Conseil Cri de la santé et des services sociaux de la Baie James

Cree Board of Health and Social Services of James Bay

Notifiable Disease (MADO) Report for 1990 to 2005 for the Cree Territory of James Bay (Eeyou Istchee)
December 2006

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"Striving to maintain and promote the health of our people"

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Notifiable Disease (MADO) Report for 1990 to 2005 for Region 18

The surveillance of infectious diseases is one of the principal responsibilities of public health. Over the past two decades, nurses, physicians and reporting laboratories have helped contribute to the control and prevention of communicable infections by ensuring the reporting of notifiable diseases to the Department of Public Health. We appreciate and encourage their continued effort in this area.

The following report summarizes notifiable infections between 1990 and 2005 for region 18. Published provincial data has been included for several infections for comparative purposes. The data is derived from the regional MADO (Maladies à déclaration obligatoire) database of the Ministry of Health (MSSS) located at the Quebec Public Health Laboratory in Montreal (LSPQ).

Since the data comes from passive surveillance, there may be some bias in the cases reported. For example, disease severity or the existence of organized screening programs may both influence disease reporting. Cases from other regions may be more or less likely to be reported depending on regional public health programs. Despite these limitations, the system provides useful information on trends from year to year and the impact of control programs put in place.

Caution should be exercised when comparing our data with other regions as well as when looking at rare diseases occurring in our relatively small population. Sporadic cases may lead to widely fluctuating rates from year to year.

Sexually Transmitted and Blood Borne Hepatitis

Sexually transmitted infections and blood borne hepatitis accounted for 96% of all diseases declared in 2005, 96% of all diseases declared in 2004, and 93% of all diseases declared in 2003.

Chlamydia

The rate of chlamydia infections occurring in the region over the past fifteen years has been consistently elevated when compared to the general provincial rates. Over the five-year period between 2000 and 2004, the age-standardized rate of chlamydia infections for the region was 6 times the rate for the province of Quebec as a whole. In other words, about 20 cases would be expected in the region if the regional rate were the same as the provincial rate from 2000. However, the average number of Chlamydia cases observed over this period was 119 (Table 1).

The majority of cases reported have occurred in female patients. This accounted for 84% of the declared cases between 2000 and 2004 and 82% of the declared cases between 2001 and 2005. However, there have been an increasing number of cases reported in males over the same period (also see Figure 1). In 2005, urine samples accounted for 6% of detected Chlamydia cases.

Most cases occurred in adolescents and young adults aged 15 to 30 years (an average of 84% of total cases declared between 2000 and 2004 and an average of 83% of total cases declared between 2001 and 2005) (also see Figure 2). Although there was 1 case of ocular Chlamydia reported in 2005, this occurred in an adult.

There has been a statistically significant increase in the number and rates of Chlamydia cases over the five-year period of 2000 to 2004. The rate for 2005 was stable at 1340 per 100, 000 population. Increases in the rate may reflect increased levels of infection, of screening, of reporting, or a combination of the above.

The yearly number of cases for each community has been included for 1990 to 2005. However, it should be noted that numbers might fluctuate greatly from year to year when looking at such small populations (Table 2).

Interestingly, for 2000 to 2004, the regional rate of ectopic pregnancies is not higher than the provincial average of 13 per 1000 births (Source: Portrait de santé du Québec et de ses régions 2006: les statistiques). However, this information is based on a small number of cases.

Public Health Goal: The goal of Public Health is to reduce the rate of Chlamydia infections to 50 per 100,000 persons. This equates to 7 cases each year in the region.

Gonorrhoea

There have been a limited but significant number of gonorrhoea cases each year from 2000 to 2005. The increased numbers in 2003, 2004, and 2005 primarily resulted from local outbreaks in the larger villages. Over the five-year period between 2000 and 2004, the age-standardized rate of gonorrhoea infections for the region was 4 times the rate for the province of Quebec as a whole. In other words, 1 case per year would be expected in the region if the regional rate were the same as the provincial rate from 2000. However, the average number of gonorrhoea cases observed over this period was 5.

The majority of cases declared between 2000 and 2005 have occurred in adolescents. Women also accounted for the majority of declared infections overall and amongst adolescents.

The testing for gonorrhoea in reported cases for the region has been done almost exclusively using NAAT with 17% of cases detected with urine samples. Since only cultures for gonorrhoea will provide sensitivity data for antibiotics and due to gonorrhoea's increasing antibiotic resistance to penicillins and ciprofloxacin, the treatment of all gonorrhoea cases are reviewed by the Public Health Department.

