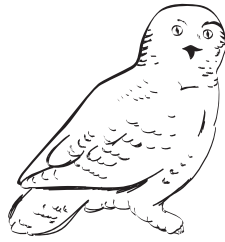


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The Northwest Territories Epidemiology Newsletter

Fall 1999

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The Status of Health

This issue of EpiNorth will reach your desk at about the same time as the publication of the Northwest Territories Health Status Report. Grounded in a population health framework, the report provides a profile of the health status of the people in the Northwest Territories. To briefly summarize the findings, it appears that the health of the population has improved over the past two decades; life expectancy has increased, infant mortality has decreased, and with some exceptions the incidences of communicable diseases are now comparable to the Canadian rates.

In many respects, the health status of people in the Northwest Territories is a reflection of the age structure of the population. Overall health status along with patterns of illness and disease are, in part, linked to age. For example, young people tend to be healthier but are more prone to injuries and sexually transmitted diseases. Meanwhile, cancer, circulatory and other chronic diseases usually occur later in life. The population in the Northwest Territories is aging and those 50 and older have become the fastest growing age group. This demographic change will affect the health status and illness patterns of the population in the near future.

The report also shows that mortality and morbidity due to injuries and diseases caused by smoking are major health problems in the Northwest Territories. Due to the importance of both smoking and injuries to the overall health status of northern residents, more research into these two topics will be carried out over the next several months. Future issues of EpiNorth will contain some of the results from this and other research on the health of northerners.

Over the past several years, EpiNorth has slowly changed shape. It began as a monthly statistical summary and grew into what it is today, a twenty page newsletter published four times each year. The editorial board has also gone through changes from time to time. Recently, Frank Hamilton, Jane Hamilton and Shaun Dean left the board; their invaluable contributions will be sorely missed. The remaining members of the EpiNorth editorial board will endeavor to provide accurate, informative and relevant articles to you, the readers.

Inside this issue you will find a short readership survey. Please take some time to think about whether the current format of EpiNorth meets your needs and the kinds of information you would like to see in future issues of the newsletter. Your feedback will help us improve the format and content of the newsletter so that it better serves your needs and interests. You can fax or mail the completed questionnaire to the address or fax number listed below. An electronic version of the survey can be found at www.hlthss.gov.nt. Click on publications and you will see a downloadable file under the current edition of EpiNorth. The completed form can be e-mailed to anthony_leamon@gov.nt.ca I look forward to receiving your input.

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Northwest Territories Health and Social Services



Profile of Prevalent Diabetes Mellitus in Fiscal Year 1997/98 in the Northwest Territories and Nunavut

Introduction

Diabetes mellitus is one chronic disease, which occurs when the body insufficiently produces and/or improperly uses insulin. Without enough insulin, blood glucose cannot be sufficiently absorbed from the bloodstream into the cells of the body (for example, muscle, fat, liver and brain). The glucose level in the blood remains high over a long period of time resulting in arteriosclerosis, blindness, kidney failure, nerve damage, and amputation. Thus, treatments to maintain the blood glucose at near normal levels at all times are important to help prevent the above long-term complications.

Diabetes can often be identified by symptoms such as fatigue, frequent urination and unusual thirst, and unexplained weight loss. However, sometimes no symptoms are exhibited which can result in an underestimated number of people recorded with diabetes. Lab methods testing for diabetes include fasting plasma glucose test and oral glucose tolerance test.

Two major types of diabetes are type 1 diabetes and type 2 diabetes. Type 1 diabetes occurs in young people and requires multiple daily injection of insulin. In type 1 diabetes, the symptoms usually progress quickly and are often

dramatic. Type 2 diabetes typically begins at an older age and generally involves an improper response of the body to insulin. The symptoms for type 2 diabetes are usually slower to progress and sometime are not apparent. The diagnosis of type 2 diabetes may be made on a non-related medical examination. This short report will not look at transient diabetes such as gestational diabetes among pregnant women, diabetes due to drug abuse or stress, and diabetes originating from dysfunction of kidney.

Obesity, physical inactivity, family history and age (people over 40 years) are often positively associated with diabetes. Although smoking was not found to be a risk factor in the occurrence of diabetes, it predisposes people who already have the condition to long-term complications. Understanding the modifiable risk factors will help us in the development of prevention programs.

Purpose

The purpose of this report is to profile the morbidity of diabetes in the NWT and Nunavut between April 1997 to March 1998. We describe the prevalence, health care utilization and some clinical characters of diabetes in the NWT and Nunavut during this period of time.

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Table 1

Prevalence of Diabetes by Gender, Age and Ethnicity
NWT and Nunavut, 1997/98

	NWT			Nunavut		
	No. of Cases*	Population**	Prevalence (%)***	No. of Cases	Population	Prevalence (%)
Total	744	39,672	1.9	152	24,730	0.6
Gender						
Female	356	19,205	1.9	79	11,810	0.7
Male	388	20,465	1.9	73	12,910	0.6
Age						
0-12	18	10,185	0.2	2	8,505	0.0
13-34	83	14,240	0.6	30	9,450	0.3
34-64	460	13,855	3.3	92	6,235	1.5
65+	161	1,395	11.5	24	545	4.4
Ethnicity						
Dene	168	10,980	1.5	1	90	1.1
Metis	87	3,665	2.4	1	80	1.3
Inuit	35	4,025	0.9	69	20,480	0.3
Non-aboriginal	454	20,460	2.2	81	3,975	2.0

* Number of diagnosed cases

** Number of population in each subgroup in National Census, 1996

*** Prevalence equals the percent of the population, who were diagnosed with diabetes

Note: All age categories do not sum to total due to unrecorded age in some cases.

Materials and methods

Information was extracted from the Territorial Hospitalization Insurance System (THIS), Territorial Medicare Billing, and Community Health Management Information System (CHMIS) databases. The electronic records in these databases were linked to the health insurance numbers of the NWT and Nunavut residents. Each diabetes patient was identified in this way. Basic descriptive statistics was performed using SAS software.

Results

During the 1997/98 fiscal year, 744 people in the Northwest Territories and 152 in Nunavut visited a doctor's office, hospital or community health clinic because of diabetes. Table 1 shows that the Northwest Territories had a higher prevalence (1.9%) of diabetes than Nunavut (0.6%). In both territories, female and male presented approximately the same level of prevalence. Not surprisingly, the prevalence of diabetes increased with age. However, in each age group, the Northwest Territories had a higher prevalence than Nunavut. This finding indicates that something other than differences in age structure account for the differences in prevalence between the two territories.

Non-aboriginal people and Metis make up a much larger percentage of the population of the Northwest Territories and these two groups had the highest prevalence of diabetes. Meanwhile, Inuit had the lowest level (see table 1).

During the 1997/98 fiscal year, approximately 2,600 visits to the health care facilities in the Northwest Territories, and 420 in Nunavut, were due to diabetes (see table 2). Most of these visits took place in medical clinics. However, the most serious cases of diabetes were likely treated as inpatients in hospitals. There were a total of 223 hospitalization days associated with diabetes recorded in the Northwest Territories and 14 hospitalization days recorded for Nunavut

Table 2

Visits to Health Care Facilities Due to Diabetes
NWT and Nunavut, 1997/98

	NWT		Nunavut	
	No.	%	No.	%
Total	2,587	100.0	420	100.0
Medical clinic	2,329	90.0	367	87.4
Hospital				
In-patients	49	1.9	4	1.0
Out-patients	120	4.6	1	0.2
Community health center	89	3.4	48	11.4

residents during this period. The average length of stay per visit was 4.5 days in the Northwest Territories and 3.5 days in Nunavut.

Approximately 54% of the recorded diabetes cases in the Northwest Territories and 70% in Nunavut did not have any associated complications (see table 3). Meanwhile, 29% of the cases in the Northwest Territories and 13% in Nunavut did have associated complications, with eye damage and ketoacidosis being the most common. Another 18% in both territories had suspected complications.

