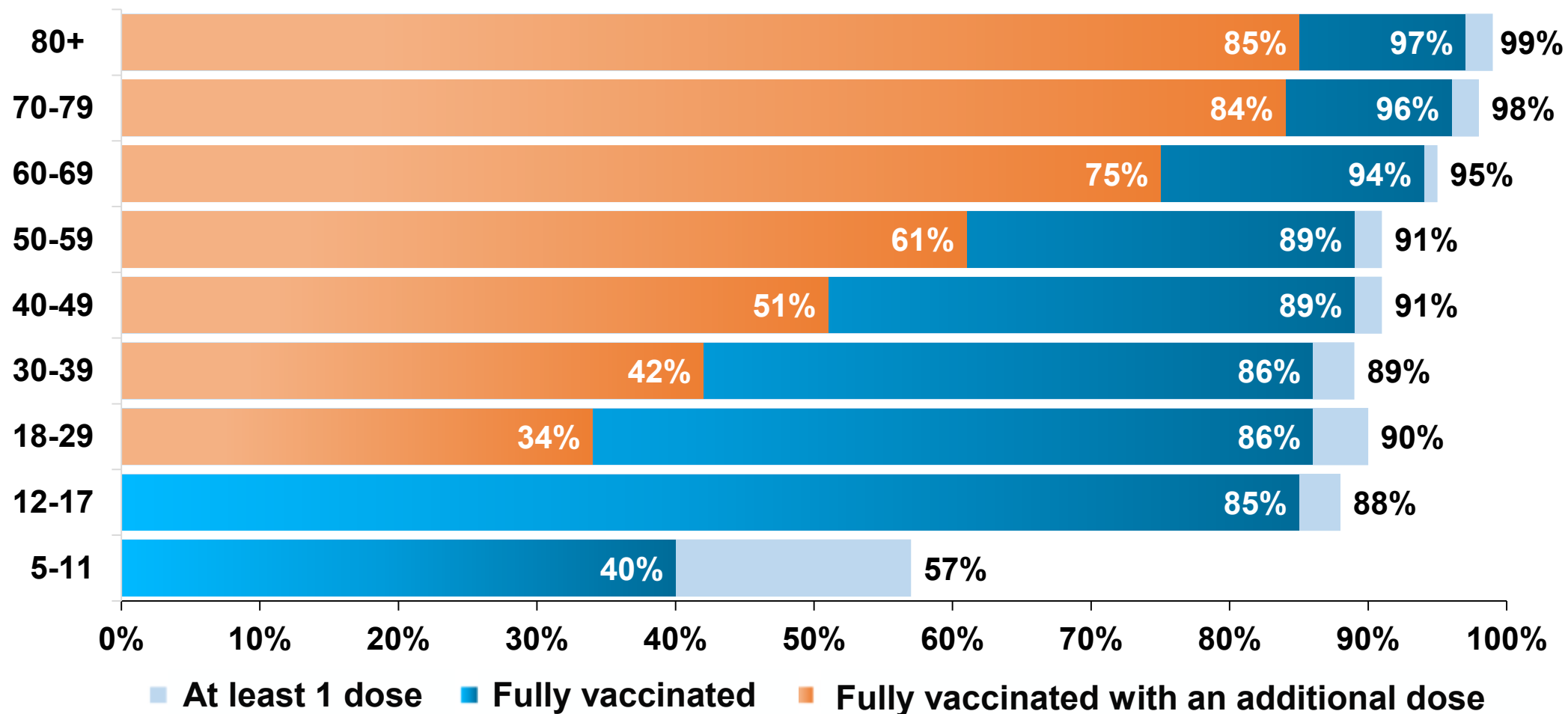
Note: Trend lines reflect 7-day moving averages. Total hospitalizations and ICU admissions include all people in hospital and in ICU on that day.

