



## COVID-19 Omicron Variant

January 2022

### Background

The COVID-19 B.1.1.529 variant also known as 'Omicron' was designated a variant of concern in Canada on November 28, 2021.<sup>i</sup> The earliest documented samples of the variant were found across multiple countries in November 2021, and Omicron has since spread rapidly around the world.<sup>ii</sup> In December 2021, Omicron surpassed Delta as the predominant COVID-19 variant in British Columbia and continues to contribute to a sharp increase in cases and hospitalizations in BC in January 2022.<sup>iii</sup> In the course of one week leading up to January 3, 2022, there have been more than 22,000 cases of COVID-19 recorded in BC, compared to approximately 10,000 cases over an entire month from November 10 to December 7, 2021.<sup>iv</sup> Case counts have similarly gone up across Canada, with approximately 44,000 new cases reported on January 1, 2022 nationwide, compared to 3200 new cases on November 1, 2021, and 3100 on December 1, 2021.<sup>v</sup>

Omicron has a very large number of genetic mutations, some of which have not been sequenced before in previous variants. Research shows that the variant has approximately 50 genetic mutations, 30 of which are located within the spike protein of the virus, and ten located in the receptor binding domain compared to only two mutations in the receptor binding domain of the Delta variant.<sup>vi</sup> Data shows that due to the high number of mutations, Omicron is extremely transmissible and may lead to re-infection in individuals previously infected with another strain of the COVID-19 virus.<sup>vii</sup> Thus far, studies suggest that the COVID-19 vaccines approved for use in Canada provide protection for most individuals against severe illness and/or hospitalization. Early data also suggests that a booster dose of a COVID-19 vaccine further increases this protection against severe illness and/or hospitalization.

In BC and across Canada, the increased transmissibility of the Omicron variant is leading to rapid infection and the highest levels of cases seen over the course of the pandemic.<sup>viii</sup> Modelling projections from December show that cases in BC associated with Omicron are rising at a rate of 13% to 29% each day, and that the demand on hospitals will become 'extreme' throughout early 2022.<sup>ix</sup> This sudden and sharp increase in cases of COVID-19 leads to a greater number of individuals requiring urgent care and hospitalization. This type of spike in hospitalizations will continue to take a toll on an already heavily burdened health care system hit with multiple waves of the pandemic for the past two years and could lead to further delays of scheduled surgeries which, while not emergent, are often critical and/or potentially life-altering for the wellbeing of the patient. Moreover, health care workers are themselves at increased risk for becoming infected with COVID-19, adding an additional barrier to the ability to provide care for those who need it.

At the global level, World Health Organization (WHO) Director-General Ghebreyesus stated that Omicron is 'spreading at a rate we have not seen with any previous variant,' and that employing all layers of protection as well as establishing global vaccine equity are fundamental pieces in slowing the spread of variants like Omicron and preventing the development of future variants of concern.<sup>x</sup> Layers of protection include getting vaccinated along with correctly wearing a tight-fitting mask, practising physical distancing, avoiding large groups, washing hands thoroughly and regularly, and upgrading and maintaining sufficient ventilation. Practising all layers of protection is necessary as Omicron circulates in communities and internationally. Achieving global vaccine equity, however, is essential to protecting everyone around the world. Currently 139 countries have not been able to vaccinate even 40% of their populations, of which 41 countries have not been able to vaccinate even 10% of their population.<sup>xi</sup> This global health inequity will continue to lead to further death and illness from COVID-19.

Omicron is still a new variant, and as such further investigation is required to better understand its behaviour and long-term impacts. The [Public Health Agency of Canada \(PHAC\)](#), Health Canada, and the [BC Centre for Disease Control \(BCCDC\)](#) will continue to monitor all cases of COVID-19 in BC and across Canada, including paying attention to any new cases of Omicron. For the most accurate and up to date information regarding Omicron and other variants, it is important to check with these resources frequently.



Nurses remain at the frontlines of care for those with COVID-19 and continue to work under extraordinarily difficult circumstances while also living with concern for their own health and wellness. The impact of COVID-19 and Omicron specifically to an already stretched health care system will be significant. In addition, the mental health impacts for nurses and other health care workers as a result of COVID-19 will also likely be felt for many years to come. Yet, no matter how difficult the challenge, nurses continue to maintain the public trust by providing safe, competent, ethical, and evidence-based care not only as care providers working with patients, residents, families, and communities but also as leaders shaping and stewarding the pandemic response. NNPBC will continue to support the inclusion of nurses in the designing and leading of health system decisions, including decisions on how to support the mental wellbeing of nurses.

