

EPI NORTH

The Northwest Territories Epidemiology Newsletter

Spring 1999

Vol. 11, Issue 1

What is Epidemiology

Page 2

Water Chlorination

Page 3

Healthy Choices: A Health Promotion Strategy

Page 4

Eat Well, Live Well, For A Lifetime

Page 6

Sudden Infant Death Syndrome

Page 8

Tobacco Use by the Aboriginal Population of the NWT

Page 9

Guidelines for Childhood Immunization Practices (Part 2)

Page 10

1998 TB Activity in the NWT

Page 12

1998 Review of Gonococcal & Chlamydia Infections

Page 14

Food Safety Facts

Page 16

Notifiable Diseases by Region

Page 18

Notifiable Diseases by Community

Page 19

Final Notes: 1998 EpiNorth Articles

Page 20

Epidemiology and EpiNorth

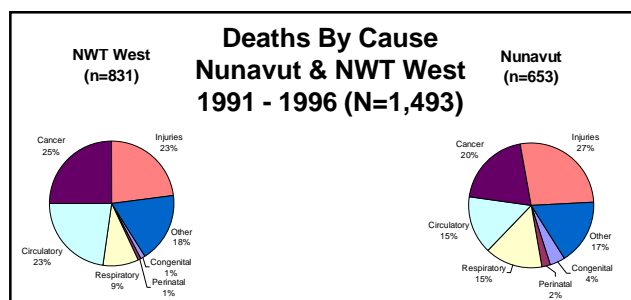
This is the first issue of *EpiNorth* that has been assembled in its new "home," the Research and Analysis Unit. It is perhaps an appropriate moment to reconsider the meaning of epidemiology and the purpose of *EpiNorth*.

"Epidemiology" comes from three Greek words, "epi," "demos" and "logos." Literally translated, this means "the study of what is going on among the people." The "demos" is the key to the difference between epidemiology and clinical medicine and nursing. The former concerns itself primarily with populations, and the latter with individuals. Both approaches are important, and each complements the other.

Without an understanding of what is going on in individual patients, we may not be aware of what is happening in the population or community. However, if we treat each patient as if they were an individual entity separated from their community, we miss the total picture. We then run the risk of failing to do the best for our patients, and could neglect our responsibilities to the community as well.

EpiNorth encourages submission of articles with an epidemiologic or population focus from our readers in the field. Take time to inform other readers about what has worked for you in your community, whether it has been a smoking cessation or injury prevention program. In view of the fact that smoking accounts for about 25% of all deaths in the NWT and injuries for another 25%, (see figure) we especially encourage submissions on these topics.

Peter Barss, MD, ScD
Scientific Editor



Source: Research and Analysis Unit, GNWT
Adapted from Statistics Canada

EpiNorth Communication

Telephone: (867) 920-8946

Fax: (867) 873-0442

Mail:

Research and Analysis Unit — CST 6
Health and Social Services
Government of the NWT
Yellowknife, NT X1A 2L9

E-mail: Epi_North@gov.nt.ca

cc:Mail:EPI North

EpiNorth Editorial Board

Dr. Peter Barss

Marnie Bell

Dr. André Corriveau

Shaun Dean

Jane Hamilton

Frank Hamilton

Helen McPherson

Rick Tremblay

Internet access

www.hltss.gov.nt.ca



Northwest Territories Health and Social Services



What is Epidemiology?

Epidemiology is defined as:

The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems. (Last, 1988)

This definition shows epidemiologists are concerned not only with death, illness and disability, but also with more positive health states and with the means to improve health.

Jane Hamilton
Health Information
Analyst
Department of Health
and Social Services

Relationship between epidemiology and clinical medicine

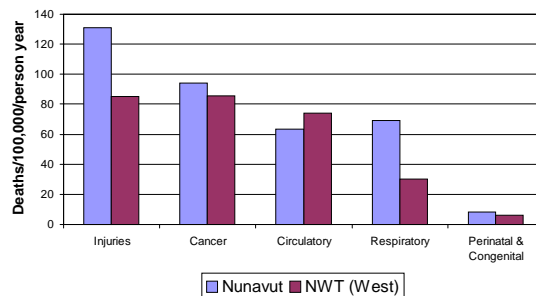
Epidemiology	Clinical Medicine
Population	Individuals
1. Studies/Assessments	1. Diagnosis
2. Prevention	2. Treatment
3. Evaluation	3. Curing
4. Planning	4. Caring

Epidemiologists study human populations

A human population can be geographical, such as, all the people in the Baffin region; or a unit of study, such as all the children below the age of seven who were immunized. The most common human population used in epidemiology is that of a given area at a given time. This forms the base for defining subgroups with respect to age, sex, ethnicity, etc. The structures of human populations vary between geographical areas and time periods.