Table 3

Clinical Type of Diabetes
NWT, Nunavut, 1997/98

	NWT		Nunavut	
	No.	%	No.	%
Total	744	100.0	153	100.0
No complication	399	53.6	107	69.9
With complications				
Ketoacidosis	45	6.0	5	3.3
Coma	8	1.1	1	0.7
Renal damage	3	0.4	6	3.9
Eye damage	135	18.1	4	2.6
Neurol damage	4	0.5	1	0.7
Other damage	19	2.6	2	1.3
Suspected complications	131	17.6	27	17.6

Discussion

This report provides a preliminary estimate of the prevalence of diabetes in the Northwest Territories and Nunavut based on recorded visits to a health care facility between April 1997 and March 1998. As pointed out earlier, 1.9% of the population in the Northwest Territories and 0.6% of the population in Nunavut visited a health professional due to diabetes during this period. However, these results may be an underestimate of the prevalence of the condition in the two territories due to several factors. First, people with diabetes are sometimes undiagnosed. In 1997 the American Diabetes Association claimed that 35% of all diabetes cases were undiagnosed. Second, diabetics may visit a health professional for various reasons and if the primary cause is not indicated to be diabetes than the visit would not show up in these estimates. Third, a diabetic may not visit a health professional during the selected time period. A longer time frame, for example five years, would likely mean an increase in the number of cases recorded.

While this report was intended to profile the morbidity of diabetes in the North, it was not able to:

- capture undiagnosed diabetes;
 - differentiate between type 1 and 2 diabetes in the existing databases;
 - identify risk factor information such as obesity and physical inactivity;
 - compare the relative importance of diabetes with other diseases in terms of severity of the disease, and social economic impacts.
- To get complete epidemiological information on diabetes for the purpose of prevention, further research work needs to be undertaken in the NWT and Nunavut including:
- estimates of new cases of diabetes each year in the NWT and Nunavut and the trend of incidence rates over the years;
 - estimates of mortality due to diabetes;
 - estimates of economic burden due to diabetes;
 - surveillance of risks factors on a population base;
 - surveillance of the progress of early detection of diabetes;
 - surveillance of the preventing or delaying the complications of diabetes. For example, surveillance of the control blood sugar and blood pressure among the diabetes patients.

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National Immunization Awareness Week – October 24-30, 1999

The National Immunization Awareness Week (NIAW) will be held in Canada between October 24 and October 30. It is an opportunity to focus the attention of Canadians on the importance of a regular series of childhood vaccinations. With the support of our celebrity spokespersons - Sharon, Lois and Bram in English Canada and Bibi in French Canada - members of the Canadian Immunization Awareness Program (CIAP) will be spreading the word at the national level. The CIAP would like to reach everyone from young mothers to community health professionals.

What are some of the reasons why parents do not immunize their children?

- Some have religious or philosophic objections.
- Some see mandatory vaccination as interference by the government into what they believe should be a personal choice.
- Others are concerned about the safety and/or effectiveness of vaccines.
- Some may believe that vaccine-preventable diseases do not pose a serious health risk.
- Others believe that immunization is not "natural".¹

Listed in the box at left are the six most common misconceptions that can lead parents to question the wisdom of vaccinations.²

Despite all the assurances by the medical profession, there are still some parents who have chosen not to vaccinate their children. Parents must weigh the risks and the benefits of vaccines, as Dr. Ron Gold, author of "Your Child's Best Shot: A Parent's Guide to

Vaccination" says, they should keep the risk in perspective. "There's much more risk involved in driving your child to the doctor's office to get a vaccination, than from a vaccine itself."³

The risks of not having the shots are a lot greater than the risks of immunization. Why should a child suffer the consequences of childhood diseases if we can help prevent them?

How safe is immunization?

Vaccines are among the safest tools in modern medicine. Although serious allergic reactions can happen; the chances of an occurrence are less than one for every million vaccinations. And in the rare case where were serious side effects, successful treatment meant the patients recovered completely. These risks are much smaller than the danger posed by the disease itself.

Minor side effects from vaccines are mild fevers, and common swelling and tenderness at the spot where the vaccine is injected. These reactions usually don't last long.

No one in the field of public health takes the safety of vaccines for granted. Each new vaccine must first undergo laboratory and field testing and pass a rigorous licensing procedure by the federal government before it is introduced. Even after the vaccine has been approved, every lot is tested for safety and quality. In addition, vaccines are continuously monitored for side effects. Any severe reactions are reported to the Vaccine-Associated Adverse Events Surveillance Section within the Laboratory Centre for Disease Control in Ottawa. The result is that our current vaccines are very effective and very safe.⁴

Misconceptions about Immunization

- Diseases had already begun to disappear before vaccines were introduced, because of better hygiene and sanitation.
- The majority of people getting disease have been fully immunized.
- There are many case reports of harmful side effects from vaccines, including deaths. This proves that vaccines are not safe.
- Vaccines cause many harmful side-effects, illnesses and even Sudden Infant Death Syndrome (SIDS) – not to mention long-term effects we don't even know about.
- Vaccine-preventable diseases have been virtually eliminated from Canada so there is no need for my child to be vaccinated.
- Giving a child multiple vaccinations for different diseases at the same time increases the risk of harmful side effects and can overload the immune system.

Since the majority of childhood diseases have all but disappeared in Canada, why is it so important to maintain a high level of immunization?

In Canada, we are very fortunate to have a health care system that allows for the effective distribution of vaccines. Our challenge is to keep our immunization rates high so we won't have future epidemics. A 1998 survey showed that 85-90% of children in the Northwest Territories were fully immunized when they entered kindergarten. Our goal is to reach 99% to prevent diseases from coming back.

Whenever immunization rates drop, epidemics may occur. For example, in Great Britain a drop in pertussis (whooping cough) vaccination in 1974 was followed by an epidemic of more than 100,000 cases of pertussis and 36 pertussis related deaths in 1978. Both Japan and Sweden have had similar experiences. Although most vaccine-preventable diseases are rare in Canada, they are common in other parts of the world. Travellers can carry them from country to country, and if populations are not protected by vaccination, these diseases will quickly spread.

Most of the childhood diseases are highly contagious. If a child has not had his/her shots and comes into contact with someone who has measles or whooping cough for example, there is a good chance they will catch the disease.

Are these diseases very serious?

Routine childhood immunizations in the Northwest Territories currently protect children from nine diseases: measles, mumps, rubella (German measles), diphtheria, tetanus (lockjaw), pertussis, polio, haemophilus influenza type b (meningitis), and hepatitis B. New vaccines like the varicella (chicken pox) vaccine are continually becoming available and the feasibility of introducing these new products are continually being assessed.

Thanks to vaccines, diseases are not as common as they used to be. In the past, thousands of people suffered and died from such diseases as measles, diphtheria, whooping cough, and polio. Even today these diseases can lead to pneumonia, brain damage, heart problems, and blindness in children who are not protected. Every year children still die from vaccine-preventable diseases and their complications.

This year elders in the NWT are being asked to share their stories of what they have seen - how people suffered and died from these childhood diseases.

Prior to 1992, in the NWT, HiB meningitis was the major cause of brain damage in infants.

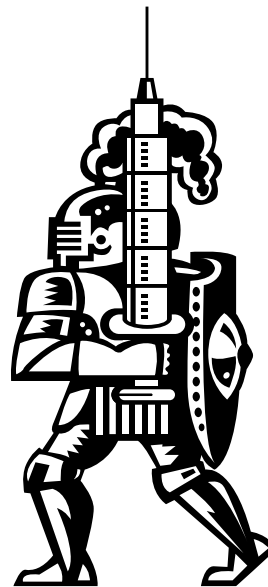
With the introduction of HiB Vaccine at 2, 4, and 6 months of age a dramatic decline in morbidity and mortality resulted. Prior to 1992, we saw 10-12 infant deaths every year. Within the last five years, only one case of HiB meningitis has been reported. This one case occurred in an infant who had not yet been fully immunized.