Wastewater surveillance provides another tool for signal detection and COVID-19 trend monitoring in communities

- ~60% Canadian population coverage across all networks
- Some sites currently showing rising virus levels in community wastewater
- However, there is variability in trends of virus levels across testing sites



Millions of people in Canada could still reduce their risk of severe illness by getting up-to-date with their COVID-19 vaccinations



Data as of March 27, 2022

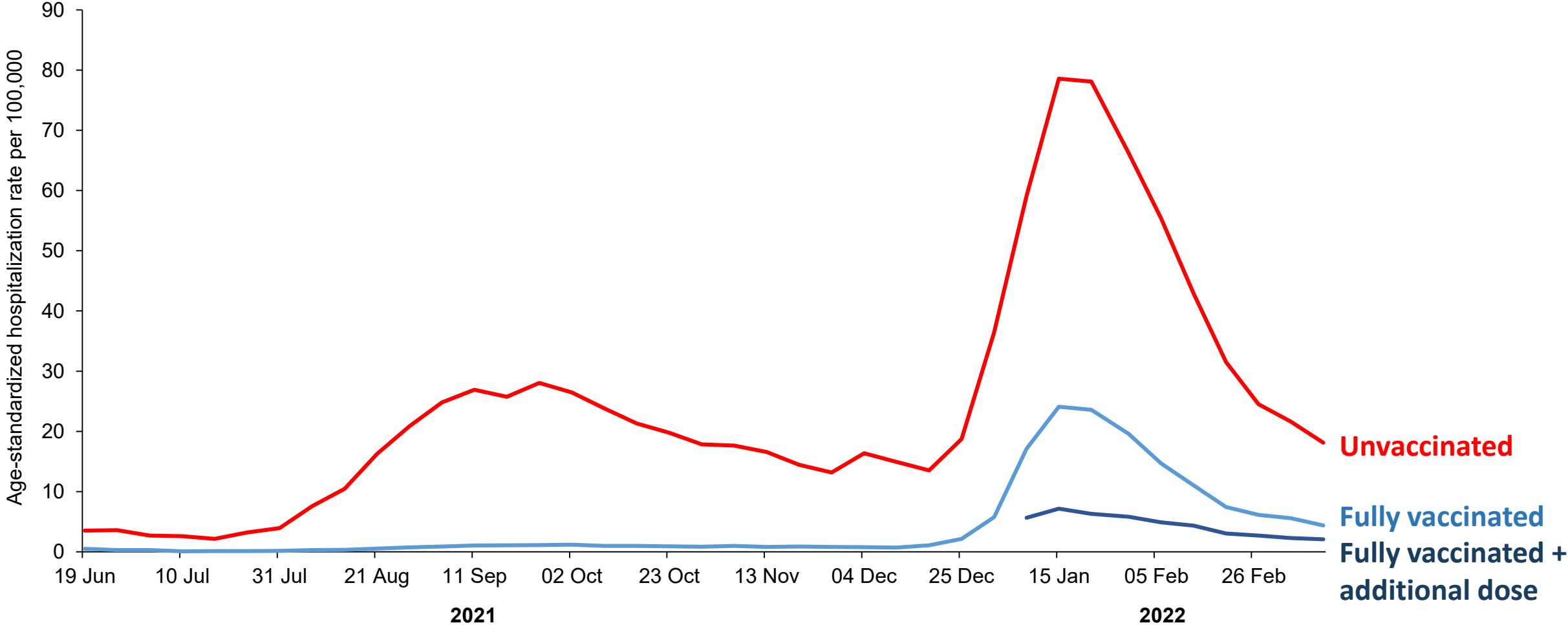
Source: Canadian COVID-19 Vaccination Coverage Surveillance System

Note: Fully vaccinated is defined as either: Having received the second dose of a two-dose vaccine; or having received one dose of a single-dose vaccine; or in Québec only, having received one dose of a two-dose vaccine after a laboratory-confirmed SARS-CoV-2 infection. Fully vaccinated with an additional dose is defined as having received an additional dose of vaccine after completing the primary series.

