

Case Definition

Confirmed case

A person with confirmation of infection with SARS-CoV-2 documented by:

- The detection of at least 1 specific gene target by a validated laboratory-based nucleic acid amplification test (NAAT) assay (e.g., real-time PCR or nucleic acid sequencing) performed at a community, hospital, or reference laboratory (the National Microbiology Laboratory or a provincial public health laboratory)

OR

- The detection of at least 1 specific gene target by a validated point-of-care (POC) NAAT that has been deemed acceptable to provide a final result (i.e., does not require confirmatory testing)

OR

Seroconversion or diagnostic rise (at least 4-fold or greater from baseline) in viral specific antibody titre in serum or plasma using a validated laboratory-based serological assay for SARS-CoV-2ⁱ.

Probable case

A person who:

1) Has clinical evidence of symptoms compatible with COVID-19; **AND**

- Had a high-risk exposure with a confirmed COVID-19 case (i.e., close contact)

OR

- Was exposed to a known cluster or outbreak of COVID-19

AND

- Has not had a laboratory-based NAAT assay for SARS-CoV-2 completed **or** the result is inconclusive

OR

- Had SARS-CoV-2 antibodies detected in a single serum, plasma, or whole blood sample using a validated laboratory-based serological assay for SARS-CoV-2 collected within 4 weeks of symptom onset.ⁱ

OR

2) Had a POC NAAT **or** POC antigen test for SARS-CoV-2 completed and the result is preliminary (presumptive) positive.

OR

3) Had a validated POC antigen test for SARS-CoV-2 completed and the result is positive.

ⁱ Serology is not used in Nova Scotia for COVID-19 testing.

Laboratory Comments

Laboratory tests are evolving, and recommendations may change as new assays are developed and validated. Assays that have been licensed by Health Canada are preferred.¹

Any case classified as probable based on an epidemiological link, which subsequently tests negative for the SARS-CoV-2 virus should not be classified as a case. Exceptions may be made for negative results from a compromised sample or if NAAT testing is delayed (e.g., >10 to 14 days following symptom onset), whereby such persons remain as probable cases.¹

Laboratory-Based Tests

NAATs must be validated for SARS-CoV-2 detection.

An **inconclusive** result on a real-time PCR assay is an indeterminate result on a single or multiple real-time PCR target(s) without sequencing confirmation, or a positive result from an assay for which limited performance data are available.¹

An **indeterminate** result on a real-time PCR assay is a late amplification signal in a real-time PCR reaction at a predetermined high cycle threshold value. This may be due to low viral target quantity in the clinical specimen approaching the limit of detection (LOD) of the assay or may represent nonspecific reactivity (false signal) in the specimen. When clinically relevant, indeterminate samples should be investigated further in the laboratory (e.g., by testing for an alternate gene target using a validated real-time PCR or nucleic acid sequencing that is equally or more sensitive than the initial assay or method used) or by collection and testing of another sample from the patient.¹

For additional information on diagnostic testing for SARS-CoV-2, please refer to the [COVID-19 Chapter in the Nova Scotia Communicable Disease Manual](#).

Clinical Evidence

COVID-19 presents with varied clinical features, and symptoms can vary from person to person, and among different age groups. Please refer to the [COVID-19 Chapter in the Nova Scotia Communicable Disease Manual](#) or the Public Health Agency of Canada's [COVID-19 signs, symptoms and severity of disease: A clinician guide](#) for a list of common and infrequently reported COVID-19 symptoms.^{1,3}

Reinfection

A confirmed case of SARS-CoV-2 that has a subsequent confirmed infection of SARS-CoV-2 at least 90 days after the previous infection.

If the case is symptomatic, then use symptom onset date and if symptom onset date is unavailable or the case is asymptomatic, then the earliest of the following dates could be used as proxy for classification: laboratory specimen collection date, laboratory testing date or reported date.

The judgement of a Medical Officer of Health or relevant public health authority may be used to identify reinfection cases based on new exposures or symptoms if the above criteria are not met.¹

Hospitalized Case

A hospitalization COVID-19 case is person admitted to hospital who is a confirmed case of COVID-19 within 14 days of admission to 3 days post admission; **AND**

One of the Following:

- COVID-19 is the admitting diagnosis.
OR
- Acute respiratory illness is the admitting diagnosis.
OR
- The admitting diagnosis is a cardiopulmonary complication within 14 days of COVID-19 onset.
OR
- The presenting complaint is related to a chronic condition that was potentially exacerbated by COVID-19 within 14-days of COVID-19 symptom onset.

Note, a hospitalized COVID-19 case includes those where COVID-19 is the direct cause of admission OR contributing cause of admission.

Deceased Case

A confirmed COVID-19 case whose death resulted from a clinically compatible illness, unless there is a clear alternative cause of death identified (e.g., trauma, poisoning, drug overdose). A death may be attributed to COVID-19 when COVID-19 is the cause of death or is a contributing factor.¹ This includes death certificates that list COVID-19 as an immediate cause of death, an antecedent cause giving rise to an immediate cause, or other significant conditions contributing to, but not causally related to, the immediate cause.

Reporting Requirements

- Report confirmed cases to DHW Surveillance.
- Report weekly updates on the outcomes of hospitalized cases, spanning up to 4 weeks or until patients are discharged or deceased, to the DHW Surveillance Team. Include all available outcomes.

Additional Forms

None.

Data Entry

Record all required information in Panorama. Refer to Panorama SOP for instructions on reporting in Panorama.

References

- 1) Government of Canada (2023). National case definition: Coronavirus disease (COVID-19). Retrieved November 15, 2023, from <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/national-case-definition.html>
- 2) Vibholm, L. K., Nielsen, S. S. F., Pahus, M. H., Frattari, G. S., Olesen, R., Andersen, R., Monrad, I., Andersen, A. H. F., Thomsen, M. M., Konrad, C. V., Andersen, S. D., Højen, J. F., Gunst, J. D., Østergaard, L., Søgaaard, O. S., Schleimann, M. H., & Tolstrup, M. (2021). SARS-CoV-2 persistence is associated with antigen-specific CD8 T-cell responses. *EBioMedicine*, 64, 103230. <https://doi.org/10.1016/j.ebiom.2021.103230>
- 3) Government of Canada (2022). COVID-19 signs, symptoms, and severity of disease: A clinician guide). Retrieved November 15, 2023, from <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/signs-symptoms-severity.html>