Epidemiological analysis takes these variations into account. One example is a rate. A rate is the number of health events per unit of population per unit of time. Rates can be used to compare major causes of death for two populations in different geographical areas (illustrated in the graph below).

Death Rates By Cause
NWT, 1991 - 1996



Source: Research and Analysis Unit, GNWT
Adapted from Statistics Canada

The above graph compares two population groups, Nunavut and Western NWT. Population data for communities or regions are obtained from census data from Statistics Canada. These regions can be compared when a rate is calculated because the population and time period have been made the same for the main causes of death and the locations.

The 100,000 population is used so you can compare the rate between Nunavut and the Western NWT

Calculating Cause Specific Death Rates

$$\text{Cause Specific Death Rate} = \frac{\text{Number of people who had died from cancer, injuries, etc.}}{\text{Average population in region}} \times 100,000 \text{ Population} \times 1 \text{ Year}$$

for deaths due to injuries, cancer, circulatory, respiratory, perinatal and congenital causes.

In comparing some populations, age structures may need to be adjusted. This is a complex calculation. This is where the populations that are being compared to one another need to have approximately the same percentage of infants, children, youth, adults and seniors. If one of the two populations is much younger or older on average than the other, and the health event being considered is more or less frequent at a certain age, an adjustment may need to be made ("age adjustment" of the rate).

Epidemiology is used in public health

Epidemiology is concerned with:

1. Description of Health Status of Populations

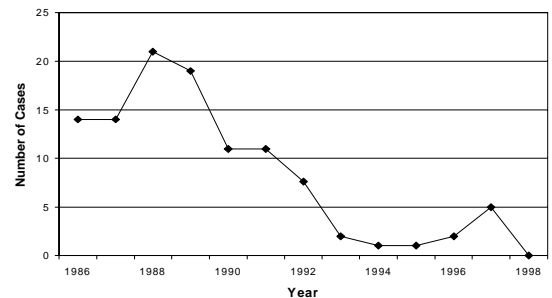
Epidemiology is often used to describe the health of population groups. Knowledge of the disease burden in populations is essential for health authorities, which seek to use limited resources to the best possible effect by identifying priority health programs.

2. Evaluation of Intervention

The information obtained helps the department and boards know what areas need to be focused on for each population. This improves the effectiveness and intervention of health programs.

An example of positive intervention is with the Hemophilis meningitis (Hib) immunization (illustrated in the graph below).

Incidence of Hemophilis Meningitis
in the NWT, 1986-1998



Source: Health Protection Unit

Water Chlorination

Every year, nearly 1.5 billion people — mostly children under five in developing countries — suffer from preventable water-borne diseases such as cholera, typhoid fever, amoebic dysentery, bacterial gastroenteritis, giardiasis, schistosomiasis, and various viral diseases such as hepatitis A.

Public drinking water supplies in Canada are free of micro-organisms that cause serious and life-threatening diseases. This is largely due to the introduction of water treatment, particularly chlorination, at the turn of the century.

Although other disinfectants are available, chlorine continues to be the choice of water treatment experts. When used with modern water filtration practices, chlorine is effective against virtually all infective agents — bacteria, viruses and protozoa. It is easy to use, and, most importantly, small amounts of chlorine persist in the water and continue to disinfect throughout the distribution system. This ensures that the water remains free of microbial contamination on its journey from the treatment plant to the consumer's tap.

Chlorination By-Products

Chlorination by-products are the chemicals formed when chlorine (used to kill disease-causing micro-organisms) reacts with naturally occurring organic matter (for example, decay products of vegetation) in the water. The most common chlorination by-products found in Canadian drinking water supplies are the trihalomethanes (THMs).

The amount of THMs formed in drinking water is influenced by a number of factors, including the season and the source of the water. No or very low levels of THMs are formed when water is obtained from deep (drilled) wells or large lakes, because organic matter concentrations are generally low in these sources. The opposite is true when rivers or other surface waters that may contain much silt and organic matter are used as a source of drinking water.