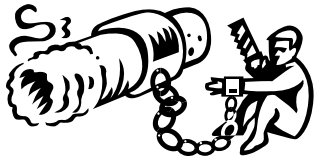
What is the message of Canada's second National Immunization Awareness Week?

Immunization works. The theme this year is "Immunize Your Kids! Boost Their Chances for Health".

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Health Consequences of Smoking Among Canadian Smokers: An Update

*From Chronic Diseases in
Canada, Health Canada.*

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of the Minister of Public
Works and Government
Services Canada, 1999.*

Abstract

The expected number of deaths in four hypothetical Canadian cohorts (male current smokers, male never-smokers, female current smokers and female never-smokers) was examined by constructing abridged life tables. The expected number of premature deaths (before age 70) among lifelong smokers was found to be about twice that expected among lifelong never-smokers for both males (2.3) and females (1.9). The higher number of premature deaths in the smoking cohorts resulted mainly from cancer and coronary heart disease. The results of this paper highlight the dramatic impact that smoking has on premature mortality.

Key words: Canada; coronary disease; life table; mortality; neoplasms; smoking

Introduction

Premature death due to tobacco use is the most important public health problem facing Canadians today. It has been estimated that at least one quarter of all deaths among persons ages 35-84 in Canada are attributed to tobacco use.¹ An estimated 45,000 deaths in Canada in 1991 were caused by smoking.²

This study was designed to update and refine previous work^{3,4} exploring premature mortality (before age 70) attributable to smoking. The most recent Canadian study modelling such mortality⁴ has become outdated, in part because of changes in mortality rates, particularly for coronary heart disease. We modelled the expected number of deaths in four hypothetical cohorts (male current smokers, male never-smokers, female current smokers and female never-smokers), starting from age 15.

Methods

Age-specific prevalence rates of current smokers were estimated from the 1996 National Population Health Survey.⁵ Relative risk estimates for smoking-related diseases were derived from data from the American Cancer Society's Cancer Prevention Study II (American Cancer Society, personal communication, 1998), which is

examined in detail elsewhere.⁶ Mortality rates according to age, sex and cause were calculated using death counts retrieved from the Canadian Mortality Database of Statistics Canada and Canadian population data, adjusted for census undercount, also obtained from Statistics Canada. It was assumed that the cohorts would be subject to these mortality rates over the course of their lifetime.

The method outlined by Mattson et al.⁷ was used to calculate mortality rates for current smokers and never-smokers using the aforementioned relative risk, prevalence and mortality rates. Abridged life tables were constructed⁸ for each of the four cohorts (i.e. male current smokers, male never-smokers, female current smokers and female never-smokers). From these life tables, the probabilities of dying in each age interval were retrieved. Expected numbers of deaths were then estimated by multiplying age-specific probabilities of death by the number of surviving members of the respective cohort, a figure taken from the constructed life tables. The expected total number of deaths for each cohort was based on an initial population of 100,000 persons aged 15 years. Those in the smoking cohorts were assumed to be smokers for the duration of their lives. Deaths attributable to smoking were calculated by subtracting the number of deaths among never-smokers from the number of deaths among current smokers.

For each cause of death, probabilities of death for each age interval were calculated in a similar fashion to that already described. Expected numbers of deaths were estimated by multiplying age- and cause-specific probabilities of death by the number of surviving members of the respective cohort. Risks to smokers were assumed to be equivalent to never-smokers for homicide, motor vehicle traffic accidents, HIV/AIDS and suicide. To form a direct basis of comparison, the process was repeated using smoking prevalence rates⁹ and mortality figures from 1990.

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Paul J Villeneuve, Ontario Tobacco Research Unit, Centre for Health Promotion, University of Toronto, Toronto, Ontario.

Results

More than a third of the cohort of 100,000 male smokers aged 15, and almost a quarter of a similar group of females, were anticipated to die before age 70 (Table 1). The expected number of premature deaths among smokers was found to be about twice that expected in similar cohorts of never-smokers for both males (2.3) and females (1.9). The higher number of premature deaths among the smoking cohorts resulted mainly from cancer and coronary heart disease.

Smoking accounted for 56% and 48% of premature mortality among male and female smokers respectively. Among male smokers, approximately 3.5% of premature deaths were due to suicide, 2.1% to motor vehicle accidents, 1.4% to HIV/AIDS and 0.4% to homicide. Similarly, among female smokers, 1.5% of premature deaths were due to motor vehicle accidents, 1.6% to suicide, 0.3% to homicide, and 0.2% to HIV/AIDS.

Table 2 presents the same type of information as Table 1 but uses 1990 rather than 1996 smoking

prevalence and mortality data. The number of premature deaths attributable to smoking was 5.5% lower using 1996 compared with 1990 data. The largest decreases were observed for cardiovascular disease; coronary heart disease was 18% lower, and cerebrovascular disease was 8% lower. For chronic obstructive pulmonary disease and cancer, particularly the former, the number of premature deaths attributable to smoking declined among males but increased among females.

Discussion

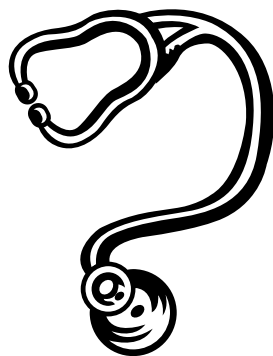
The results of this paper highlight the dramatic impact that smoking has on premature mortality. Compared with non-smokers, the risk of premature death is more than double among males and almost double among females who begin smoking by age 15. Over half of the expected premature deaths would be attributable to smoking as compared with less than 6% from suicide, motor vehicle traffic accidents, HIV/AIDS and homicide combined. Like other researchers,^{3,4} we observed that the higher number of premature deaths among the smoking cohorts resulted mainly from cancer and coronary heart disease.

Table 1

Expected number of deaths before age 70 in four cohorts of 100,000 individuals now aged 15, based on 1996 Canadian mortality and smoking prevalence data

Cause of death	ICD-9 Code	Deaths among males			Deaths among females		
		Current smokers	Never-smokers	Number attributable to smoking	Current smokers	Never-smokers	Number attributable to smoking
Smoking-related diseases							
Coronary heart disease	410-414	7,726	3,589	4,137	3,436	1,334	2,102
Cerebrovascular disease	430-438	1,570	632	938	1,370	444	926
Cancer	140-195, 199-208	13,895	4,809	9,086	10,814	6,230	4,584
Chronic obstructive pulmonary disease	490-492, 496	948	82	866	955	85	870
Selected other causes ^a							
Homicide	E960-969	141	145	-	61	61	-
Motor vehicle accident	E810-819	786	810	-	349	354	-
Suicide	E950-959	1,303	1,345	-	381	385	-
HIV/AIDS	177	510	521	-	46	47	-
ALL CAUSES		36,801	16,263	20,538	23,414	12,105	11,309

^a Estimated deaths from selected other causes were lower for the smoking cohort than for the non-smoking cohort because of competing mortality, the same risks by sex and age were assumed for smokers and non-smokers.



The estimate of the expected premature mortality attributable to smoking was over 10% lower than that previously reported in a similar hypothetical study using 1990 smoking prevalence and mortality data. However, methodological differences between these two studies made a direct comparison problematic. Accordingly, we duplicated our analysis using data from 1990. Our 1996 estimates represent a 6% lower number of smoking-attributable premature deaths than the 1990 estimates. Differences between the two sets of estimates can be explained largely by changes in mortality rates that have occurred between 1990 and 1996, and they may reflect improved survival for such conditions as coronary heart disease and cerebrovascular disease. While the mortality rate for chronic obstructive pulmonary disease has decreased over this period among men, it has increased among women, particularly women aged 65-69.

