VARICELLA (CHICKENPOX)

Case Definition

Confirmed Case[1]:

Clinical evidence of illness and laboratory confirmation of infection:

- Isolation or direct antigen detection of varicella-zoster virus (VZV) from an appropriate clinical specimen (e.g., vesicle/lesion fluid or swab)

OR

- detection of VZV DNA

OR

- seroconversion or a significant rise (i.e., fourfold or greater) by any standard serologic assay in varicella-zoster IgG titre between acute and convalescent sera

OR

- positive serologic test for varicella-zoster IgM antibody

OR

Clinical evidence of illness in a person with an epidemiologic link[2] to a laboratory-confirmed case of chickenpox or VZV infection

Probable Case:

Clinical evidence (see below) of illness in the absence of laboratory confirmation or an epidemiologic link[2] above to a laboratory-confirmed case of chickenpox or VZV infection

Clinical Evidence

Usual clinical features of **wild-type varicella (chickenpox)** include:

- Generalized, vesicular (fluid-filled), pruritic (itchy) rash. Rash may be maculopapular initially and then change to a generalized, pruritic rash, typically consisting of 200-500 lesions in varying stages of development (all stages may be simultaneously present). Lesions tend to develop on the trunk and face, and progress to extremities. Ulcerated lesions may be present on mucous membranes.
- Mild fever.
- General malaise.
- Mild prodrome (fever, malaise and upper respiratory tract infection) may precede rash by 1–2 days. Prodrome does not usually occur in children.

Varicella (chickenpox) can present atypically in certain populations, such as immunocompromised individuals or previously vaccinated individuals. Varicella in previously vaccinated individuals is called **breakthrough disease (or vaccine-modified disease)**. Breakthrough disease consists of a maculopapular rash occurring

[1] Positive lab results of VZV in adults 50 years of age and older do not require follow-up or reporting as these individuals are presumed to be immune to varicella. However, if NSH Public Heath is made aware of a case of chickenpox in an adult 50 years of age and older, then follow up must occur.

[2] An epidemiologic link could also include vertical transmission of varicella to infants/neonates from infected mothers.

more than 42 days after receipt of varicella vaccine. Breakthrough disease is typically associated with milder illness. Rash is usually <50 lesions and maculopapular rather than vesicular. Systemic symptoms such as fever occur less frequently. Duration of illness for breakthrough disease is typically shorter. While breakthrough disease in the general population is generally mild, breakthrough disease among immunocompromised people may still be severe. Individuals who were more recently vaccinated may also occasionally experience **post-varicella vaccine rash.** Post varicella-like rash usually occurs 5 to 26 days after varicella vaccine in 3-5% of recipients. This may present as localized varicella-like rash at the injection site, or some individuals will develop a more generalized rash.

Due to varicella (chickenpox) sometimes presenting atypically, clinician discretion may be required in applying clinical evidence. For more detailed clinical evidence, please refer to "Table 2 Comparison of Varicella, Breakthrough, Vaccine Rash, and Herpes Zoster" in the Varicella Chapter of the Nova Scotia Communicable Disease Manual.

Hospitalized Case

A confirmed or probable case who was admitted to hospital in which the disease under investigation caused or contributed to the hospitalization.

Deceased Case

A death resulting from the disease under investigation in a confirmed or probable case. This disease does not need to be the primary cause of death[3].

Outbreak definition

Declaring an outbreak of varicella (chickenpox) is up to the discretion of the Regional Medical Officer of Health, depending on the time, place, and context. In a suspected outbreak, it is important to get laboratory confirmation of the initial 1-3 cases to confirm the etiologic agent. After that, subsequent cases could be connected to the outbreak by relying on clinical evidence and epidemiologic link only, without the need for lab testing.

Reporting Requirements

Report confirmed cases and probable cases to DHW Public Health Surveillance via Panorama.

Data Entry

See Appendix I for required DHW Public Health Surveillance minimum dataset elements to be entered into Panorama.

[3] This includes deaths identified through death certificates that list varicella (chickenpox) as an immediate cause of death, an antecedent cause giving rise to the immediate cause, or another significant condition contributing to, but not causally related to, the immediate cause.

Appendix I: DHW Public Health Surveillance Required Minimum Data Set for Varicella (Chickenpox)