Public Health Goal: The goal of Public Health is to reduce the rate of gonorrhoea infections to under the elimination threshold. This equates to less than 1 case each year in the region.

Table 1.
Number of cases of sexually transmitted infections and blood borne hepatitis from 1990 – 2005
Cree Territory of James Bay, Eeyou Istchee

	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Chlamydia Genital	118	107	96	87	102	111	90	76	135	82	64	90	102	153	185	189
Chlamydia Ocular		1	1													1
Chlamydia Pulmonary	1	1	2						1							
Gonorrhea	7	4	4		10	9	4	6	10	1	2	2	1	6	13	12
Hepatitis B	2				3				3				5			
Hepatitis C									10				9			

Table 2.
Number of cases of Chlamydia by community from 1990 – 2005
Cree Territory of James Bay, Eeyou Istchee

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Waswanipi	8	12	18	6	7	14	17	12	17	6	<5	7	8	27	25	19
Mistissini	37	28	31	27	39	25	8	21	27	8	<5	12	24	28	27	36
Waskaganish	20	10	7	9	12	15	12	5	14	14	16	14	16	20	45	52
Nemaska	<5	6	<5	-	<5	9	9	<5	<5	<5	5	6	8	7	10	12
Eastmain	<5	<5	<5	7	<5	<5	<5	-	5	<5	7	<5	<5	<5	11	11
Wemindji	7	6	<5	8	8	6	9	<5	10	9	8	6	6	<5	9	<5
Chisasibi	32	28	22	19	24	24	20	16	31	14	14	22	24	43	34	35
Whapmagoostui	6	7	8	7	<5	8	9	<5	12	18	8	17	7	17	12	13
Oujé-Bougoumou	-	-	-	-	-	<5	<5	7	5	7	<5	<5	<5	<5	9	6
Unspecified	<5	7	5	<5	<5	5	<5	<5	11	<5	-	<5	<5	6	<5	<5
Total	118	107	96	87	102	111	90	76	135	82	64	90	102	153	185	189

Figure 1. Chlamydia Rate By Sex from 1995 to 2004
Cree Territory of James Bay, Eeyou Istchee (Source BSV, MSSS)

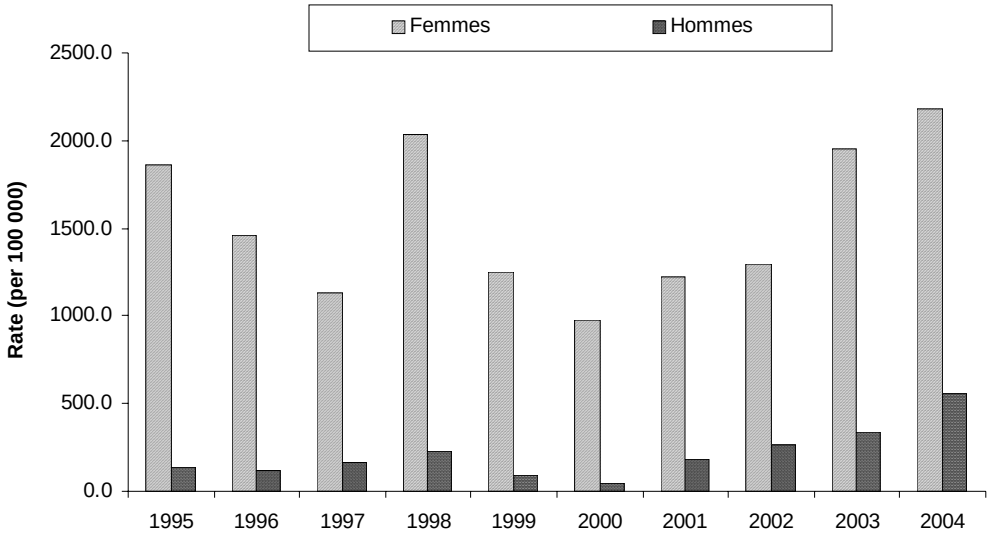
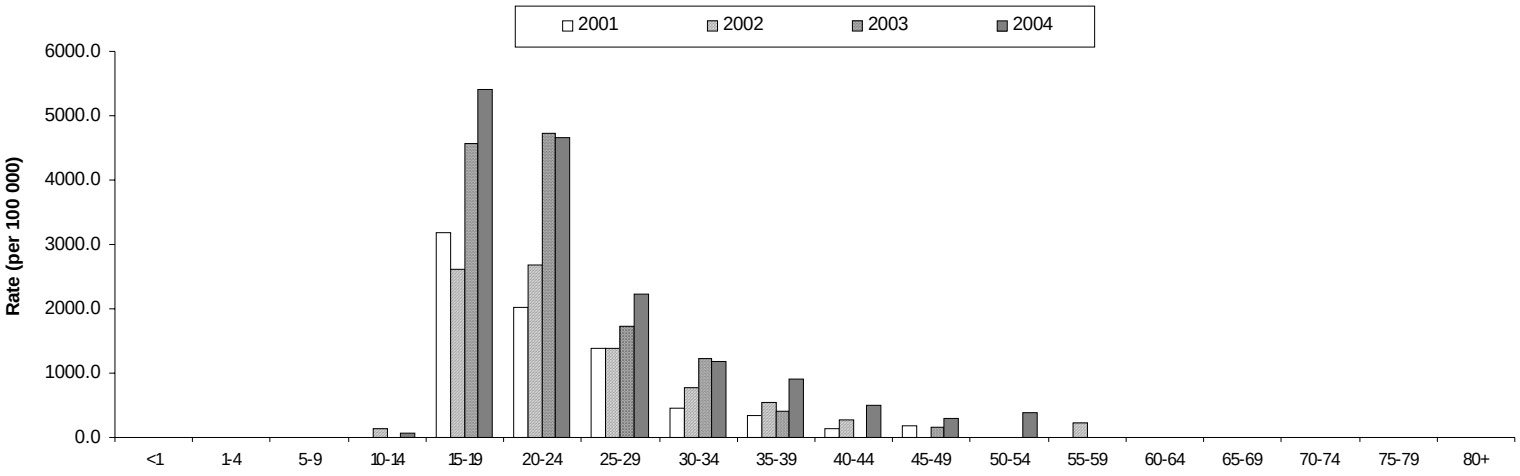