We observed nearly twice as many smoking-attributable deaths among males than among females. This is, in part, the result of sex difference in age-specific mortality rates and relative risk estimates. The relative risk estimates used in this analysis partially reflect past difference in patterns of smoking (e.g. age at initiation, number of

cigarettes smoked daily) between men and women.¹⁰ Although forecasting changes in the prevalence of smoking, mortality rates and underlying relative risks was beyond the scope of this report, it is reasonable to assume that if sex-specific patterns of smoking were similar than difference in smoking-attributable death counts between males and females would be considerably narrowed.

A range of interventions, from educating the public about the adverse health effects of tobacco use to advertising restriction and other legislative initiatives (e.g. taxation), contributed to significant decreases in the prevalence of tobacco use during the 1980's.^{10,11} Nevertheless, 30% of Canadians 15 years and older still smoke, and teen smoking rose sharply during the early 1990's.¹²⁻¹⁴ Since most smokers start this highly addictive habit during adolescence,¹⁰ the pattern of smoking among youth will shape the future health care burden and the number who will prematurely die. A comprehensive approach to preventing youth smoking is necessary to reduce the number of Canadians who will die from smoking-related diseases.^{10, 15}

Table 2

Expected number of deaths before age 70 in four cohorts of 100,000 individuals now aged 15, based on 1990 Canadian mortality and smoking prevalence data.

Cause of death	ICD-9 Code	Deaths among males			Deaths among females		
		Current smokers	Never-smokers	Number attributable to smoking	Current smokers	Never-smokers	Number attributable to smoking
Smoking-related diseases							
Coronary heart disease	410-414	9,372	4,391	4,981	4,276	1,666	2,610
Cerebrovascular disease	430-438	1,776	727	1,049	1,474	492	982
Cancer	140-195, 199-208	14,577	5,116	9,461	10,833	6,263	4,570
Chronic obstructive pulmonary disease	490-492, 496	1,031	93	938	825	77	748
Selected other causes ^a							
Homicide	E960-969	153	157	-	81	81	-
Motor vehicle accident	E810-819	1,042	1,074	-	444	450	-
Suicide	E950-959	1,205	1,245	-	337	340	-
HIV/AIDS	177	422	451	-	20	20	-
ALL CAUSES		39,892	17,910	21,982	24,336	12,608	11,728

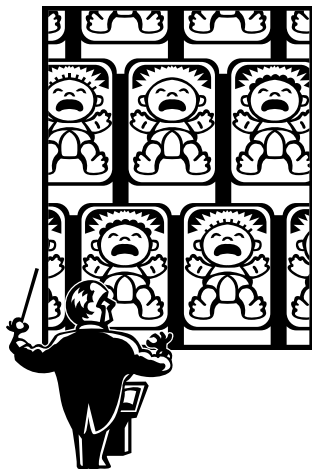
^a Estimated deaths from selected other causes were lower for the smoking cohort than for the non-smoking cohort because of competing mortality, the same risks by sex and age were assumed for smokers and non-smokers.

Acknowledgements

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Do the Benefits of BCG Outweigh the Risks?

During the last Canadian National Immunization Conference in December 1998, concern was raised over the issue of routine Bacille Calmette-Guerin (BCG) immunization of infants. Public health nurse from the Baffin Region of Nunavut, Nicola Eynon, brought forth a concern and asked the following question:

"In our community, BCG is routinely administered to all children on the second day of life. In the last year we had one case of BCG related osteomyelitis in a child, who after investigation appears to have a normal immune system. For my own information and so that I can take the information back to my community, does the benefit of routine BCG immunization outweigh the risks?"

Dr. Noni MacDonald, Professor of Paediatrics and Microbiology at the University of Ottawa responded to Eynon's concerns, "BCG is not the way to go. It's time to blow it out of the country." Dr. Ron Gold, in support of these sentiments stated that BCG is only valid in locales where there are high rates of infant tuberculosis meningitis and that, "good case finding and follow-up are a much better solution for children."

However, there are many more individuals who support the continued use of the BCG vaccine. In a December 1998 article written for the 3rd Canadian National Immunization Conference, *BCG Vaccine: The Untold Story*, Dr. Maureen Carew supported a BCG immunization program for Canada's First Nations People. With the incidence of TB among First Nations people approximately seven times higher than the average Canadian rate (42 per 100,000 population vs. 6.2 per 100,000 population in 1996), she maintains there is a need for the retention of BCG vaccinations for First Nations Persons. There are several main contributors to the higher rates observed in the First Nations and Inuit populations:

- A large reservoir of infection,
- delays in detection and treatment of cases and contacts, that can in part be attributed to the limited experience of health care providers and to delayed reporting of symptoms,
- and, poor socioeconomic conditions.

BCG has been shown to be effective in protecting against serious forms of the disease (e.g., miliary and meningeal tuberculosis), even if its effectiveness in the prevention of pulmonary disease remains unclear. In the NWT, over the last

five years, two cases of miliary and one case of TB meningitis have been identified in children without a history of BCG protection. There were no cases identified in vaccinated children.

The Canadian Immunization guide also recognizes the importance of BCG immunization for groups where the incidence rate for TB is greater than 1% of the population. In 1998, the incidences of active TB in the NWT and Nunavut were 17.6 per 100,000 people and 125.3 per 100,000 people respectively. Moreover, it is estimated that the incidence rate in smaller communities in the NWT is much higher.

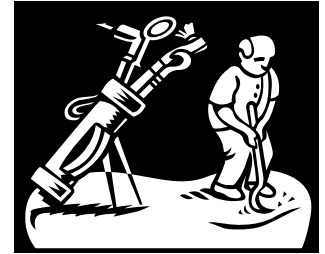
Through mathematical modeling and inputs from the research of Dr. Theresa Gordon, (Department of Applied Psychology, York University), it has been shown that BCG can be cost effective. Her model predicts that only when greater than 30% of mothers are HIV positive there would be a decline in the benefit of BCG. The model also showed that, in regions with increasing multi-drug resistant TB, BCG is of even greater value.

To conclude, the high rates of active TB observed in the Northwest Territories and Nunavut warrants the retention of the BCG vaccination program until a surveillance program with appropriate chemoprophylaxis is possible. Current literature and Dr. Gordon's mathematical modeling support the retention of BCG immunization programs for high-risk populations. The National Advisory Committee on Immunization also supports the position on vaccination of infants born in families or communities where there are high rates of TB. The NWT Advisory Committee on Immunization reviewed BCG use in the NWT at their November 10th 1998 committee meeting and supported the continuation of the Northwest Territories' BCG vaccination program.

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The Role of Fluoride in Protection of Teeth - An Effective and Safe Public Health Measure.



The fluoridation of drinking water has been controversial since its inception over fifty years ago. People are understandably concerned with their environment, and as a result there continues to be a small but vocal anti-fluoride lobby. Nevertheless, in the half-century that's passed, there has been ample evidence of the effectiveness of this public health measure. Currently, approximately 40 percent of the Canadian population receive fluoridated drinking water. In the Northwest Territories the communities of Yellowknife, Ft. Smith, Ft. Simpson, Inuvik and Aklavik have fluoridated water.

There have been numerous studies published over the years that show **optimally** fluoridated water, in the order of 1 part per million, can reduce dental decay by up to 50 percent, with no known adverse health effects. It's widely accepted by dental public health officials that fluoride exposure, primarily through drinking water, the use of fluoridated toothpaste, and topical application by dentists is largely responsible for the marked reduction in dental decay rates that have occurred in the last 40 years.

Although the benefits of fluoride are well demonstrated, fluoride should be considered a 'therapeutic agent', which is effective at optimal concentrations, but which must be monitored to prevent overexposure. Slightly elevated exposure to systemic fluoride in children less than age six - when the permanent teeth are forming - has been associated with dental fluorosis, a cosmetic defect characterized by white areas and occasionally brown stains within the enamel of teeth. There is no evidence of any adverse health problems associated with dental fluorosis.

