

ANNUAL REPORTABLE COMMUNICABLE DISEASES REPORT 2023

Northern Health



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Acknowledgement

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The information contained in this document is of a summary nature and may be released in its entirety for the purpose for which it was provided.

Purpose

This report provides a high-level summary of the incidence of reportable diseases among Northern Health (NH) residents. Infectious diseases are caused by microorganisms (such as bacteria, parasites or viruses) or by the toxins they produce. These diseases are spread by contact with infected persons or contaminated surfaces/articles; animals or insects; consumption of contaminated food or water; or exposure to airborne particles or other environmental sources.

For the purposes of this report, only infectious diseases that are deemed reportable communicable diseases (RCDs) are included. These are infectious diseases that as per the Health Act Communicable Disease Regulation must be reported to a Medical Health Officer (MHO) in a timely manner. For a complete list of RCDs, see Appendix A.

Due to the small population size of NH, many RCDs occur infrequently, and as a result it is difficult to ascertain long term patterns. In addition, to reduce the likelihood of identifying any persons from this report, only RCDs where there is a five-year average of ten or more cases per year – based on data from 2017 through 2021 – are included. Also, in any year where there are fewer than five cases, data will be suppressed and represented as “<5”.

The list of RCDs included in this report are categorized by the primary route of transmission. Some diseases, such as pertussis, may fall into two or more categories. Pertussis (aka: “whooping cough”) is transmitted by respiratory droplets when an infected person coughs or sneezes; however, pertussis is preventable through vaccination, and is therefore characterized as a “vaccine preventable disease”.

There may be under- or over-reporting of some diseases. An infected individual who presents with mild symptoms, for example from a respiratory illness, may not seek medical attention. As such, no laboratory testing will be performed, and the case will not be reported. In addition, events such as an outbreak or enhanced surveillance protocols may lead to an increase in testing for any given RCD. For example, in the event of an influenza outbreak in a long-term care facility, additional screening may be done where there was previously no impetus to do so. Therefore, data from illnesses such as COVID-19, influenza, salmonella, etc., need to be interpreted with these caveats.

Summary

In 2022, the global COVID-19 (C19) pandemic was still ongoing and C19 represented a significant number of the RCDs reported to NH. Among the RCDs tabulated in this report, over four out of five were C19 (82.1%), with over just over 12,000 cases being reported (Table 1). When excluding C19, the next most common disease reported in 2022 was chlamydia with 1,290 cases; this represents an increase of nearly 400 cases over 2021 counts. It is possible that the lockdowns implemented throughout the first years of the C19 pandemic, and their subsequent effects on gatherings and social engagements, influenced the number of chlamydia cases in 2020 and 2021.

Interestingly, this trend is not as evident among other sexually transmitted infections (STIs) or blood-borne infections (BBIs). Both gonorrhea and hepatitis C (acute and chronic) case volumes were relatively stable during this time frame. Conversely, the number of syphilis cases increased significantly between 2017 and 2022, from 8 cases to 132 cases, which is an increase of 16.5 times. Collectively, in 2022, this group accounted for 1,613, or 61.7% of RCDs discussed in this report.

Influenza was the next most common illness reported in 2022, at 417 cases or 15.9% of cases when excluding C19. Influenza followed a similar pattern to chlamydia where in 2021 there were significantly fewer cases reported compared to 2022 (approx. 400). This is thought to be due to the impacts of various lockdowns implemented throughout the pandemic. The Public Health Agency of Canada (PHAC) reported that during the 2020-2021 influenza season (September 2020 to August 2021), only 69 cases were reported across Canada. In addition, all other indicators of influenza indicators, including laboratory screening, community and facility outbreaks, and severe outcomes such as hospitalizations or deaths were at a historic low (Nwasu et al., 2021).

Among food and waterborne diseases (FWD), campylobacter and salmonellosis are the most reported in NH. There appears to have been some decrease in case counts of FWDs in 2021, possibly linked to the C19 outbreak; however, in general, the number of campylobacter, salmonella and yersiniosis cases reported to NH has been declining over the past five years. Most case counts in 2022 were lower than the 2017 – 2021 five-year average.

Very few vector-borne or zoonotic diseases are reported to NH; in fact, none of the illnesses categorized by this transmission route average more than ten cases per year. However, there is an average of 72 cases of potential rabies exposures reported to NH per year; of these, roughly one-third (34.7%) require rabies post-exposure prophylaxis (RPEP) – meaning these individuals were deemed high enough risk to require rabies vaccination.

Table 1. NH Counts*, five-year average, range, and percent of cases in 2022 (excluding C19) of RCDs per year, 2017 – 2022.