Figure 2. Chlamydia Rate By Age Group from 2001 to 2004
Cree Territory of James Bay, Eeyou Istchee (Source BSV, MSSS)



Hepatitis B

There have been a sporadic number of hepatitis B cases reported over the past sixteen years. The majority of these cases represent chronic carriers rather than acute hepatitis (Table 1). However, over the past ten years there have been two cases of acute hepatitis B (Table 4). Hepatitis B is a vaccine preventable disease and rigorous vaccine programs should eventually eliminate acute hepatitis B cases.

Public Health Goal: The goal of Public Health is to reduce the rate of acute hepatitis B infections to 1 per 100,000 persons. This equates to 1 to 2 cases every ten years in the region.

Hepatitis C

Similarly, a limited number of hepatitis C cases (19 cases) have been reported in our region over the past ten years (Table 1). The regional cumulative prevalence from 1990 to 2004 was 0.11% whereas the provincial prevalence was 0.31% over the same period (Source: Portrait de situation de l'hépatite C au Québec 1990-2005 – Analyse de la demande de services par les personnes atteintes du virus de l'hépatite C).

Where exposure history is available, inhaled or intravenous drug use is noted as a potential risk factor. Other risk factors have included blood transfusions prior to screening programs.

Public Health Goal: The goal of Public Health is to reduce the incidence of hepatitis C.

HIV

HIV surveillance is done at a provincial level since 2002 and there is no data available from previous years. From this surveillance, there were 3 new HIV infections detected in 2004 in people where their place of residence was identified as region 18. However, there were a total of 4 positive HIV tests from the region since 2002 (Source: Programme de surveillance de l'infection par le virus de l'immunodéficience humaine (VIH) au Québec – Cas cumulatifs 2002-2005).

Tuberculosis

There has been a steady decline of tuberculosis cases over the past two decades. The incidence of tuberculosis cases has been grouped into 3-year blocks due to the small number of cases. The annual incidence has decreased in the most recent 3-year block to 3 per 100 000 population. The case noted during this period was an infectious pulmonary case. There have been no cases in 2005.

The cases of tuberculosis prior to 1990 were derived from records outside of the MADO system.

Public Health Goal: The goal of Public Health is to reduce the rate of active tuberculosis infections to 2 per 100,000 persons. This equates to 1 case every 4 years in the region.

Table 3.
Number of cases and Incidence of Tuberculosis 1980-2005
Cree Territory of James Bay, Eeyou Istchee

Years	Number of Cases	Annual Incidence (per 100 000 population)
2005-	0	
2002-2004	1	3
1999-2001	5	14
1996-1998	8	23
1993-1995	7	22
1990-1992	9	31
1987-1989	5	19
1984-1986	8	36
1980-1983	38	149

Vaccine Preventable Infections

Pertussis or whooping cough accounts for about 80% of vaccine preventable diseases reported between 1990 and 2005. The last large outbreak of pertussis in the region occurred in 1998 and the last case of pertussis was reported in 2002. In addition to routine childhood vaccination, a one-time booster for adolescents and adults was introduced in 2004. The childhood vaccination program switched to an acellular vaccine in 1998.