Until recently it was thought that fluoride in the water benefited only children. It was postulated to work by strengthening the tooth when it was incorporated into the developing enamel (systemic effect). It is now thought that the primary mechanism of action is topical. Drinking fluoridated water results in a small but therapeutic concentration of fluoride in the saliva, which is present constantly to combat the dissolution of enamel caused by acid producing bacteria. As a result of this topical mode of action, it has been shown that fluoridated water benefits adults as well as children.

Fluoride is not a panacea and it won't negate the effects of poor oral hygiene and poor diet. However, fluoridation of the water supply is the most cost effective dental public health initiative

existing today. The Canadian Dental Association, the American Dental Association, the World Health Organization and Health Canada endorse it, along with the majority of public health officials. Fluoride in the water does not discriminate based on race, income level, education or age. It works constantly and effectively, behind the scenes to strengthen the teeth.

Dental health is a significant public health problem in the Northwest Territories, particularly in native populations. Dental caries can be reduced by a combination of good nutrition, improved oral hygiene, and fluoride supplements. From a public health perspective, the ideal fluoride supplement should benefit the entire population, regardless of age, social class, economic status or access to dental care. It should be available during the age of tooth development and should be economical. The fluoridation of water supplies satisfies these characteristics.

Health Canada has provided guidelines to help Canadian families keep fluoride exposure within safe limits. These guidelines include the following steps:

- Never give fluoridated mouthwash or mouth rinses to children under six years of age, as they may swallow the liquid.
- Encourage children to use no more than a pea-sized amount of toothpaste on their toothbrush and teach them not to swallow toothpaste. Children under six years of age should be supervised while brushing.
- Do not use fluoride supplements if your drinking water is already fluoridated or if the naturally occurring fluoride in your water supply is already at optimal levels.
- Keep informed. Consult your dentist, physician or public health professional on the use of fluoride supplements for young children.

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Injuries: How Big is Our Problem?

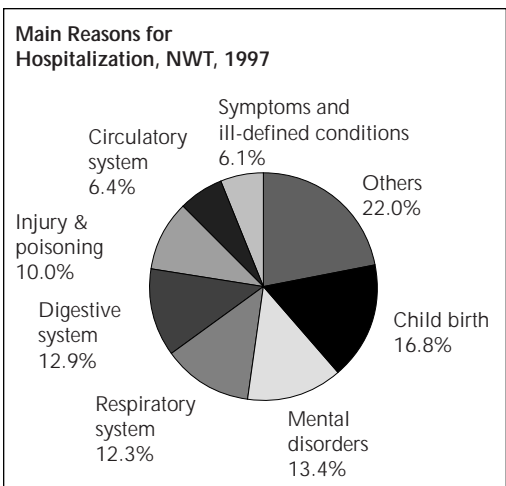
Unintentional injuries cost Canadians \$8.7 billion dollars annually, according to a 1998 Health Canada study entitled *"The Economic Burden of Injury in Canada"*. This important study measured the impact of injuries on our population in terms of direct services, such as physician care, or hospitalization, and indirect costs, such as loss of productivity due to disability.

The Health Canada study notes a distinctive trend to this costly national problem. Specifically, falls are the most costly type of injury, accounting for 40% of total costs. Elderly females are the group most vulnerable to injury from falls, often resulting in hip fractures. Motor vehicle accidents are the second leading cause of injury in Canada, accounting for 20% of the total costs. The remaining 40% of costs are attributed to a combination of injuries, including drowning, poisoning, and fire.

In the Northwest Territories, injuries are one of the leading causes of hospitalization. In 1997, 10% of all in-patient hospital visits were due to this reason. Injuries are also a leading cause of mortality. Between 1991 and 1996, they accounted for 23% of all deaths in the Northwest Territories. At 27%, injuries were the leading cause of death among males during this time.

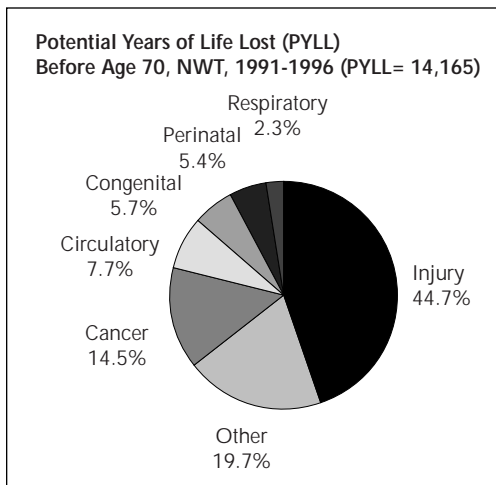
By Marilyn Plummer
 Consultant Community
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The injury death rate for Aboriginal people is 3 times higher than the national average, according to the National Advisory Committee on Population Health (1999).



Between 1991 and 1996, injuries were also responsible for 47% of potential years of life lost, a good measure of the overall level of premature death in a population and also an indicator of lost productivity. Motor vehicle accidents and drowning associated with alcohol are the main contributors to these alarming Northwest Territories statistics. Fortunately, there is something we can do to reverse this trend.

Investing in injury prevention programs save lives and money. Falls, motor vehicle accidents, and injuries related to drowning, poisonings, and fire are predictable and preventable. Falls can be



prevented by recognizing vulnerable population groups and risk factors, including history, impaired cognitive and motor ability, as well as household and playground hazards. According to Health Canada, "setting a hospitalization reduction target of 20% could lead to 7,500 fewer hospital stays and 1,800 fewer Canadians permanently disabled. The overall savings could amount to over \$138 million annually" (1998). If our health care system is to remain sustainable, we must begin to address injury prevention nationally and territorially.

Wearing seat belts, reducing speed limits and avoiding drinking and driving can help reduce the number and severity of injuries related to motor vehicle accidents. Health Canada reports that, "by implementing a prevention strategy based on buckling up, driving sober, slowing down and looking first on the roads, there would be 2,800 fewer hospitalizations, 19,000 fewer injuries treated outside a hospital setting and over 750 fewer injuries leading to permanent disability" (1998).

Nationally, the Advisory Committee on Population Health is encouraging Health Canada to develop a framework for action on injury prevention. A territorial injury prevention strategy is required as a framework to strengthen public policy, improve awareness and education, and create safer environments for the purpose of reducing death and disability. Through surveillance of the problem, support of community initiatives, and comprehensive programming, the burden of injury will be reduced in the NWT.

Reference

Health Canada, 1998, *The Economic Burden of Injury in Canada*.

Reminder to Prepare for Fall Vaccine Programs

There is no getting around it, fall is here and that means planning for Fall Immunization Programs. Now is the time to review charts and determine your target populations; and then get those orders into your regional pharmacists for Influenza, Pneumococcal and Hepatitis B vaccines.

Influenza

Recommendations for the 1999/2000 influenza season

For those of you who are new to any of these programs (or who need a quick refresher!), here is a quick overview of the NWT Recommendations for these programs.

The antigenic characteristics of current and emerging influenza virus strains provide the basis for selecting the strains included in each year's vaccine. In Canada, the National Advisory Committee on Immunizations (NACI) recommends that the trivalent vaccine for the 1999-2000 season contain an A/Sydney/5/97 (H3N2)-like strain, A/Beijing/262/95(H1N1)-like strain, and B/Yamanashi/166/98-like strain. These components have characteristics which match the current and emerging influenza strains.

In the NWT, influenza vaccine should be offered free of charge to the following at-risk groups as defined by the National Advisory Committee on Immunization:

- Adults 65 years of age or older (lowered age may be predicated on regional factors);
- Adults and children with chronic cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma) severe enough to require medical follow-up or hospital care;
- Adults and children with chronic conditions such as diabetes and other metabolic diseases, cancer, immunodeficiency (including HIV infection), immunosuppression, renal disease, anaemia and hemoglobinopathy;
- People of any age who are residents of nursing homes and other chronic care facilities;
- Children and adolescents (age 6 months to 18 years) with conditions treated for long periods with acetylsalicylic acid. This therapy might increase Reyes syndrome after influenza; and

- People at high risk of influenza complications embarking on travel to destinations where influenza is likely to be circulating.