During the past few years, epidemiological studies have indicated that long-term exposure (over a period of 35 years or more) to high levels of THMs was associated with a slightly increased risk of bladder cancer (odds ratio between 1.4 and 1.6). Conflicting results have also been obtained with regard to colon and rectal cancer. More recently, a study from California revealed that women who drank at least 5 glasses each day of chlorinated tap water containing over 75 parts per million of THMs had an odds ratio of 1.8 for spontaneous

abortion. These studies do not provide conclusive proof of a causal relation between exposure to THMs and harmful health effects, but indicate the need for further research and, using the cautionary principle, to do what we can to maintain THMs levels as low as possible, given the critical importance of chlorination for community health.

The current weight of evidence still suggests that the benefits of chlorinating our drinking water — a reduced incidence of water-borne diseases — are much greater than the risks of adverse health effects from THMs.

In general, the preferred method of controlling chlorination by-products is removal of the naturally occurring organic matter from the source water so that lesser amounts of chlorine are used and that less THM by-products are formed. It is extremely important that water treatment plants ensure that methods used to control chlorination by-products do not compromise the effectiveness of water disinfection. Environmental Health Officers are working closely with water treatment plant operators at the local, regional and territorial levels to ensure that our drinking water remains safe and of optimal quality.

How to Reduce Trihalomethanes (THMs) at Home

Drinking water that already satisfies the *Guidelines for Canadian Drinking Water Quality* does not need additional treatment for health related reasons. Nevertheless, if the consumer wishes to remove THMs at home, this can be easily done, simply by storing it in an open container in the refrigerator for 24 hours. Water treatment devices containing activated carbon can also remove THMs. However, it is important to follow all filter flushing and replacement instructions to maintain water quality.

Should you be concerned?

Most water supplies in the NWT have low organic levels, resulting in very low levels of THMs. Water Supplies are tested regularly and adjustments to the treatment systems are made when higher levels are noted.

Questions?

Contact an Environmental Health Officer through your local health and social services board.



Frank Hamilton
Environmental Health
Consultant
Department of Health
and Social Services



Rick Tremblay
Consultant, Health
Promotion
Department of Health
and Social Services

Healthy Choices:

Shaping Our Future: A Strategic Plan for Health and Wellness, the Department of Health and Social Services' strategic plan, summarizes the challenges we all face in promoting health, but also emphasizes finding solutions to root causes of health and social problems. The departmental *Health Promotion Strategy* addresses some of the priority areas as defined by the strategic plan.

Health promotion helps people increase control over, and improve, their health. This process respects varying individual, family, community, regional, and territorial issues. The central objective is changing lifestyles and behaviour in a positive manner.

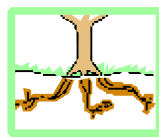
The goals of our *Health Promotion Strategy* are:

- To promote healthy choices and self responsibility;
- To promote a proactive and preventative approach to health, thereby reducing the need for treatment; and
- To promote a greater understanding of the health promotion process.

The Health Promotion Willow

The *Health Promotion Strategy* draws inspiration from the willow, found throughout the North. The willow adapts to different environments to maintain its presence and thrive.

The Willow represents the principles and strategic directions of our *Health Promotion Strategy* and illustrates the activities which contribute to comprehensive health promotion. The tree represents the main components of the health promotion strategy, and shows how the components work together to support growth and development.



Roots Represent the Underlying Principles

Trees must have solid roots and a solid foundation. The *Health Promotion Strategy* has five principles upon which health promotion activities are based:

1. **Knowledge of Tradition** has played a role in the past and can play a role in reaching solutions today;

What is Health Promotion

Health Promotion is an internationally recognized and comprehensive approach to preventing illness, reducing harm, and empowering individuals to increase responsibility for their own health.

2. **Determinants of Health** are many and varied, and need to be acknowledged and addressed (These are the factors affecting a person's health - for example, income, housing, employment, food availability, etc.);
3. A **Holistic Approach** is required in addressing determinants of health;
4. **Self Responsibility**, where every individual has a personal responsibility for their own health; and,
5. **Prevention** as an effective means of addressing health issues.



The Trunk Represents the Theme

The current theme of the departmental *Health Promotion Strategy* is "Healthy Choices: Healthy Children." The trunk of the tree

provides the support for the branches and symbolically demonstrates departmental support for the promotion of healthy choices for all NWT residents and their children. Regional or community themes may differ but the basic theme of encouraging people to make healthy choices remains the same.