### Key Messages

- The COVID-19 variant B.1.1.529 'Omicron' was designated a variant of concern in November 2021.
- Omicron quickly replaced Delta as the predominant COVID-19 variant by the end of December 2021.
- Omicron exhibits extremely increased transmissibility, leading to surges in case counts in BC and across Canada.
- Modelling projections show that cases caused by Omicron could further overwhelm BC's already burdened health care system due to increasing hospitalizations.
- WHO Director-General Ghebreyesus stated that in addition to practising all layers of protection, global vaccine equity remains an integral piece toward slowing this pandemic and saving lives.
- At the end of 2021, 41 countries had still not been able to vaccinate even 10% of their populations, and a further 98 countries had vaccinated less than 40% of their populations.
- Layers of protection include getting vaccinated along with correctly wearing a tight-fitting mask, practising physical distancing, avoiding large groups, washing hands thoroughly and regularly, and upgrading and maintaining sufficient ventilation are all important tools in helping to combat Omicron.
- The Public Health Agency of Canada (PHAC) and BC Centre for Disease Control (BCCDC) continue to monitor the Omicron variant and are the best resources for the most accurate and up to date information regarding the pandemic in BC and across Canada.
- NNPBC will continue to support the inclusion of nurses in the designing and leading of health system decisions, including decisions on how to support the mental wellbeing of nurses.
- Nurses continue to maintain the public trust by providing safe, competent, ethical, and evidence-based care not only as care providers working with patients, residents, families, and communities but also as leaders shaping and stewarding the pandemic response.

### Further Reading/Resources

- [Understanding the COVID-19 \(SARS-CoV-2\) Variants](#)
- [Health Canada: Update with consideration of Omicron – Interim COVID-19 infection prevention and control in the health care setting when COVID-19 is suspected or confirmed \(Dec 23, 2021\)](#)
- [BCCDC: COVID-19 Variants \(Including updates on Omicron\)](#)
- [BC COVID-19 Modelling Group: Projections Dec 2021](#)
- [BCCDC: Rapid COVID-19 Point of Care Screening Program](#)
- [NNPBC Issues Brief: The Limits of Resilience as an Approach to Addressing the Mental Health Impacts of COVID-19 on Nurses](#)



<sup>i</sup> Public Health Agency of Canada. 'SARS-CoV-2 variants: National definitions, classifications and public health actions.' Dec 23, 2021. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/testing-diagnosing-case-reporting/sars-cov-2-variants-national-definitions-classifications-public-health-actions.html>

<sup>ii</sup> World Health Organization. 'Tracking SARS-CoV-2 Variants.' Nov 2021. <https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/>

<sup>iii</sup> BC Gov News. 'Daily Update on COVID-19.' Jan 5, 2022. <https://news.gov.bc.ca/releases/2022HLTH0004-000008>;

Global News. 'COVID-19: B.C. health officials say it is likely most residents will become sick with Omicron.' Jan 4, 2022. <https://globalnews.ca/video/8488351/b-c-health-officials-say-it-is-likely-most-residents-will-become-sick-with-omicron>

<sup>iv</sup> BC Centre for Disease Control. 'BCCDC COVID Data Summary.' Dec 9, 2021. [http://www.bccdc.ca/Health-Info-Site/Documents/COVID\\_sitrep/2021-12-09-Data\\_Summary.pdf](http://www.bccdc.ca/Health-Info-Site/Documents/COVID_sitrep/2021-12-09-Data_Summary.pdf)

<sup>v</sup> Little, Noah. 'COVID-19 Tracker Canada.' Updated Jan 5, 2022. <https://covid19tracker.ca/>

<sup>vi</sup> Meredith, Sam, Towey, Robert and Smith, Elliott. *CNBC*. 'WHO labels new Covid strain, named Omicron, a 'variant of concern', citing possible increased reinfection risk.' Nov 26, 2021. <https://www.cnbc.com/2021/11/26/who-labels-newly-identified-covid-strain-as-omicron-says-its-a-variant-of-concern.html>;

Hagen, Ashley. *American Society for Microbiology*. 'How Ominous is the Omicron Variant (B.1.1.529)?' Dec 16, 2021. <https://asm.org/Articles/2021/December/How-Ominous-is-the-Omicron-Variant-B-1-1-529>

<sup>vii</sup> Horowitz, Jason, Chutel, Lynsey, and Ives, Mike. *New York Times*. 'Covid Lives Updates: W.H.O. Says New Variant in South Africa is 'Of Concern.' Nov 26, 2021. <https://www.nytimes.com/live/2021/11/26/world/covid-vaccine-boosters-variant>

<sup>viii</sup> BC COVID-19 Modelling Group. 'COVID Model Projections.' Dec 22, 2021. <https://bccovid-19group.ca/post/2021-12-22-report/COVID19group-2021-12-22.pdf>

<sup>ix</sup> BC COVID-19 Modelling Group. *COVID Model Projections – Dec 22, 2021*.

<sup>x</sup> World Health Organization. 'WHO Director-General's opening remarks at the media briefing on COVID-19 – 14 December 2021.' Dec 14, 2021. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---14-december-2021>

<sup>xi</sup> WHO. *WHO Director-General's opening remarks, 14 Dec 2021*.