Influenza vaccine should also be promoted and offered to:

- Healthcare workers and other people who may transmit the virus to those at-risk, as well as those who provide essential community services;
- Household contacts of at-risk individuals (including children of people who either can not be vaccinated or may not respond to vaccination);
- Influenza vaccines should also be made available to anyone who asks for it, on a cost-recovery basis, as long as appropriate supplies have been secured for priority at-risk groups.

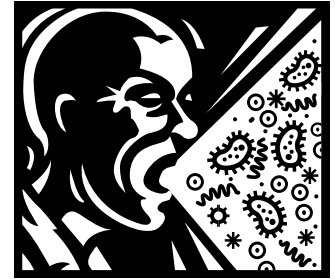
NB: Studies of healthcare workers show very low coverage rates, approximately 26% to 61%. In most reviews of institutional Influenza outbreaks, unimmunized healthcare workers are the leading factor that contributes to outbreak activity.

Annual immunization is required because there is always a change in the vaccine in response to antigenic drift. As well, immunity declines quickly in the year following vaccination. Each 0.5 ml of vaccine will contain 15 ug of hemagglutinin of each antigen. The vaccine will be available as a split-virus (chemically disrupted) preparation. Protection from the vaccine generally begins about 2 weeks after immunization and may last 6 months or longer. However, in the elderly, antibody levels can fall below protective levels within 4 months or less. The usual recommended time for influenza immunization is from October to mid-November.

Healthcare workers should use every opportunity to give vaccine to any individual at risk who has not been immunized during the current season, even after influenza activity has been documented in the community.

Pneumococcal vaccine should be given to:¹

- Adults 65 years of age or older;
- Adults with chronic conditions: cardiac, respiratory, renal disease, alcoholism, diabetes mellitus, chronic cerebrospinal leak, asplenia, and other conditions associated with immunosuppression;



*By Wanda White
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Department of Health and
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Northwest Territories*

- Children 2 years of age or older with asplenia, splenic dysfunction, nephrotic syndrome, chronic cerebrospinal fluid leak, and other conditions associated with immunosuppression; and
- HIV positive individuals over the age of 2 years.

Universal Hepatitis B Program and Catch-Up

Hepatitis B is recommended for:

- All newborns in the NWT;
- All student entering into Grade 4; and
- This year, as a catch-up program, to students in grades 9 to 11.

Schedule:

This is a three dose schedule. The second booster follows one month after the first dose and the third dose follows six months after the first.

Dosage:

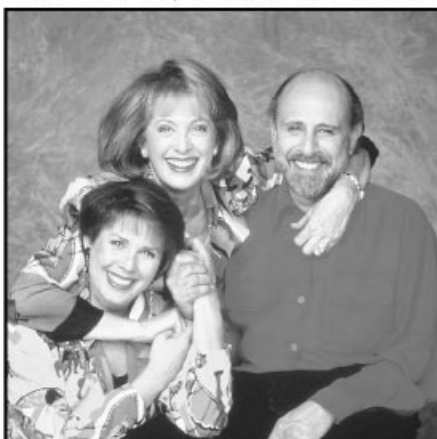
Infants to 10 years - Recombivax 0.25 ml

11 to 19 years - Recombivax 0.5 ml

Please prepare for your Fall Immunization Programs well in advance as a well organized program will lead to better coverage rates. If you have any questions about the NWT or Nunavut Immunization Programs please contact your Medical Health Officer or Communicable Disease Consultant. A reminder to prepare for the programs was sent to all health centres in the Northwest Territories and Nunavut in early September.

1 Generally no boosters are required except for patients with nephrotic syndrome or who are asplenic, or for patients who have debilitating cardiopulmonary disease, hepatic cirrhosis, HIV Infection or other Immunosuppression related to disease or therapy (for these people boosters are recommended every 6 years).

SHARON, LOIS & BRAM



B
is for
Booster

A missed booster shot could spell trouble for infants and children. As a health professional, you know kids need regular vaccinations to help protect them against diseases like measles, polio and rubella.

Is your young patient due for another shot?
Immunize on time, every time.

It's as easy as ABC!

**National
Immunization
Awareness Week**
24-30 October 1999



Health Facts You Need Before You Travel

Travelling to other countries or climates may be an adjustment for body and mind. It's tempting to toss caution to the wind and trust in luck alone. But you'll enjoy your trip more if you take precautions to stay healthy.

Each traveller is unique. Your risk of exposure to disease and developing an illness while travelling is determined by several risk factors, these include: your current health status; allergies; length of time before departure; geographical destination(s); itinerary; purpose of travel length of stay, type of accommodation; and food and water resources. You should be prepared to bring this information with you when seeking advice on the appropriate precautions and immunizations needed to maximize your health protection while travelling..

Some important things to keep in mind before you travel:

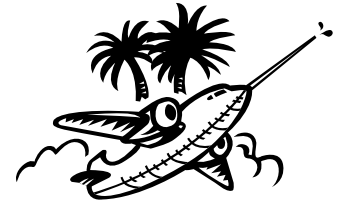
- Ensure that your routine immunizations are up to date. You could be at increased of acquiring diseases such as tetanus, diphtheria, polio, measles, mumps, and rubella (German measles) if your immunizations are not up to date. All adults should ensure they are protected from tetanus and diphtheria by receiving a booster vaccination every 10 years. If you are travelling with infants or small children, you may need to arrange an alternate or accelerated childhood immunization schedule for them.
- Be sure you received your required immunizations in advance. Immunizations such as Hepatitis A, Typhoid, Meningococcal, or Yellow Fever may be required. Proof of immunization against Yellow Fever may be a legal requirement for entry into certain countries if your itinerary includes travel to or transit through a risk area.
- Recognize and reduce your risks. Appropriate immunizations will protect you from several serious diseases. You can further safeguard your health by understanding how certain diseases are transmitted and by taking personal precautions to reduce your risks.
- If you need to carry syringes or needles for medical reasons, such as Diabetes, or for precautions in case of an accident or injury, you can purchase a 'Steri-Aid' Kit from the drugstore. Remember when planning to carry these to have the necessary form included in the kit, signed by your physician or public health nurse.

Some Important Things to keep in mind while you travel:

- Ensure that your water is properly filtered and purified or use sealed bottle water, and that your food is either well-cooked or peeled or washed in bottled or purified water. Consuming contaminated food and water is one of the most common ways for travellers to develop illnesses. Typhoid, Hepatitis A, travellers' diarrhea, and cholera may be transmitted by contaminated food and water.
- Wear protective clothing and always use effective insect repellent containing 30-50% Deet, such as "Muskol". As well, the use of mosquito nets impregnated with Permethrin is recommended when sleeping. In most third world countries mosquitos and other biting insects can be a threat to your health. Malaria, Dengue Fever, Japanese Encephalitis and Yellow Fever are all transmitted by infected mosquitos.
- Always wash your hands before eating, or preparing food. Along with the common cold, diseases such as influenza, diphtheria, meningococcal meningitis, and tuberculosis are transmitted through coughing and sneezing, Travellers should try to avoid exposure to infected individuals by using common sense. Hepatitis B, Hepatitis C, and AIDS are transmitted via contaminated needles, syringes, blood and sexual activities. Travellers should avoid casual sexual encounters. If you require condoms carry your own. Avoid tattooing and/or piercing.
- Always wear protected footwear. Try to avoid direct contact with sand and soil or water that may be contaminated with animal feces. Soil can be contaminated with bacteria that can enter broken skin and cause tetanus. Certain parasites are capable of entering unbroken skin. These are found in soil contaminated by animal feces or in contaminated water.

Many travel immunizations are not free. Make sure you budget to cover the cost. Well before leaving on your vacation, make an appointment at a Public Health Unit. In Yellowknife, Travel clinics are held Monday afternoons from 1-5 pm at the Jan Stirling Centre. Phone 920-6570 for an appointment.