Until 2005, the last case up of invasive *Haemophilus influenzae* (meningitis) occurred in 1990. A systematic vaccination program against this infection had been implemented in 1988. (A preliminary review of data from 2006, notes 2 *Haemophilus influenzae* cases in the region of which one case is type B, a vaccine preventable infection.)

The last case of mumps occurred in 1999 and the last case of measles occurred in 1994. A systematic vaccination program against these two infections was started in the 1970's, but a two-dose program was only instituted in 1996. A second dose of measles vaccine was provided to all susceptible individuals from 19 months to those at the end of secondary school in 1996.

There has been a slight decline in the number of invasive pneumococcal infections in the region. The polysaccharide vaccine is offered to the elderly and persons with chronic disease. In addition a four-dose regimen of the conjugate vaccine is provided to children in the region to protect against this infection. This infection is also monitored through the International Circumpolar Surveillance where rates of invasive pneumococcal disease are found to be higher in northern and First Nations/Inuit populations. This surveillance shows a reduction in the number of infections caused by the seven serotypes targeted by the conjugate vaccine since the introduction of vaccination programs.

Public Health Goal: The goal of Public Health is to reduce the rate of most vaccine preventable diseases to elimination. In the case of pertussis and invasive pneumococcal disease the goal is to reduce rates by at least 50%.

Table 4.
Number of cases of vaccine preventable infections from 1990 – 2004
Cree Territory of James Bay, Eeyou Istchee

	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Pertussis (Whooping Cough)	1			41	2			1	25			1	2			
Haemo-philus influenzae	1	1														
Mumps										1						
Measles					1											
Invasive Pneumo-coccus								1	1	4	2	3	1	2	1	1
Hepatitis B (Acute)									2							

Gastroenteric Infections

There have been sporadic reports of enteric infections over the period of 1990 to 2005. The most common enteric infection declared has been Salmonella. Recent enteric infections have been isolated infections or related to intrafamilial transmission from an ill individual.

In general, the number of enteric infections in the region appears lower than the province of Quebec. If the region had rates similar to the province of Quebec, one would expect a case of Amoebiasis or Shigella every two years, a case of Yersinia or E.Coli every four years, or a case of hepatitis A every five years. There would be approximately two cases of Giardia or four cases of Campylobacter each year under the same scenario.

Of note, Salmonella is the only enteric infection that occurs more frequently than elsewhere in the province. If the regional rates were the same as the provincial rate there would only be 2 cases per year. Generally, this has not been the case. However, the number of cases was low in 2004 and 2005.

Table 5.
Number of cases of gastroenteric infections from 1990 – 2005
Cree Territory of James Bay, Eeyou Istchee

	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Amoeb-iasis														1	1	
Campylo-bacter			1	1	1		2		1	3	2	3	1			1
E. Coli					1										1	
Yersinia	1											1		1		
Shigella	1															
Salmonella	6	8	3	3	3	11	5	9	10	7	3	3	9	5	1	3
Giardia			1	1		1			1	1				1	1	
Hepatitis A				1			2									

Other Declared Infection

Invasive streptococcal group A infection is the most common infection not covered in the previous groups. The surveillance of this infection was started in the late 1990's and the surveillance of enteroviral infections and scarlet fever were discontinued in 2004.

Table 6.
Number of cases of other infections from 1990 – 2004
Cree Territory of James Bay, Eeyou Istchee

	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Entero-Virus Meningitis				1						1	4	2				
Hepatitis NYD							2									
Plasmo-dium malariae											1					
Scarlet Fever			1						1		1	2				
Invasive Strep A									2	2	2			2	2	2

Summary

In terms of absolute numbers, sexually transmitted and blood borne diseases are the most significant notifiable diseases on the territory. However, the maintenance of rigorous vaccination programs is essential to eradication of vaccine preventable diseases such as hepatitis B and *Haemophilus influenza* type B. Active tuberculosis rates have decreased significantly in the region.

Contact

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Acknowledgements

I would like to thank Pierre Lejeune for his extraction and review of the data contained within this report. I would like to thank Frances Couchees and Rachel Martin for their continued assistance in data entry and in the production of this document. I would like to thank Marcellin Gangbè and Jill Torrie for their comments and review of the document. Finally, I would like to thank the health care workers of the region for their vigilance in declaring the infectious diseases featured in this report.