The Branches Represent the Strategic Directions

The seven branches of the tree represent the strategic directions of the comprehensive *Health Promotion Strategy*:

- **Community Development:** To provide access to training, current resources, support networks, and communication networks for individuals and community-based group;
- **Research and Knowledge:** To expand the knowledge base of information about factors or determinants affecting health and to demonstrate success;
- **Public Policy:** To encourage all levels of governments to develop and support legislation and policies which create opportunities for individuals to make healthy choices;
- **Reorient Services:** To make new approaches available that address early intervention and prevention issues.

Healthy Pregnancies

It is estimated that each child born with FAS will require at least \$1 million dollars for medical assessments and treatment and other special needs throughout a lifetime.

A Health Promotion Strategy

- **Communication:** To foster healthy choices and reinforce prevention and early intervention approaches, thereby protecting health and wellness and maximizing the potential for substantial cost savings.
- **Working Together:** To collaborate with politicians and other decision makers at all levels of government and with the volunteer and private sectors to coordinate policies, programs and services.
- **Training and Skill Development:** To increase availability of accurate information about prevention and early intervention methods and support capacity building in all areas of training and skill development.



Leaves Represent Activities

Each leaf on the tree represents a health promotion activity or achievement. To be comprehensive and effective, health promotion needs activities on each

branch (strategic direction). Individuals, communities or regions can decide what those activities will be.

The number and distribution of leaves can be used to evaluate the ongoing success of the strategy.

Our Theme is Healthy Children

“Healthy Children: Healthy Choices” focuses on prevention and early intervention strategies. The department is committed to support children’s health. The focus on healthy children also includes parents, family and community.

Children are our most important resource. Research indicates that healthy child development is rooted in early life experiences. Initiatives that result in healthy children can also lead to decreased health care costs in the future.

Children need a solid foundation upon which to grow and develop. Children need to develop healthy bodies, self-confidence and they need a sense of self-esteem rooted in their culture and a stable, nurturing family environment. Elders say that a child is like a seed, born with all it is meant to be, born with integrity.

Our Health Promotion Priorities

The Department has identified three priority areas for the territorial *Health Promotion Strategy*:

- Active Living
- Healthy Pregnancies
- Tobacco Harm Reduction and Cessation

“Healthy Choices: Healthy Children” starts with healthy choices made in pregnancy and healthy choices during the years of early childhood and youth. Our healthy pregnancy strategy promotes addiction-free pregnancy, good nutrition, exercise, smoke-free homes and mental well-being.

Our active living strategy encourages children and their families to make healthy choices regarding physical activity that will provide a healthy body and positive mental attitude throughout the life-span.

Many NWT youth are addicted to nicotine before they are 18 years of age. The average age of addiction is 13. Our tobacco harm reduction and cessation strategy encourages children to make healthy, informed choices.

Why a Health Promotion Strategy is Needed

An *effective health promotion strategy* will improve the health status of Northerners by reducing the incidence of preventable illnesses. Research shows that even a modest investment in promotion and prevention programs can make a significant saving in treatment or rehabilitation costs. Health promotion recognizes that changes in attitude, knowledge and behaviour take time. Effective health promotion focuses on interventions with a high probability of impact and success. This success provides further momentum of health promotion initiatives.

For more information, contact the Health Promotion Unit, Population Health Division, at 1-800-661-0782.

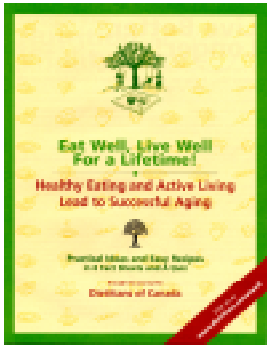
Active Living

Regular activity prevents disease, especially adult-onset diabetes, heart disease, osteoporosis and colon cancer.

Tobacco

In Canada, environmental tobacco smoke (ETS) is responsible for approximately 400,000 episodes of childhood sickness a year. ETS affects: pneumonia, asthma, ear infections, and clinic visits for cough.

Eat Well, Live Well, for a Lifetime



1999 has been declared International Year of the Older Person (IYOP). In recognition of this declaration by the United Nations, the Dietitians of Canada National Nutrition Month Campaign focuses on nutrition for older persons. Nutritional well-being is integral to healthy aging, which promotes independence, participation, self-fulfilment and dignity. These are the key principles of the United Nations declaration. Eating well and living well not only benefits individuals, but society as a whole.

Elsie DeRoose
 Consultant, Nutrition
 Health Promotion Unit
 Department of Health
 and Social Services

David MacDonald
 Evaluation Consultant,
 Policy and
 Legislation Unit
 Department of Health
 and Social Services

The realities of aging

In reality, aging starts at conception. It is an inevitable and natural process that causes changes to happen to body composition, systems and organ functions.