Panorama Variable	Description	Surveillance Rationale
Client details		
First Name	First name of case	
Last Name	Last name of case	
Date of Birth	Date case was born	Allows for age-based analysis.
Gender	Legal sex of case (this field is called gender in Panorama)	Allows for sex-based analysis.
HCN	Health card number of case	Allows for linkage with administrative health data.
Address, including postal code	Address where case resides	Allows for geographic analysis.
Investigation details		
Disease	Disease under investigation	
Microorganism	Name of microorganism causing the specific disease	
Classification	Case classification.	Used for counting of cases in surveillance reporting.
Disposition	Case disposition	Allows for exclusion cases as applicable for surveillance reporting.
Responsible organization	Investigating organization	Allows for geographical analysis when address information is unknown.
Client address at time of initial investigation	Where client was residing at time of disease event, including postal code	Allows for geographical analysis.
Sensitive environment/occupation	Indicate whether the case resides/works/spends time in a setting considered high-risk for exposure or transmission, such as a healthcare facility, correctional facility, other residential facility, school, or daycare, or population with low immunization rates.	Allows for assessment of transmission risk in high-risk settings.
Laboratory -- only if manually entering lab results		
Laboratory ID/Accession Number	ID assigned by the PPHLN	Allows for data linkage.
Test Name	Type of test carried out	Used for analysis of laboratory data.
Specimen Type	Type of specimen collected: stool, blood, etc.	Allows for analysis by specimen type.
Specimen Site	Site of specimen collected	Allows for analysis by specimen site.
Specimen Collection Date	The date when the specimen was collected	Used to place disease event in time, allows for accurate epidemiological analysis. Clinical symptoms and epi-link can be used to classify a case as "Case-confirmed".
Result Name	Test result description	Used for analysis of laboratory data.
Result Status	Status of test result (e.g. Preliminary, final)	Used for analysis of laboratory data.
Interpreted Result	Laboratory interpretation of test performed	Used for analysis of laboratory data.
Disease	Disease for which testing carried out	Used for analysis of laboratory data.

Panorama Variable	Description	Surveillance Rationale
Microorganism	Name of microorganism causing the specific disease	Used for analysis of laboratory data.
Signs and symptoms		
Enter onset date for each symptom.		Used to place disease event in time, allows for epidemiological analysis.
Rash	Exhibited during illness	These symptoms are listed under the "clinical evidence" section of the SG and can be used to classify a case as "Case-confirmed" if there is an epi-link.
Fever	Exhibited during illness	These symptoms are listed under the "clinical evidence" section of the SG and can be used to classify a case as "Case-confirmed" if there is an epi-link.
Malaise	Exhibited during illness	These symptoms are listed under the "clinical evidence" section of the SG and can be used to classify a case as "Case-confirmed" if there is an epi-link.
Outcomes		
Enter all case outcomes related to disease under investigation.	Enter all outcomes investigator becomes aware of during the course of investigation. All cases must have at least one outcome entered.	Allows for analysis of severity of illness.
Medications		
If antivirals were administered, enter information here.	Whether antivirals were administered during the course of the investigation.	Antivirals are recommended for people at risk of severe disease/ complications and have a limited window for use. Allows for analysis of outcomes in those that received antivirals.
Risk Factors		
Exposure - Contact - contact with a case (confirmed, probable or suspect)	Whether the case had contact with a known varicella case (confirmed or probable) or an individual with herpes zoster infection.	Used to identify epi-linked cases.
Medical - Underlying conditions / medications that suppress the immune system (e.g. diabetes, cancer, steroids)	Whether the case has underlying conditions or uses medications known to have an immunosuppressive effect.	Provides data on varicella among immunocompromised people.
Medical – Under or incomplete vaccination for disease	Whether the case has been vaccinated for disease but does not have a complete series.	Used to analyze occurrence in by vaccination status.
Medical – Unimmunized for disease	Whether the case was unimmunized for disease.	Used to analyze occurrence in by vaccination status.
Medical – Unknown immunization history for disease	Whether the case's immunization history is unknown for disease.	Used to analyze occurrence in by vaccination status.

Panorama Variable	Description	Surveillance Rationale
Special population - Pregnant	Whether case was pregnant at time of diagnosis. Specify conception date (estimated) as the effective from date, and delivery date (actual or anticipated) as the effective to date.	Varicella infection during pregnancy increases the risk of severe complications for both the birthing parent and the fetus.
Special population - Infant born to an infected mother	Whether the case is a newborn and acquired disease from birth parent.	Newborn infants of birth parents who develop varicella from 5 days before until 48 hours after delivery are at risk for severe disease. Additionally, congenital varicella is a rare but serious complication of infection in pregnancy.
Exposure - Any of the acquisition risks identified occurred while outside of NS, but within Canada	Whether any of the acquisition risks identified occurred outside of Nova Scotia, but within Canada, including related to travel or recent immigration. Specify the name of the province(s) or territory(ies) in the free text field.	Used to evaluate whether disease was acquired outside the province.
Exposure - Any of the acquisition risks identified occurred while outside of Canada	Whether any of the acquisition risks identified occurred outside of Canada including related to travel or recent immigration. Specify the name of the country(ies) in the free text field.	Used to evaluate whether disease was acquired outside the country.
Acquisition Events		
If acquisition is known, enter information here -- flag as most likely source where applicable.	Whether the case is connected to known exposure source (e.g., exposure site, other case).	Used to connect case chains and/or cases to exposure sources and enables detection of outbreaks.
Transmission Events		
If there are potential onward transmissions, enter information here	Whether the case may be connected to potential future cases, where known.	Used to connect case chains and/or cases to exposure sources and enables detection of outbreaks.
Immunization History		
If applicable, enter all varicella-containing vaccine doses, with dates, in immunization module for this client, if not already in Panorama. If applicable, document if VZIG was administered.	Document immunization history and any VZIG administered during the course of the investigation.	Used to report on breakthrough cases and inform evaluation of immunization program. Allows for analysis of VZIG usage among varicella cases/contacts.

Appendix II: Updates to Varicella (Chickenpox) surveillance guidelines

Date	Updates
April 2026	First version of Varicella (Chickenpox) surveillance guidelines.