Additional doses are mostly boosters but also include additional doses given as part of primary series or for travel purposes.



Fully vaccinated people continue to be at significantly reduced risk of hospitalization, particularly after an additional dose



Data as of March 25, 2022 using data up to March 13, 2022

Source: Eight provinces and territories for the eligible population 5 years or older, adjusting for age.

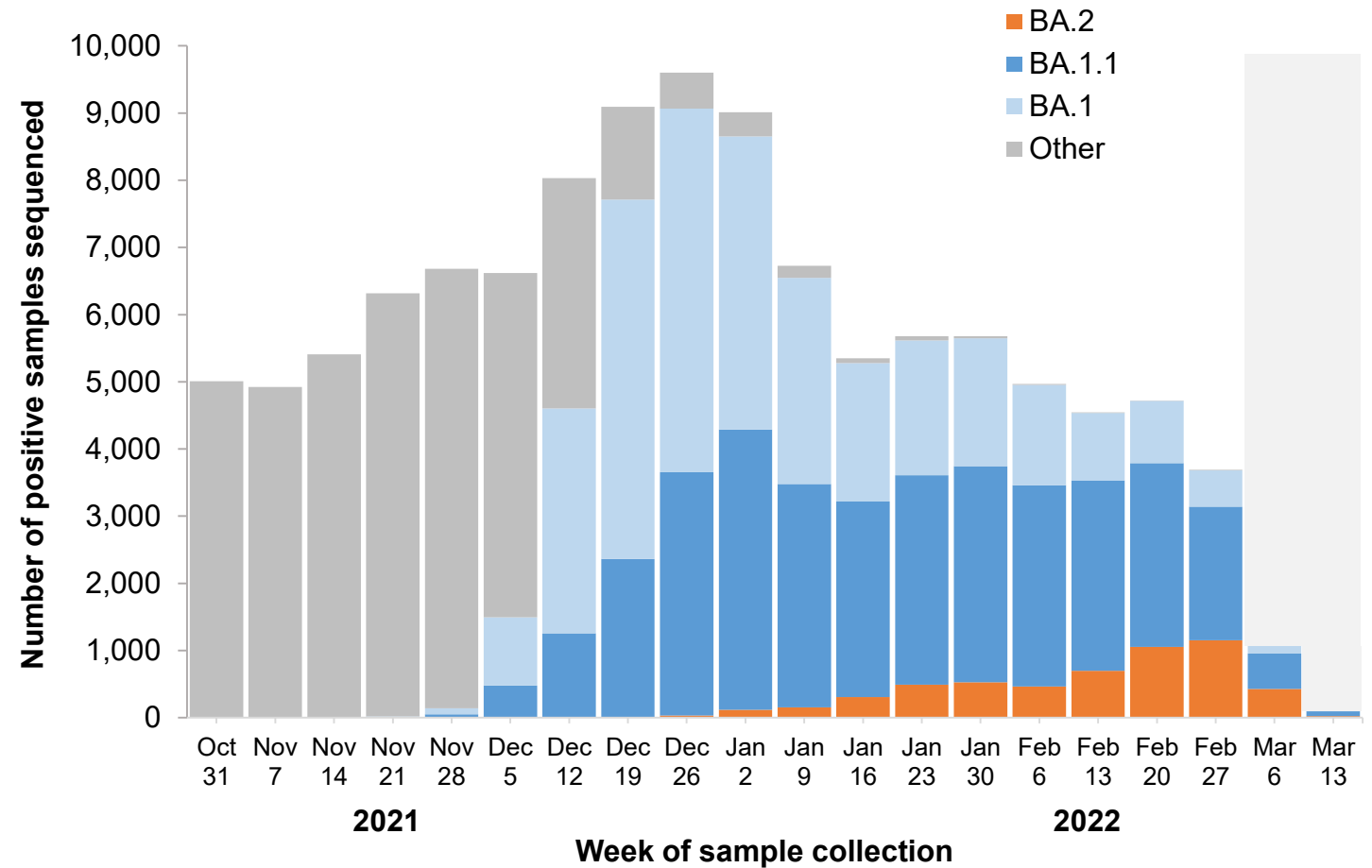
Note: Unvaccinated cases include those who were unvaccinated at the time of their onset; fully vaccinated cases had onset ≥ 14 days from their second dose and < 14 days after receiving an additional dose; cases fully vaccinated with an additional dose had onset ≥ 14 days after receiving an additional dose.