Take the time to learn as much as possible about your destination before you leave. There are many ways to protect yourself from unwanted illness and excellent resources to help you. Seek them out and travel in good health.



By Jane Wilson Szabo
Kate Hamilton
and Leslie Singer
Yellowknife Public
Health Clinic

Reference: Connaught
Laboratories Limited (1996)
Health Tips for the Traveller



By: Mike Argue
 Summer student
 Health Promotion Unit

Go for Green-The Active Living and Environmental Program

Active Living and the quality of the environment are viewed by most Canadians as the main factors in promoting individual health (see figure 1). Canadians are looking to government for leadership on environmental issues, but are less likely to feel personally empowered. However, the health of many Canadians and Northerners is increasingly being compromised due to a lack of physical activity while some of our lifestyle choices have a negative impact on the sustainability of the natural environment.

Go For Green is a national non-profit organization that encourages Canadians to be conscious and kind to the environment while pursuing outdoor physical activity. They provide community driven solutions that make positive contributions to Canadian society. 1998, *Health Canada*, pg. 3.

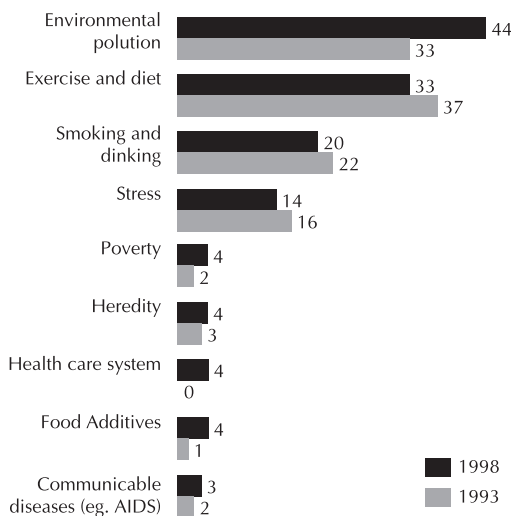
The organization works to:

- Create healthy, safe, and accessible environments.
- Provide opportunities for Canadians to experience, value, and learn to protect the environment while being active outdoors.
- Find active transportation alternatives to counter our reliance on cars, trucks and skidoos.
- Build local, regional, and national partnerships and alliances that help Canadians "Go for Green".

Go for Green has a number of programs and services that aim to improve our health and the health of the environment. These programs tie into

Most Important Health Risk Factors*

Unaided Responses 1993-1998



the Health Promotion Strategy since they aim to promote active living as a healthy lifestyle in order to prevent chronic diseases. Here a few examples of *Go for Green* programs:

- **Active and Safe Routes to School**
 This national program focuses on active modes of transport to and from school. "Walking" school buses are becoming more and more common around some neighbourhoods in southern Canada. There are many benefits to this program including more physical activity. This in turn promotes better health, enhanced safety, and less traffic which contributes to a greater sense of community, and reduced harmful automobile emissions.
- **Community Enhancement Projects**
Go for Green works with a number of organizations to help them retrofit their built environments into secure, safe and inviting cycle lanes, paths and pedestrian walkways. They helped plan \$297 million worth of community cycling and walking facilities during the recent Canada Works infrastructure program.



Active Transportation

Many active transportation resources may be ordered directly from *Go for Green*. Two resources that you may be interested in ordering are: "Making the Case for Active Transportation and Retrofitting Communities for Sustainable" and "Healthy Active Transportation." *Walk & Roll: A Guide to Active Transportation To, From, and At the Workplace*, published by the Canadian Council for Health and Active Living at Work, was also commissioned by *Go for Green*.

In the North, a Trail Construction Manual, funded by *Go for Green* and the Government of the Northwest Territories, has been produced. This manual provides communities and other organizations instructions on how to create trails in their community. It takes more of a Northern

perspective by not simply including walking trails, but biking, hiking, snowmobile, dog mushing, ski trails and other multi-purpose trails. The goal is to help residents of the north become more active.

Making Your Event “Winter Green”

When the ground is covered with snow we tend to forget that environmental issues are still around us. The reality is that many environmental issues are as severe or even more pronounced in the winter. For example, spilled fuels and oils which disappear in the snow will run into streams during the spring or accumulate in soil; and, poorly ventilated indoor arenas may actually be harming the health of active northerners.

There are two categories that organizers of winter events should consider: (1) threats to the environment from winter activities; and (2) threats to participants in winter activities posed by harmful or risky environmental conditions.

Activity-Driven threats to the Environment include:

- destruction of natural vegetation
- soil compression
- pollution of soils and waters
- solid waste generation
- noise disturbance
- disruption of wildlife
- transportation-related issues including air pollution and traffic congestion

Environment-Driven threats to Events/Participants can include:

- outdoor air pollutants
- indoor air pollutants
- noise
- Ultraviolet radiation(UV-B)
- Climate change

Different issues will be of greater or lesser relevance depending on outdoor events. With a good understanding of the main issues, all winter event organizers can benefit. The following list of issues should be considered when organizing a “Winter Green” event.

- Climate Change
- Air Quality
- Waste Management
- Water Conservation and Quality
- Ozone Layer Depletion
- Threats to the Natural Environment

Go for Green presents, a chance to try out new ways of reducing harm to the environment while raising awareness of the importance of physical activity in a healthy lifestyle.

The Elaine Burke Award

The Elaine Burke Award recognizes active living, achievement, and environmental citizenship. The award is named to honour the memory of Elaine Burke, whose vision layed the cornerstones of *Go for Green*.

Previous NWT winners of the Elaine Burke award included:

- 1997 Nakasuk Elementary School, Iqaluit-
The Grow Lab Project
- St. Patrick High School, Yellowknife-
The Recycling Program
- 1996 Joamie School, Iqaluit
- Don Patterson, Inuvik- The Jimmy
Adams Peace Project
- Ferrier Motors, Yellowknife
- John Tongak, Pond Inlet- The North
Baffin National Park Project
- Range Lake North School, Yellowknife
- 1995 The City of Yellowknife

Congratulations to these leaders in the north!

For more information...

Go for Green publishes a variety of resources, such as brochures, fact sheets, case studies, reports, references, and videos. The organization currently distributes newsletters in the north to schools, community governments, aboriginal organizations, and non-government organizations.

For a complete guide and more information on *Go for Green* visit their website at www.goforgreen.ca

More information can also be obtained from:

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Sport and Recreation Programs Advisor
Community Development Division
Municipal and Community Affairs
Government of the NWT
400, 5201 50th Avenue
Yellowknife NT X1A 3S9
(867) 920 6192 (phone)
(867) 920 6467 (fax)
gschauer@maca.gov.nt.ca

Resources/references:

- ¹ Chernushenko, David, *Greening Our Games: Running Sports Events & Facilities that Won't cost the Earth*, Ottawa: 1994.
- ² <http://www.goforgreen.ca> (*Go for Green* Home page)