What is successful aging?

There is remarkable variation in the aging process. It has been shown that successful aging is much more common among those who eat well, exercise regularly, have a sense of control or autonomy, and the support of family and friends. Being active physically, mentally and socially needs to start early in life, though it is never too late to start.

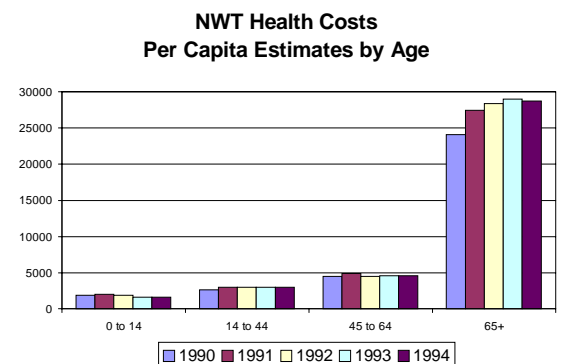
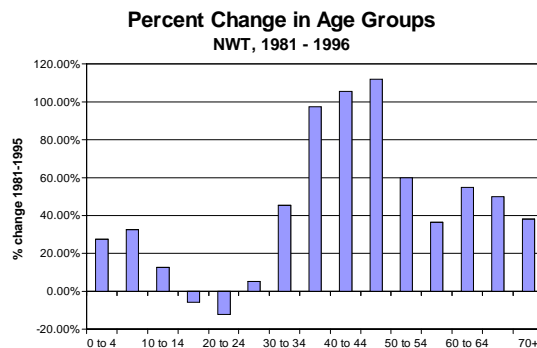
Some facts about our population and Northern seniors

While the NWT¹ has a much younger population than southern Canada, its senior² and pre-senior age groups are growing quickly. Between 1981 and 1996, the population age 60 and over increased by 50% from 1,420 to 2,130. In addition, the pre-senior population age 40-59 increased by 85% from 4,550 to 8,425. The change in age structure reflects the aging of the population. Between 1981 and 1996, the proportion of people age 60 and over increased 34%, whereas the proportion of people under the age of 40 decreased by 8%.³

While many people leave the North before retirement, some of the huge growth of pre-seniors will inevitably spill over into the NWT's senior population. Moreover, southerners are increasingly making the North their home in the larger centres of the NWT. Between 1981 and 1996 the six largest centres, making up 75% of the total NWT population, experienced a 52% increase in people aged 60 and over, and a 116% increase in the population age 40 to 59. Whereas the remaining communities experienced 46% and 20% increases respectively, over the same 15 years. Yellowknife, the territorial capital and largest city, is still transient relative to many southern centres, but it is maturing as a permanent settlement in Canada's North. Yellowknife's population age 60 and over increased by 74% in this period, and those age 40 to 59 increased by a spectacular 173%.⁴

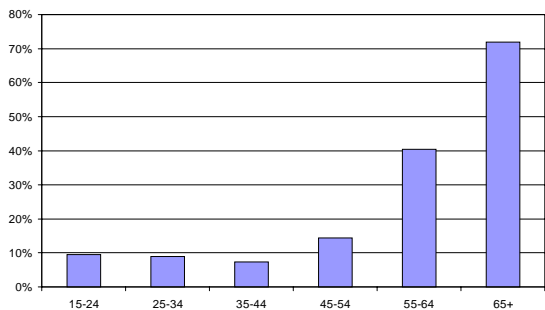
Combined with the increases in senior and pre-senior age groups, NWT residents are also living longer. Between 1981 and 1996, the average life expectancy from birth increased from 61 to 68 years for Aboriginal males and from 67 to 75 years for Aboriginal females.⁵ In 15 years, the indigenous population reaching their senior years, and living well into them, has increased dramatically. The demand for services for all seniors in the future will increase and last longer.⁶

The demand for services will increase in the areas of seniors housing, extended health benefits, health care expenditures, and other supplementary benefits. While not all of it is has a direct impact on Health and Social Services, such needs as adequate and affordable shelter do affect the health status of seniors. In general, health costs per person age 65 and over are five times that of the population as a whole (see graph).⁷ In 1994, the average per capita health expenditures on people age 65 and over was \$28,800, compared to \$3,000 for those age 15 to 44.⁸ While health costs do not exponentially increase the minute someone turns 65, the last few years of one's life can result in lengthy and expensive hospital stays and/or long term care costs.



