

Epidemiology of COVID-19 in BC: The first 3 months

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As of mid-May 2020, more than 2000 diagnosed cases of COVID-19 in British Columbia were reported to public health.¹ The epidemic in BC began with the first lab-confirmed case reported on 26 January 2020. Cases through to the end of February were among international travelers or close contacts of travelers to an area with community transmission. In early March 2020, the first case of community transmission in BC was reported, and the first two outbreaks of COVID-19 were identified (one at a conference, and one at a long-term care facility). This was followed by the increase in case counts.

Cases related to travel slowed coincident with restrictions on non-essential travel, mandatory quarantine upon return to BC, and border closures (3rd week of March 2020). A variety of public health measures were implemented, and lab testing capacity continued to be expanded, with testing initially focused on those most likely to transmit infection or who were part of clusters or outbreaks. The daily number of incident reported cases peaked in the 4th week of March at close to 100 new cases.¹ Thereafter, there was a slow decline and leveling in the number of new cases identified daily through April. In late April, low-threshold testing began, and case numbers remained stable. Five weeks after the peak, most cases were acquired locally through contact with a known case or cluster with very little community transmission.

All five regional health authorities reported cases of COVID-19; 84% of cases were from the two most populous health authorities,

Fraser Health and Vancouver Coastal Health.¹ Lab-confirmed cases were evenly distributed by sex. Two-thirds of cases were among individuals aged 30 to 69, and only 2% were pediatric (younger than 19 years). Approximately one in five cases was among health care workers. By 6 May 2020, 49 outbreaks had been declared, the majority (n = 41, 84%) in health care facilities, and eight in other settings (e.g., correctional facilities, workplaces).

One in five British Columbians who tested positive for COVID-19 was hospitalized, and of those two in five required critical care. The crude case fatality rate was 5%, with age-specific rates ranging from 0.8% among individuals younger than 70 years, to 10% among individuals aged 70 to 79, and 28% in individuals 80 years and older. The majority (> 60%) of deaths were among residents of long-term care facilities. Males were at 70% increased risk of death and were also more likely to be hospitalized compared to females (25% for males, 15% females). The number of individuals requiring hospitalization and/or critical care peaked in the first week of April about 10 days after the peak in cases. At the peak, there were nearly 150 cases in hospital across the province; after the peak, the number steadily declined.

Across Canada, every province has experienced its own epidemic: a series of regional epidemics.² While BC represents 14% of the Canadian population, it accounts for less than 4% of national COVID-19 cases and deaths so far.² BC's epidemic curve was most similar to Saskatchewan's, both in terms of the magnitude relative to the population, as well as the overall trajectory. Internationally, BC fared favorably in

the first 3 months of the pandemic compared with many other countries, mirroring Australia's epidemic curve.³ While the age and sex distribution of cases in BC was similar to what was observed across Canada, there were relatively fewer reported cases among youth and relatively more reported fatalities among individuals over 80 years old compared with global patterns. This is likely a reflection of variations in testing practices and because most COVID-19-related deaths in Canada have occurred in long-term care facilities. The observed sex difference in BC for severe COVID-19-related outcomes, with men more likely to be hospitalized, require critical care, and die, is consistent with international statistics.⁴

As the restrictions and measures put in place to prevent community transmission in BC continue to ease over the coming weeks, the province will

continue to monitor the dynamics and epidemiology of the pandemic. ■

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