Canada is observing a steady increase in the BA.2 variant and ongoing genomic surveillance will remain crucial for monitoring SARS-CoV-2 variants of concern

BA.2 sub-lineage of Omicron

- BA.2 steadily increasing as proportion of sequences
- Dominant in some jurisdictions
- More transmissible than BA.1
- Like BA.1, BA.2 can still cause severe outcomes, especially among people without prior immunity
- Vaccine effectiveness expected to be similar for BA.1 and BA.2
- Infection with BA.2 within 2 months of BA.1 infection is rare



Data as of March 13, 2022.

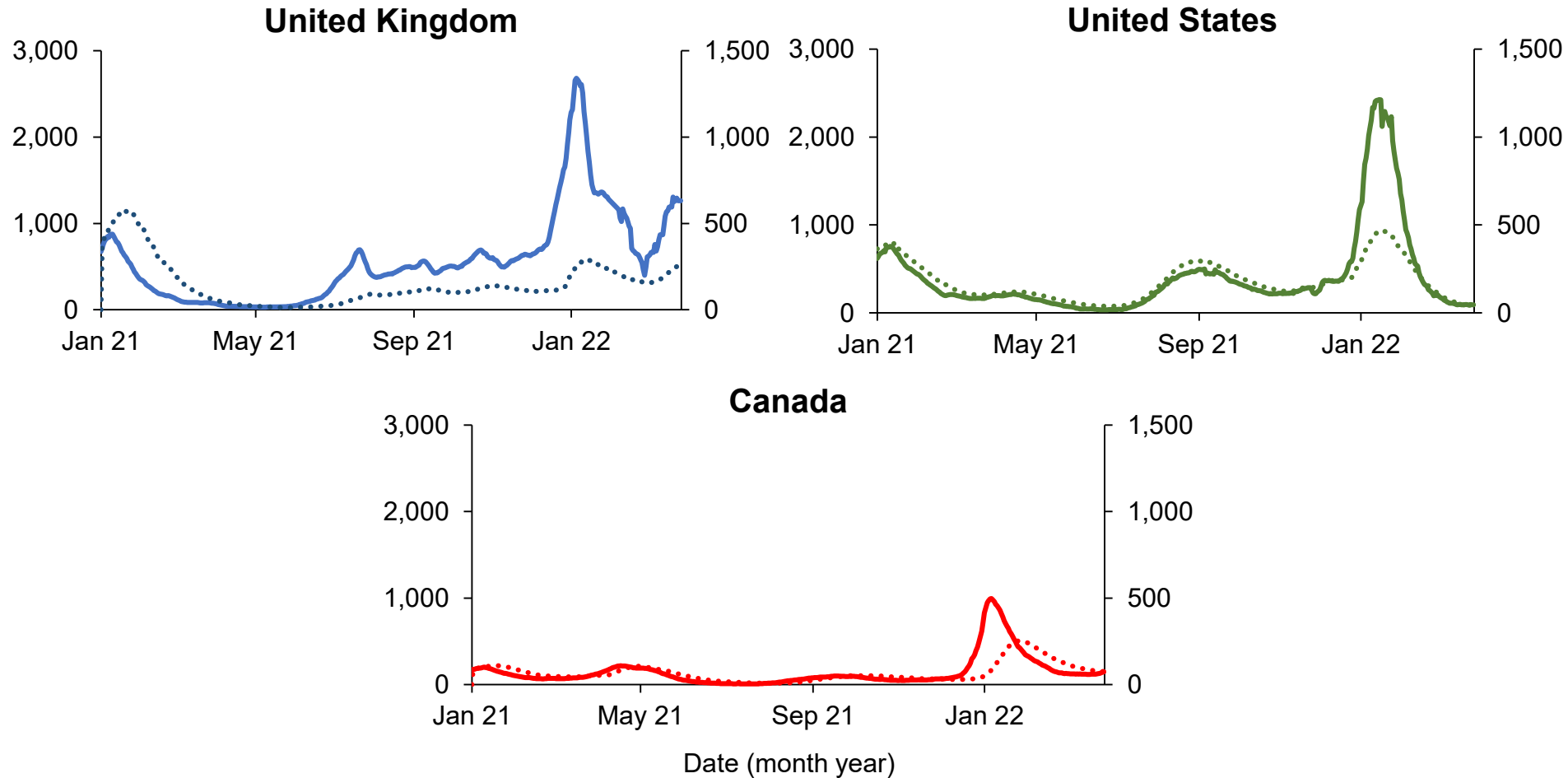
Source: Whole genome sequencing from surveillance testing in all provinces and territories.