An area of present concern is the high number of NWT seniors who may be illiterate. Using less than a grade nine education as a proxy for illiteracy⁹, 72% of the people age 65 and over may be illiterate.¹⁰ The implication of this is that many seniors may find it difficult to understand the instructions for their medications or read ingredients and nutritional information on store-bought foods. Often numeracy skills are also lacking with people of lower education levels, which can add to hardship with handling finances in later years.

Less Than Grade Nine
% of 1996 NWT Population



Eventually, the education levels of the senior population will rise significantly in the next 10 to 20 years. After the 55 to 64 year age group, the education levels improve dramatically. However, for at least the next decade, effective health promotion strategies will be ones which rely heavily on oral and visual presentations and less on the written word.

As we have seen, our population is aging. In Canada as a whole, seniors make up one of the fastest growing groups in our society. While many continue to live at home, meeting their needs will be a growing priority for our health and social support systems.

In summary, eat well for a lifetime!

Healthy eating and active living has been shown to extend the years of good health. The key messages the campaign are **lifestyle, independence, food and energy (LIFE)**:

- eating well and living well helps to make successful aging a reality. This means choosing a variety of foods according to the NWT food guide, including foods from each of the four food groups - many older adults are not currently meeting nutrition recommendations
- going easy on store foods high in fat, salt, alcohol and caffeine. Healthy food choices can help people of all ages stay healthy and

prevent or delay the onset of chronic diseases and conditions such as cancer, heart disease, osteoporosis, hypertension and bowel dysfunction

- malnutrition is a serious risk for older adults - early detection of this preventable condition, and interventions, are important. One study of a program providing nutritious home-delivered meals for seniors showed that the 1-year -per-person costs of the program were less than the costs of having the person spend one day in the hospital (2).

Healthy eating and active living programs in Canada and the NWT are helping older adults maintain a sense of purpose and meaningful roles, keys to maintaining independence, self-fulfilment and dignity.

For more information, contact the dietitian or nutritionist nearest you. Also, check out the website of the Canada Coordinating Committee for IYOP at <http://iyopaipa.ic.gc.ca>. This website provides a unique opportunity to focus the 1999 Nutrition Month Campaign on older Canadians and their caregivers. The Dietitians of Canada website: <http://www.dietitians.ca> encourages older adults to complete a nutrition self-assessment. Factsheets are also available.

References

- 1 *Eat Well, Live Well...for a Lifetime!* A resource manual for Health professionals, Dietitians of Canada, National Nutrition Month, 1999.
- 2 *If the Health Care System Believed "You are What You Eat": strategies to integrate our food and health systems.* Toronto Food Policy Council Discussion Paper Series, Discussion Paper #3, October 1997.

- 1 NWT refers to the Western Arctic, excluding Nunavut unless noted elsewhere.
- 2 In the NWT most Territorial senior benefits start at age 60, compared to age 65 in most of Canada.
- 3 Statistics Canada, Census 1981 and 1996.
- 4 Statistics Canada, Census 1981 and 1996.
- 5 NWT Bureau of Statistics.
- 6 Average life expectancy for Non-Aboriginal men and women are roughly the same in the NWT as they are in Canada as a whole.
- 7 These are health only expenditures for the entire NWT pre-division and do not include social services.
- 8 Health Canada, *National Health Expenditures in Canada 1975-1994*, 1996.
- 9 Less than Grade Nine is an imperfect measure of literacy as those who have more than GradeNine may still be functionally illiterate. However, it is the best measure available.
- 10 Statistics Canada, 1996 Census.

Some additional facts and figures about seniors in Canada

Most older Canadians consider nutrition to be important. 65% of those 55 and older consider it extremely and/or very important

Those living alone spend the most on food due to buying, preparing and storing food for one person, with single men spending more, perhaps because they eat out more often and buy more convenience foods

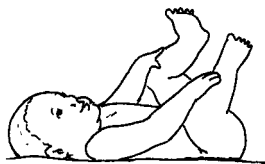
Most of the provincial health studies show that older adults do not meet Canada's Food Guide to Healthy Eating or Recommended Nutrient Intakes for Canadians. Ontario's study showed women did not eat enough meat or grain products, and both women and men did not eat enough fruits or vegetables

Dietary inadequacy has been related to degree of loneliness and where there are opportunities to share meals, there is increased interest in eating and greater variety of meals

Older people in rural areas are often isolated and experience poorer dentition, depression, disability, substance abuse and take multiple medications

Shopping can be a chore, especially for those who have trouble with label reading, especially those who do not have English or French as a first language

Childhood plays a significant role in the eating habits of older people - food experiences early in life imprint lasting ideas that affect good health.



