

COMMUNICABLE DISEASE REPORT

Vaccine Preventable Diseases

Reporting

All laboratory-confirmed vaccine preventable diseases (VPDs) are to be reported to the Regional Medical Officer of Health (RMOH) or designate responsible for appropriate investigation, treatment, case follow up and provincial reporting.

For more information on VPDs in Canada see the Public Health Agency of Canada website:
<http://www.phac-aspc.gc.ca/id-mi/index.html#st>

Reportable VPDs in Newfoundland and Labrador

Chickenpox	Rubella	Congenital Rubella Syndrome
Mumps	Tetanus	Invasive Haemophilus Influenza type B
Measles	Polio	Invasive Haemophilus Influenza non type B**
Pertussis	Diphtheria	Invasive Pneumococcal Disease (IPD)
	Hepatitis B	Invasive Meningococcal Disease (IMD)

For a complete list of Reportable Diseases in Newfoundland and Labrador, please visit
<http://www.health.gov.nl.ca/health/publichealth/cdc/listabc20.pdf>

Ten-Year VPD Incidence Rates

Table 1: Cases of VPDs by year, 2001 to 2010, Newfoundland and Labrador.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Chickenpox	*	*	*	*	2	8	27	83	50	123
Invasive Hib	0	0	0	0	0	0	0	1	0	2
Invasive Hi non-b**	0	0	0	0	0	0	0	0	0	1
IMD	5	8	5	0	4	5	7	5	5	3
IPD	7	8	11	11	11	24	13	37	37	23
Hepatitis B	14	9	17	24	29	13	26	28	24	23
Mumps	0	0	0	0	0	0	10	0	0	1
Pertussis	2	1	62	5	1	2	5	7	4	0
Tetanus	0	0	0	0	0	1	0	0	0	0

* In 2005, detailed case reporting of chickenpox began in conjunction of the implementation of the universal immunization program. Zero cases reported between 2000-2010 for measles, rubella, congenital rubella, polio, diphtheria.

** Invasive Hi non-b is not vaccine preventable but is included in this section to follow national guidelines.

Measles Outbreaks International and Quebec

Europe has reported 26,000 cases of measles from 36 countries; including nine deaths and 7,288 hospitalizations (source: WHO, Dec 2, 2011). France is one of the countries reporting high numbers and six of the nine deaths.

As of September 28, 2011 there have been 764 cases of measles have been reported to the Bureau de Surveillance et de Vigie (BSV) in Quebec since the beginning of the year 2011. Of these, 749 cases are confirmed or clinical, and the investigation is ongoing for 15 cases.

The first reported cases were among travelers that were exposed during vacations in Europe, primarily in France. Local transmission began in April, and sustained local transmission began in schools in May. This continued until the end of June. Since mid-July, transmission occurred primarily in the community e.g. households, public places, and daycares with the source of infection undocumented in a large proportion of cases (43%) during this period.

As a reminder there is significant travel from our province to both Quebec and Europe so it remains important for us to keep this foremost in our minds as a possibility of such an occurrence of measles in this province.

This outbreak is also a useful example of what can occur when adequate immunization coverage rates are not maintained. In Newfoundland and Labrador we have been successful in maintaining a high coverage rate (greater than 95%) for the MMR vaccine, which protects against measles. The success of this program is due to the diligent work of the Public Health Nurses and other immunizers who work very hard to ensure all children are immunized.

BC Mumps Outbreak

BC's is experiencing a mumps outbreak, largely in young adults. This outbreak is the first sizeable mumps outbreak in BC since 2008, and extends across two health authorities. NL has not had an outbreak of mumps since 2007 and has had one confirmed case in 2010.

In NL children receive two doses of mumps vaccine; first at 12 months and second at 18 months. The vaccine is given as the combined measles, mumps and rubella (MMR) vaccine, and provides protection against all three diseases. For best protection against mumps, those born in 1970 and later should also receive two doses. Most people born before 1970 are immune due to prior mumps infection and don't need a second dose for mumps protection unless they are health care workers.

Again this outbreak is another example of what can occur when coverage rates of immunization programs drop. Immunization is important for all people and work best when everyone's schedule is up-to-date.

