

Definition/Description:

Vaccine preventable diseases (VPD) include communicable diseases that are preventable through routine and non-routine immunizations.¹ Laboratories and health care professionals report cases of notifiable vaccine preventable diseases to the Director of Communicable Disease Control at Manitoba Health. Case definitions for these communicable diseases are outlined in the provincial *Communicable Disease Management Protocol Manual*.²

Source:

- *Case Event (Numerator) Data*: Communicable Disease Control Unit, Public Health Branch, Manitoba Health
- *Population (Denominator) Data*: Decision Support Services, Health Information Management Branch, Manitoba Health
- *Tabulations*: Population Health and Health Systems Analysis Unit, Quality and Decision Support, Winnipeg Regional Health Authority

Findings:

In total, 4,327 cases of vaccine preventable diseases were reported among residents of the Winnipeg Health Region between January 1, 1996 and December 31, 2002 (Table VPD1). Of this number, more than half (52.5%) are accounted for by a large outbreak of rubella that occurred in 1997 (2273/4327 cases). In 2002, the most commonly reported vaccine preventable diseases were hepatitis B (carriers)³, pertussis, and invasive pneumococcal disease (Table VPD1). The 5-year rate of infection for these communicable diseases ranges from 0.06 to 0.17 per 1000 population – less than 1 case for every 1000 individuals. Of the non-routine vaccine-preventable diseases, tuberculosis was the most commonly reported infection overall and in the most current year of data available.⁴

With the exception of 1997, the incidence of rubella has remained stable in Winnipeg (1-8 cases per year) and there have been no cases reported since 2000 (Table VPD1). For pertussis, the incidence of infection has fluctuated between 1996 and 2002, and in 1998, an outbreak was reported that accounts for almost half of all cases between 1996 and 2002 (225/492 cases). On average, roughly 45 cases of pertussis are reported among residents of Winnipeg each year. Since 1998, the incidence of hepatitis A infection has declined substantially, ranging from 2 to 6 cases per year. In 2001, an outbreak of invasive meningococcal disease occurred among Winnipeg youth. A mass immunization campaign followed.

¹Information describing immunization coverage (according to the provincially recommended immunization schedule) can be found in Indicators #57, #58, #225, and #230.

²Communicable Disease Management Protocol Manual. Communicable Disease Control Unit, Manitoba Health, 2001.

³Detailed information describing hepatitis B can be found in Indicator 54 – Hepatitis B.

⁴Detailed information describing Tuberculosis can be found in Indicator 53 – Tuberculosis.

Table VPD1
Vaccine Preventable Diseases: Number of Cases and Crude Rate of Infection (per 1000),
Winnipeg Health Region, 1996-2002

Vaccine Preventable Disease	1996	1997	1998	1999	2000	2001	2002	1996-2002	5-Year Crude Rate*
Routine Immunization									
Rubella ¹	8	2273	8	2	1	0	0	2292	0.00
Hepatitis B (Carrier)	104	82	94	73	55	69	63	540	0.17
Pertussis ²	76	41	225	65	32	12	41	492	0.12
Invasive Pneumococcal Disease ³	0	1	5	53	51	37	54	201	0.06
Hepatitis B (Acute)	52	29	24	17	9	5	9	145	0.02
Haemophilus Influenza Type B	0	0	2	2	2	4	1	11	0.00
Mumps	4	2	1	0	0	1	0	8	0.00
Measles	0	0	0	1	0	0	0	1	0.00
Diphtheria (Case)	0	0	0	0	0	0	0	0	0.00
Diphtheria (Carrier)	0	0	0	0	0	0	0	0	0.00
Congenital Rubella	0	0	0	0	0	0	0	0	0.00
Tetanus	0	0	0	0	0	0	0	0	0.00
Polio	0	0	0	0	0	0	0	0	0.00
Total Routine	244	2428	359	213	150	128	168	3690	0.32
Non Routine Immunization									
Tuberculosis	60	61	78	56	62	64	55	436	0.10
Hepatitis A	59	43	17	6	4	2	5	136	0.01
Invasive Meningococcal Disease ⁴	2	4	6	4	4	16	7	43	0.01
Typhoid	2	2	2	2	3	3	0	14	0.00
Paratyphoid	0	2	1	0	1	2	1	7	0.00
Lyme Disease	0	0	0	0	0	1	0	1	0.00
Cholera	0	0	0	0	0	0	0	0	0.00
Japanese Encephalitis	0	0	0	0	0	0	0	0	0.00
Rabies	0	0	0	0	0	0	0	0	0.00
Tickborne Encephalitis	0	0	0	0	0	0	0	0	0.00
Yellow Fever	0	0	0	0	0	0	0	0	0.00
Total Non Routine	123	112	104	68	74	88	68	637	0.13
Total Routine and Non Routine	367	2540	463	281	224	216	236	4327	0.44

*1998-2002

¹Outbreak reported in 1997.²Outbreak reported in 1998.³Provincially notifiable beginning 1999.⁴Outbreak reported in 2001.

*Note: Further information describing the epidemiology of vaccine-preventable diseases in the Winnipeg Health Region is available in **Report on Communicable Diseases and Immunization in the Winnipeg Health Region, 2004** [available fall 2004].*

Highlights:

- The overall incidence of vaccine preventable diseases in the Winnipeg Health Region is less than 1 case per 1000 population.
- Among immunizations that are routinely administered during childhood, the rates of infection for each of hepatitis B, pertussis and rubella are of primary concern.
- Of the non-routine vaccine-preventable diseases, areas of concern for prevention are hepatitis A and invasive meningococcal disease.

ⁱAdditional information describing communicable diseases (including sexually transmitted and blood-borne infections) and immunization in the Winnipeg Health Region is available in ***Report on Communicable Diseases and Immunization in the Winnipeg Health Region, 2004*** [available fall 2004].