Note: Shaded area represents period of accumulating data. Sequencing takes from 1 to 3 weeks to complete, so the proportions for recent weeks may change as more data are added. Surveillance in each province or territory is organized and prioritized according to local needs and may change from time to time. Because of differences in local sampling and reporting, the number of positive samples sequenced illustrate trends rather than precise measurements.

Recent international trends demonstrate that COVID-19 is still circulating widely and the risk for further resurgence remains

Number of cases per 1,000,000 population
(solid line)

Number in hospital per 1,000,000 population
(dotted line)



Data as of March 28, 2022

Source: Our World in Data for United Kingdom and United States. Provincial and Territorial Ministry of Health websites for Canada.

Note: Canada's graph includes data from eight of Canada's thirteen provinces and territories for cases and five of thirteen provinces and territories for hospitalizations.



COVID-19 is expected to be with us for the foreseeable future and we should expect intermittent waves while also preparing for the worst-case scenario



Realistic Scenario:
Ongoing transmission with intermittent waves

- Immunity due to **prior infection and vaccination is high, but wanes over time**
- **Less circulation of SARS-CoV-2**, but the virus persists and continues to **transmit at a low-moderate level**
- **New variants emerge, sometimes spread** and can cause rise in cases and severe outcomes
- **Intermittent waves and outbreaks occur**, and may coincide with influenza and other respiratory virus outbreaks but levels of cases and severe outcomes are expected to be **manageable for health systems without the need for restrictive public health measures**



Worst-case Scenario:
Emergence of an immune evasive and severe VOC

- Ongoing monitoring and preparing for the sudden appearance of a VOC for which vaccines have low effectiveness:**
- VOC spreads quickly in Canada, causing a **large new wave of cases**
 - Increased severity causes **severe outcomes to rise substantially**, particularly in high-risk populations
 - High burden of cases and severe outcomes **strains public health and healthcare systems**
 - **Reimplementation of combined personal protection (e.g., masking) and restrictive public health measures** (e.g., capacity limits) could be required

Preparedness and prevention better equip us to manage varying virus activity going forward

- While this is a time to recover, in light of potential scenarios, we are transitioning to sustainable management and at the same time preparing for future waves, including a worst-case scenario.
- Overall high vaccination coverage, together with public health measures and adapting our daily routines, have provided us with better protection going forward.
- While we can expect further ups and downs, we can rely on a suite of tools to better respond to future challenges.
- For public health and individuals alike, maintaining caution and a state of readiness will be our strongest advantage as we prepare and enhance our surge capacity for future response.
- For individuals and families:
 - keeping COVID-19 vaccines up-to-date including getting a booster dose when eligible
 - being aware of evolving risks in our community
 - maintaining individual protective practices (e.g. wearing masks, staying home when sick, improving ventilation of indoor spaces)