Haemophilus influenzae type b (Hib) cases in NL

Hib is a bacterial infection that causes serious diseases in young children and less serious illness in adults. The bacteria are spread by direct contact with or inhalation of the secretions from an infected person's nose or mouth. The Hi non-b invasive disease has been nationally notifiable since 2007 and only laboratory-confirmed cases are reported; it is included in this section to follow the National Case definitions see <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s2/index-eng.php> for more detail.

In the early 1990s, Hib was the most common cause of bacterial meningitis in Canada. Hib can

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be prevented by a vaccine. Since the introduction of a new vaccine, in 1992, the number of cases in Canada has decreased by more than 70%. The National Advisory Committee on Immunization (NACI) recommends that all children should be immunized against Hib at 2, 4 and 6 months with a fourth dose at 18 months (NACI-Recommended Childhood Vaccination Schedule, Canada). Canada and Newfoundland and Labrador saw a dramatic reduction in the number of cases of Hib when the vaccine was introduced. Hib continues to circulate in the elderly, often as a pneumonia which then becomes invasive. In 2008 the first case in a child since 1996 was reported and in October 2011 two unrelated cases were reported. Cases occur sporadically in Canada, typically in the under-immunized population. In 2004, the latest confirmed report from PHAC, There were cases in QC (44) ON (9) MB (4) AB (1) BC (9). The occurrence of these cases in NL serves as a warning that Hib is still circulating and to keep health professionals vigilant for on-time immunization.

Case 1: Date of onset was Oct 25, 2011; hospitalized from Oct 30 to Nov 9, 2011 and fully recovered. This child had been fully immunized and relatively on time at 2, 4, 6 months.

Case 2: Date of onset was October 21, 2011; hospitalized from October 25 – November 7, 2011 (total 14 days) now fully recovered. This child had been late for first dose of Hib, immunized September 1, 2011 (2 month dose but child was technically 3 months old). In the community of residence the coverage for Hib is 93%.

Invasive Meningococcal Disease in Canada

Invasive meningococcal disease (IMD), caused by *Neisseria meningitidis* infection, includes conditions such as bloodstream infection (meningococemia), pneumonia and meningococcal meningitis. Meningococcal meningitis accounts for 75% of the cases of IMD.

- ⇒ Five of the 13 serogroups of *Neisseria meningitidis* cause most infections worldwide; A, B, C, Y and W-135
- ⇒ Since 1995, in Canada, most disease has been caused by serogroups C and B
- ⇒ The highest incidence of disease is in children less than 5 years with a second peak in young adolescents
- ⇒ Meningococcal conjugate C vaccine was introduced in Canada in 2002 and by 2005 all provinces had a routine immunization program for this vaccine
- ⇒ The incidence of IMD caused by group C has declined significantly since the introduction of this vaccine
- ⇒ In 2006 group B was responsible for 54% of IMD cases in Canada
- ⇒ A quadrivalent conjugate vaccine offering protection against group A, C, Y and W-135 has been in use in Canada since 2006 and should be considered as a routine vaccine for all adolescents
- ⇒ The development of a vaccine for group B has been challenging but there are presently two vaccine at the advanced stage of clinical development
- ⇒ Since 2000 thirty five serogroup positive cases of IMD have been reported in Newfoundland and Labrador (NL)
 - ⇒ 71.4% of these cases were serogroup B
 - ⇒ Serogroup C has not been reported in children since the introduction of the meningococcal conjugate C vaccine in 2005
- ⇒ Presently the recommended vaccines for meningococcal disease in NL are:
 - ⇒ Monovalent meningococcal conjugate C at 12 months
 - ⇒ Quadrivalent meningococcal conjugate ACYW-135 at age 12 years
 - ⇒ Outbreak management vaccination

New Immunization Schedule for January 2012

In January 2012 the province will be implementing an immunization schedule change (see below). At the 12 month clinic visit the MMR and Var vaccine will be combined and given as MMRV. The pneumococcal conjugate series will change to a three dose schedule administered at 2, 4 & 12 months for healthy children. Those children identified at higher risk for disease will continue to receive the 4 dose schedule of this vaccine, administered at 2, 4, 6 and 12 months.