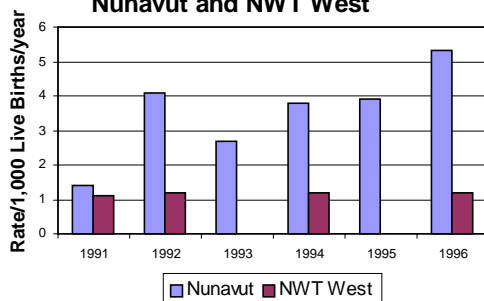
Elsie DeRoose
Consultant, Nutrition
Department of Health
and Social Services

Sudden Infant Death Syndrome

Sudden Infant Death Syndrome (SIDS) is the sudden and unexpected death of an apparently healthy infant less than 1 year of age, which remains unexplained even after a full investigation. In Canada, there are about 400 SIDS deaths each year, or about 1 out of 1,000 infants, which makes SIDS the leading cause of death between 1 month and 1 year of age. Aboriginal infants have a risk of SIDS that is 2-3 times higher than the risk to non-aboriginal infants.

Between 1991 and 1998, 25 SIDS deaths occurred in the Northwest Territories (NWT). The infants, 11 male and 14 female, between the ages of 3 days to 11 months were diagnosed with dying from SIDS after an autopsy was performed.

Rate of SIDS Deaths:
Nunavut and NWT West



Source: Health Research & Analysis Unit, GNWT.
Adapted from Statistics Canada

Note: In 1996, Canadian SIDS rates were only 0.6 per 100,000 live births.

Recommendations for Reducing the Risk of SIDS

Although the specific cause of SIDS remains unknown, some knowledge exists of the following risk factors.

Sleeping Position

SIDS is less common in babies who sleep on their backs or sides. Normal healthy infants should be placed on their back or side to sleep, and on a firm surface.

It is important to assure parents that normal, healthy babies do not choke or have any other problems resulting from sleeping on their back or side. There are certain health conditions that do require the tummy-down sleeping position. Parents should discuss their baby's particular needs with a nurse or doctor. Older infants may be able to turn on their own from their back onto their tummy. It is not necessary to force the back sleeping position on a baby who has enough mobility to find a comfortable position for itself.

Smoke-free surroundings

Babies who are around cigarette smoke are more likely to get sick. A smoke-free home is necessary - not only for the baby's health but also to help reduce the risk of SIDS. SIDS is also associated with women who smoke during pregnancy. A recent study by the National Centre for Health Statistics demonstrates that women who quit smoking but then resume smoking after delivery put their babies at risk for SIDS. Findings from the survey show that babies exposed to smoke only after birth were twice as likely to die from SIDS as those whose mothers did not smoke at all. And, constant smoke exposure both during and after pregnancy tripled a baby's risk for SIDS.

Dressing the baby for sleep

Research from other countries provides evidence that babies who become too hot have an increased risk of SIDS. However, care must be taken in applying these results to Canada, as our climate and child care practices differ.

It is important for parents to know that while infants need warmth and protection from the Canadian elements, they also should not become too hot. Parents can be reassured that if a room is comfortable for them, it is most likely fine for their infant too. Infants should be dressed and covered in a manner to prevent overheating, even during an illness.

Breastfeeding

Breastfeeding may help protect against SIDS. In addition, breastfeeding has significant nutritional, immunological and psychological benefits, as well as a decrease in gastrointestinal and respiratory illness and infections. It is recommended that all women be encouraged and helped to breastfeed their babies.

Note: While the exact causes of SIDS remains unknown, following these recommendations **could** prevent many SIDS deaths.

There are a number of SIDS websites for further information (see references):

References

1. Joint statement: Reducing the Risk of Sudden Infant Death Syndrome in Canada, Health Canada
<http://www.hc-sc.gc.ca/main/lcdc/web/brch/terpod/sidsjo.html>
2. Health Canada, Sudden Infant Death Syndrome (SIDS) <http://www.hc-sc.gc.ca/hppb/childhood-youth/cyfh/sids/sids01.htm>
3. Facts about Sudden Infant Death Syndrome (SIDS) <http://www.sids-ntework.org/facts.htm>

A joint statement on SIDS was released in 1995 by the Foundation for the Study of Infant Deaths, the Canadian Institute of Child Health, the Canadian Pediatric Society and Health Canada. Also, in 1999, the Canadian Medical Association, at its annual general meeting in Whitehorse, prepared the following resolution:

"That the CMA encourage the federal, provincial and territorial departments responsible for health and social services for aboriginal families take action to work together to try to reduce the high incidence of SIDS among aboriginal children."