Transmission Route Disease	2017	2018	2019	2020	2021	2022	% (excl. C19)	2013- 2017 Avg.	2013-2017 Range
Food and Waterborne									
Amebiasis	7	14	32	24	15	18	0.7	18	7 – 32
Campylobacter Infection	68	55	66	44	28	30	1.1	52	28 – 64
Giardia Infection	44	29	30	20	23	18	0.7	29	20 – 44
Salmonella Infection	50	69	54	41	22	38	1.5	47	22 – 69
Yersinia infection	20	28	15	12	12	8	0.3	17	12 – 28
Sexually Transmitted and Bloodborne									
Chlamydia	1,129	1,264	1,301	1,130	898	1,290	49.3	1,144	898 – 1,301
Gonorrhea	329	297	257	347	351	333	12.7	316	257 – 351
Hepatitis C: Acute	13	11	11	8	8	11	0.4	10	8 – 13
Hepatitis C: Chronic/Unknown	185	149	120	90	100	86	3.3	129	90 – 185
Syphilis (Infectious†)	8	8	12	18	26	132	5.0	14	8 – 26
Respiratory and Direct Contact									
Pneumococcal Disease (invasive)	37	44	69	31	41	63	2.4	44	31 – 69
Streptococcal disease (invasive group A - iGAS)	33	39	23	46	46	36	1.4	37	23 – 46
Tuberculosis: Active	5	7	14	9	17	13	0.5	10	5 – 17
Tuberculosis: Latent	44	27	23	43	24	37	1.4	32	23 – 44
Vaccine Preventable									
COVID-19	-	-	-	2,161	17,087	12,030	-	9,624	2,161 – 17,087
Influenza	208	223	253	504	10	417	15.9	240	10 – 504
Pertussis	47	16	15	<5	<5	<5	-	16	1 – 47
Zoonotic and Vectorborne									
Rabies Exposure (no RPEP‡)	15	39	71	57	54	62	2.4	47	15 – 71
Rabies Exposure (RPEP)	9	12	59	13	30	23	0.9	25	9 – 59

* Case counts may change over time due to lag in reporting or changes in episode date.

† Does not include other forms of syphilis, such as congenital.

‡ RPEP = rabies post-exposure prophylaxis.

red text indicates higher than expected, based on five-year average.

Data Sources:

COVID: British Columbia Centre for Disease Control Covid-19 Line List. Extracted August 2023

STI/BBI: Panorama and Profile EMR. Extracted July 2023.

ALL OTHER: Public Health Reporting Database Warehouse, CD Cube. Data extracted June 2023. Cases that are included in this report are classified as *Clinical*, *Confirmed*, *Confirmed Epi-Linked*, and *Probable*, which may result in different case counts from other sources. Surveillance Date Range: 2017/01/01 - 2022/12/31

References:

Nwosu, A., Lee, L., Schmidt, K., Buckrell, S., Sevenhuysen, C., and Bancej, C. National Influenza Annual Report, Canada, 2020–2021, in the global context. *CCDR*. V47(10), October 2021

Appendix A: List of Reportable Communicable Diseases in British Columbia

As per Health Act Communicable Disease Regulation B.C. Reg. 4/83 O.C. 6/83 includes amendments up to B.C. Reg. 380/2012, March 18, 2013

Schedule A: Reportable by all sources, including Laboratories

Acquired Immune Deficiency; Syndrome;
Anthrax;
Botulism;
Brucellosis;
Carbapenemase Producing Organism (CPO);
Chancroid;
Cholera;
Congenital Infections:
• Toxoplasmosis Rubella
• Cytomegalovirus
• Herpes Simplex
• Varicella-Zoster
• Hepatitis B Virus
• Congenital Rubella Syndrome
• Listeriosis and any other congenital infection;
Creutzfeldt-Jacob Disease;
Cryptococcal infection;
Cryptosporidiosis;
Cyclospora infection;
Diffuse Lamellar Keratitis;
Diphtheria;
Encephalitis;
Foodborne illness: All causes;
Gastroenteritis epidemic: Bacterial, Parasitic, Viral;
Genital Chlamydia Infection;
Giardiasis;
Gonorrhoea – all sites;
Group A Streptococcal Disease, Invasive;
H5 and H7 strains of the Influenza virus;
Haemophilus influenzae Disease,
Hantavirus Pulmonary Syndrome;
Hemolytic Uremic Syndrome (HUS);
Hemorrhagic Viral Fevers;
Hepatitis Viral:
• Hepatitis A
• Hepatitis B
• Hepatitis C
• Hepatitis E
• Other Viral Hepatitis;
Human Immunodeficiency Virus; Infection
Leprosy;
Lyme Disease;
Measles Meningitis: All causes

Meningococcal Disease;
Mumps;
Neonatal Group B Streptococcal Infection;
Paralytic Shellfish Poisoning (PSP);
Pertussis (Whooping Cough);
Plague;
Poliomyelitis;
Rabies;
Reye's Syndrome;
Rubella;
Severe Acute Respiratory Syndrome (SARS);
Smallpox;
Streptococcus pneumoniae Infection, Invasive;
Syphilis;
Tetanus;
Transfusion Transmitted Infection;
Tuberculosis;
Tularemia;
Typhoid Fever and Paratyphoid Fever;
Waterborne Illness All causes;
West Nile Virus Infection;
Yellow Fever.

Schedule B: Reportable by Laboratories only

All specific bacterial and viral stool pathogens:
Campylobacter, Salmonella, Shigella, Yersinia
Amoebiasis;
Borrelia burgdorferi infection;
Cerebrospinal Fluid Micro-organisms;
Chlamydial Diseases, including Psittacosis;
Creutzfeldt-Jacob Disease;
Cryptococcal Infection;
Herpes Genitalis;
Human Immunodeficiency Virus Infection;
Influenza virus, including the H5 and H7 strains;
Legionellosis;
Leptospirosis;
Listeriosis;
Malaria;
Q Fever;
Rickettsial Diseases;
Severe Acute Respiratory Syndrome (SARS);
Smallpox;
Tularemia;
West Nile Virus Infection