Routine Immunization Schedule (2 months–5 years) January 2012

In Newfoundland Labrador the following vaccines are provided by the provincial public health program to infants/children at the ages outlined below:

Age	Vaccines
Two months	<ul style="list-style-type: none"> ▪ Diphtheria/Tetanus/acellular Pertussis/<i>Haemophilus influenzae</i> type b/Polio ▪ Pneumococcal conjugate
Four months	<ul style="list-style-type: none"> ▪ Diphtheria/Tetanus/acellular Pertussis/<i>Haemophilus influenzae</i> type b/ Polio ▪ Pneumococcal conjugate
Six months	<ul style="list-style-type: none"> ▪ Diphtheria/Tetanus/acellular Pertussis/<i>Haemophilus influenzae</i> type b/ Polio ▪ Pneumococcal conjugate* ▪ Influenza**
12 months on or after the 1 st birthday	<ul style="list-style-type: none"> ▪ Measles/Mumps/Rubella/Varicella (chickenpox) ▪ Pneumococcal conjugate ▪ Meningococcal C conjugate ▪ Influenza**
18 Months	<ul style="list-style-type: none"> ▪ Diphtheria/Tetanus/acellular Pertussis/<i>Haemophilus influenzae</i> type b/ Polio ▪ Measles/Mumps/Rubella ▪ Influenza**
4-6 years	<ul style="list-style-type: none"> ▪ Diphtheria/Tetanus/acellular Pertussis / Polio

* Pneumococcal conjugate at 6 months only for those infants considered at increased risk for disease.

** Yearly influenza vaccine is recommended for children six - 23 months of age during the influenza season.

Immunization Schedule for School-Based Programs January 2012

The school based immunization program carried out by public health ensures that we provide up-to-date immunizations for our students. The following information provides an overview of the schedule for this year and includes any changes that may affect your child. The vaccines listed on this schedule are provided by the provincial public health program.

AGE	VACCINES
Grade Four *	<ul style="list-style-type: none"> ▪ Meningococcal
Grade Six	<ul style="list-style-type: none"> ▪ Human papillomavirus (HPV) for girls ▪ Hepatitis B* (starting in Sept 2012-13)
Grade Nine	<ul style="list-style-type: none"> ▪ Tetanus/diphtheria/whooping cough

* In September 2010 hepatitis B vaccine series was moved from Grade 4 to Grade 6 and will be changed to a two dose program. All students affected by this change will be offered hepatitis B vaccine in Grade 6 starting in 2012; no child will miss this vaccine.

How are Children Immunized in Newfoundland and Labrador?

- ⇒ Young children aged two months to five years receive their immunization from community health nurses at their local health unit.
- ⇒ School aged children are offered immunization programs delivered by community health nurses in special immunization clinics at your child's school.

Children at high risk may be eligible for additional vaccines. For more information consult your community health nurse in your local public health office.



Newfoundland and Labrador Communicable Disease Surveillance
Monthly Disease Report: September 2011