Notifiable Diseases Reported by Community in the NWT

Disease	April 1999	May 1999	June 1999
Amoebiasis	NWT 1: Hay River, 1.		
Brucellosis		NWT 1: Deline, 1.	
Campylobacteriosis		NWT 1: Aklavik, 1.	NWT 1: Yellowknife, 1.
Chicken Pox	NWT 11: Ft McPherson, 6; Ft Good Hope, 5.	NWT 11: Ft Smith, 6; Yellowknife, 3; Ft Good Hope, 1; Rae Edzo, 1.	NWT 33: Ft McPherson, 19; Ft Good Hope, 6; Tuktoyaktuk, 4; Hay River, 3; Ft Simpson, 1.
Chlamydia	NWT 31: Yellowknife, 6; Rae Edzo, 5; Hay River, 4; Ft Simpson, 2; Inuvik, 2; Lutselk'e, 2; Rae Lakes, 2; Cambridge Bay, 1; Ft Good Hope, 1; Ft McPherson, 1; Ft Providence, 1; Ft Resolution, 1; Ft Smith, 1; Tuktoyaktuk, 1; Wha Ti, 1.	NWT 50: Inuvik, 10; Yellowknife, 10; Deline, 5; Ft Liard, 4; Tuktoyaktuk, 3; Ft McPherson, 2; Paulatuk, 2; Tsiigehtchic, 2; Tulita, 2; Wha Ti, 2; Ft Providence, 1; Ft Resolution, 1; Ft Simpson, 1; Ft Smith, 1; Hay River, 1; Lutselk'e, 1; Norman Wells, 1; Rae Edzo, 1.	NWT 44: Yellowknife, 15; Inuvik, 10; Ft Providence, 2; Ft Simpson, 2; Holman Island, 2; Wha Ti, 2; Ft Good Hope, 1; Ft Liard, 1; Ft McPherson, 1; Ft Resolution, 1; Hay River, 1; Norman Wells, 1; Rae Edzo, 1; Rae Lakes, 1; Scachs Harbour, 1; Tuktoyaktuk, 1; Tulita, 1.
E. Coli			NWT 1: Yellowknife, 1.
Giardiasis			NWT 1: Ft Simpson, 1.
Gonorrhea	NWT 8: Yellowknife, 2; Rae Edzo, 2; Deline, 1; Ft Good Hope, 1; Inuvik, 1; Lutselk'e, 1.	NWT 9: Yellowknife, 4; Wha Ti, 3; Ft Liard, 1; Ft Smith, 1.	NWT 8: Tuktoyaktuk, 3; Inuvik, 2; Yellowknife, 2; Aklavik, 1.
Group A Strep			NWT 1: Yellowknife, 1.
Hepatitis C	NWT 1: Yellowknife, 1.	NWT 6: Yellowknife, 4; Ft Resolution, 1; Lutselk'e, 1.	NWT 3: Yellowknife, 3.
Influenza			
Invasive Strep			NWT 2: Deline, 1; Rae Edzo, 1.
Legionellosis			
Malaria			
Meningitis/Unspecified			
Pertussis	NWT 6: Yellowknife, 6.	NWT 5: Yellowknife, 5.	NWT 3: Ft Smith, 3.
Salmonellosis			
Tuberculosis	NWT 3: Lutselk'e, 2; Ft Liard, 1.	NWT 4: Rae Edzo, 2; Ft Resolution, 1; Hay River, 1.	
Trichinosis			
Yersinia			

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Notifiable Diseases Reported by Community in Nunavut

Disease	April 1999	May 1999	June 1999
Brucellosis			Nunavut 2: Cambridge Bay, 2.
Campylobacteriosis			
Chicken Pox	Nunavut 19: Igloolik, 8; Chesterfield Inlet, 5; Arviat, 4; Kimmirut, 1; Pelly Bay, 1.	Nunavut 13: Gjoa Haven, 7; Whal Cove, 5; Igloolik, 1.	Nunavut 34: Cape Dorset, 25; Gjoa Haven, 5; Kimmirut, 3; Whale Cove, 1.
Chlamydia	Nunavut 119: Iqaluit, 29; Pangnirtung, 19; Cape Dorset, 14; Igloolik, 13; Arviat, 7; Clyde River, 6; Qikiqtarjuaq, 6; Kugluktuk, 5; Pond Inlet, 4; Resolute Bay, 4; Rankin Inlet, 3; Taloyoak, 3; Sanikiluaq, 2; Baker Lake, 1; Cambridge Bay, 1; Chesterfield Inlet, 1; Repulse Bay, 1.	Nunavut 42: Iqaluit, 9; Cambridge Bay, 8; Arviat, 6; Baker Lake, 5; Resolute Bay, 3; Kugluktuk, 2; Qikiqtarjuaq, 1; Gjoa Haven, 1; Hall Beach, 1; Kimmirut, 1; Pangnirtung, 1; Rankin Inlet, 1; Sanikiluaq, 1; Taloyoak, 1; Wha Ti, 1.	Nunavut 71: Baker Lake, 12; Cape Dorset, 8; Iqaluit, 7; Pangnirtung, 7; Arviat, 6; Cambridge Bay, 5; Kimmirut, 4; Rankin Inlet, 4; Chesterfield Inlet, 3; Gjoa Haven, 3; Pelly Bay, 3; Qikiqtarjuaq, 2; Kugluktuk, 2; Pond Inlet, 2; Clyde River, 1; Hall Beach, 1; Taloyoak, 1.
Giardiasis	Nunavut 2: Cambridge Bay, 1; Taloyoak, 1.	Nunavut 3: Cambridge Bay, 3.	
Gonorrhoea	Nunavut 15: Iqaluit, 8; Qikiqtarjuaq, 3; Clyde River, 1; Igloolik, 1; Pangnirtung, 1; Rankin Inlet, 1.	Nunavut 2: Iqaluit, 1; Qikiqtarjuaq, 1.	Nunavut 13: Iqaluit, 5; Qikiqtarjuaq, 3; Pangnirtung, 2; Pelly Bay, 1; Cape Dorset, 1; Arctic Bay, 1.
Group A Strep			
Hepatitis C	Nunavut 1: Iqaluit, 1.	Nunavut 1: Sanikiluaq, 1.	Nunavut 1: Iqaluit, 1.
Influenza	Nunavut 2: Iqaluit, 1; Sanikiluaq, 1.		
Invasive Strep	Nunavut 1: Cape Dorset, 1.		
Legionellosis			
Malaria			
Meningitis/Unspecified			
Pertussis	Nunavut 1: Coral Harbour, 1.		
Salmonellosis			
Trichinosis		Nunavut 1: Rankin Inlet, 1.	
Yersinia	Nunavut 1: Arviat, 1.	Nunavut 1: Igloolik, 1.	Nunavut 1: Pangnirtung, 1.

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**Notifiable Diseases by Territory and Region:
January 1999 - June 1999**

	Territories			Regions					
	Disease	NWT	Nunavut	1998 YTD	Inuvik	Ft Smith Mackenzie	Baffin	Keewatin	Kitikmeot
Vaccine Preventable Diseases	Hepatitis B	0	0	4					
	Influenzae	0	0	22					
	Pertussis	0	0	30					
Sexually Transmitted/ Bloodborne Diseases	Chlamydia	0	0	1122					
	Gonorrhoea	0	0	155					
	Hepatitis C	0	0	40					
	Hepatitis, Other	0	0	0					
	Syphilis	0	0	0					
	Chicken Pox	0	0	657					
	Group A Strep	0	0	4					
Diseases by Direct Contact/ Respiratory Route	Invasive Strep	0	0	1					
	Legionellosis	0	0	2					
	Meningitis, Pneumococcal	0	0	6					
	Meningitis, Other Bacterial	0	0	5					
	Meningitis/Unspecified	0	0	0					
	Meningitis, Viral	0	0	1					
	Meningococcal Infections	0	0	1					
	Tuberculosis	0	0	37					
	Botulism	0	0	0					
	Campylobacteriosis	0	0	13					
Enteric, Food and Waterborne Diseases	Cryptosporidiosis	0	0	2					
	E.Coli O157:H7	0	0	0					
	Food Poisoning	0	0	2					
	Giardiasis	0	0	16					
	Hepatitis A	0	0	5					
	Salmonellosis	0	0	26					
	Shigellosis	0	0	2					
	Tapeworm Infestation	0	0	0					
	Trichinosis	0	0	59					
	Yersinia	0	0	2					
Vectorborne/ Other Zoonotic Diseases	Brucellosis	0	0	3					
	Malaria	0	0	1					
	Rabies Exposure	0	0	72					

HIV Infections Reported by Year

	1987	88	89	90	91	92	93	94	95	96	97	98	99(YTD)
NWT	2	1	1	2	1	8	0	2	0	2	0	1	1
Nunavut	0	1	2	1	2	1	3	0	0	0	1	0	0