DISEASE CLASS	DISEASE NAME	TOTAL		EASTERN		CENTRAL		WESTERN		LABRADOR GRENFELL		
		Sept.	YTD.10.	Sept.	YTD.11.	Sept.	YTD.11.	Sept.	YTD.11.	Sept.	YTD.11.	
Enteric, Food and Waterborne	Amoebiasis	0	0	0	0	0	0	0	0	0	0	
	Botulism	0	0	0	0	0	0	0	0	0	0	
	Campylobacteriosis	7	43	4	29	2	8	1	6	5	0	
	Cryptosporidiosis	0	1	0	1	0	0	0	1	0	0	
	Cyclosporiasis	0	0	0	0	0	0	0	0	0	0	
	Cytomegalovirus	0	4	0	2	0	1	0	2	0	1	
	Giardiasis	6	38	3	9	1	4	3	18	9	2	
	Hepatitis A	0	1	0	0	0	0	0	0	0	1	
	Listeriosis	0	0	0	0	0	0	0	0	0	0	
	Norovirus Infection	0	51	16	65	0	33	50	2	42	0	
	Salmonellosis	7	55	2	26	17	11	8	2	11	5	
	Shigellosis	0	0	0	1	0	0	0	0	0	0	
	Typhoid/Paratyphoid Fever	0	0	0	0	0	0	0	0	0	0	
	Verotoxigenic Escherichia coli	2	4	0	3	0	1	1	0	0	0	
	Yersiniosis	0	0	0	0	0	0	0	0	0	0	
	Diseases Transmitted by Direct Contact and Respiratory Route	Creutzfeldt-Jakob Disease (CJD)	1	2	1	1	0	0	0	1	0	0
		Group B Streptococcal Disease of Newborn	0	0	0	0	0	0	0	0	0	1
		Influenza Virus of a Novel Strain	0	0	0	0	0	0	0	0	0	0
		Influenza A, Laboratory Confirmed	0	207	0	110	0	25	0	42	0	30
Influenza B, Laboratory Confirmed		0	43	0	25	0	16	0	0	0	2	
Invasive Group A Streptococcal Disease		0	1	0	0	5	0	0	1	1	0	
Invasive Haemophilus Influenza non-type B		0	0	0	0	0	0	0	0	0	0	
Invasive Meningococcal Disease (IMD), Conf		0	1	0	0	2	1	1	0	0	0	
Invasive Meningococcal Disease (IMD), Prob		0	0	0	0	N/A	0	N/A	0	N/A	0	
Invasive Pneumococcal Disease (IPD)		1	12	17	8	13	1	2	1	2	3	
Legionellosis		0	0	0	0	0	0	0	0	0	0	
Meningitis, Bacterial (other than Hib, IMD or IPD)		0	2	2	2	0	0	0	0	0	0	
Meningitis, Viral		0	4	2	4	1	0	0	0	1	0	
Nontuberculosis Mycobacterial Disease		2	7	10	4	8	1	1	1	1	1	
Severe Respiratory Illness, unknown origin		0	0	0	0	0	0	0	0	0	0	
Tuberculosis, non-respiratory		0	1	0	0	0	0	0	0	0	1	



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DISEASE CLASS	DISEASE NAME	TOTAL		EASTERN		CENTRAL		WESTERN		LABRADOR GRENFELL	
		Sept	YTD 10	Sept	YTD 10	Sept	YTD 10	Sept	YTD 10	Sept	YTD 10
	Tuberculosis, respiratory	0	6	4	4	0	0	0	0	0	0
Sexually Transmitted and Bloodborne Pathogens	Chlamydia	73	483	497	41	259	274	4	44	53	21
	Gonorrhoea	2	16	10	0	2	7	0	0	0	2
	Hepatitis C	4	50	49	2	32	34	0	3	4	2
	HIV Infection	0	2	4	0	2	4	0	0	0	0
	Syphilis, infectious	1	4	3	1	4	2	0	0	0	0
	Syphilis, non-infectious	0	4	6	0	4	5	0	0	0	1
Vectorborne & Other Zoonotic Diseases	Lyme disease	0	0	0	0	0	0	0	0	0	0
	Malaria	0	2	0	0	2	0	0	0	0	0
	Q Fever	0	0	0	0	0	0	0	0	0	0
	Rabies	0	0	0	0	0	0	0	0	0	0
	Toxoplasmosis	0	0	0	0	0	0	0	0	0	0
	Trichinellosis	0	0	0	0	0	0	0	0	0	0
	West Nile Virus Infection	0	0	0	0	0	0	0	0	0	0
	Chickenpox	7	188	48	0	77	27	3	17	20	2
	Congenital Rubella Syndrome	0	0	0	0	0	0	0	0	0	1
	Hepatitis B	2	22	17	1	14	11	0	4	2	0
Vaccine Preventable	Invasive Haemophilus Influenza type B (Hib)	0	0	2	0	0	2	0	0	0	1
	Measles	0	0	0	0	0	0	0	0	0	0
	Mumps	0	0	1	0	0	0	0	0	0	0
	Pertussis	0	0	0	0	0	0	0	0	0	0
	Rubella	0	0	0	0	0	0	0	0	0	0
	Tetanus	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0

Source: Communicable Disease Control System, Department of Health and Community Services, Government of Newfoundland and Labrador
 Disclaimer: Data are subject to continuous updates; small variations in numbers may occur.
 Note: Prior to January 2011, "Invasive Meningococcal Disease, Probable" was included under the heading "Invasive Meningococcal Disease"

Date verified: 12-Dec-2011