Pertussis Alert

There has been ongoing pertussis activity in Yellowknife and surrounding communities for the last 4 months. Forty-four cases have been identified in Yellowknife alone and approximately 20 cases in the Kitikmeot. There has been one laboratory confirmed case identified in Coral Harbour in a 2 month old baby, who is now in the PICU in Winnipeg. The NIC noted that Coral Harbour is on the tail-end of RSV activity and 5 newborns had been medivaced in the last week. The above baby with pertussis was suspect RSV prior to being medivaced. This is similar to the scenario that presented in the Kitikmeot Region.

I just want to alert people to the increased pertussis activity. This is a good time to ensure the health centres are screening if children or adults are presenting with paroxysmal cough or long-term coughs of greater than 2 weeks duration in communities where there hasn't been documented pertussis activity. In outbreak situations if the cough is >7 days then screen for pertussis. This is also a good opportunity to review immunization status of your children and ensure they are up-to-date. The most severe disease is seen in the unimmunized, and the NWT has seen two deaths in our infant populations in the last three years from pertussis. Don't forget the adults, more and more in Canada the epidemiology of pertussis is revealing the susceptibility of our adults, so screen, and where applicable, treat accordingly to prevent the spread of this disease.

Wanda White
Communicable
Disease Consultant
Department of Health
and Social Services

Tobacco Use by the Aboriginal Population of the NWT

When examining tobacco use by the Aboriginal populations of the NWT, the tobacco that was cultivated and used by Aboriginals in southern Canada was not an indigenous substance for the Aboriginals of the NWT.

Among the Dene, the substance that was used in pipes was known as red willow and birch bark and was never inhaled (Blondin,1990). Tobacco was introduced to northern Aboriginals by the traders, whalers, explorers and missionaries. The tobacco that was first introduced to the Dene was in its raw form (long leaves). These were cut up, pounded and combined with the red willow (Blondin,1990). Many years after, the tobacco that we know today found its way into the Dene communities. This gradually lead to long term nicotine addiction and increased illness among the Dene.

Similarly, tobacco found its way to the Inuit courtesy of European traders. In this case, tobacco was used as a trading tool. As tobacco diffused throughout the Arctic, the Inuit took this substance, became addicted and incorporated it into their culture without being aware of the health consequences.

An example where Inuit culture enhanced tobacco use was in the naming custom.

Peter Ernerk said,

"If my namesake smoked a lot in his lifetime, then my mother or my father would have given me some tobacco when I was a kid, indicating that my namesake smoked a lot. I would be taught to smoke tobacco at a very early age.

As people were being brought up in my time, you used to see little kids smoking right in the amautik, maybe two or three years old, in Repulse Bay.

That's where a lot of encouragement came also, from our parents"

(Nunatsiaq News, 1998).

As the addiction spread, Inuit embraced tobacco as part of their culture, and remained largely unaware of its ruinous effects until quite recently, although the dangers of smoking have been common knowledge elsewhere in Canada for at least three decades (Nunatsiaq News,1998).

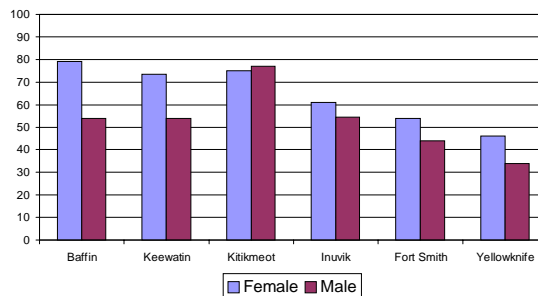
In the NWT, Aboriginals have the highest rates of smoking. Within the Aboriginal groups, Inuit and Inuit youth have the most significant smoking rates. A survey conducted for the NWT Department of Health and Social Services in 1996 reveals that among Inuit, the prevalence of smoking is 70%, a rate of addiction more than two-and-a-half times the Canadian average. For a substance that was virtually unknown to these two different cultures, the Dene and even more so the Inuit, it testifies to the great addictive potential of tobacco that they now suffer the most from the smoking-related diseases and deaths.

References

- Blondin, B. 1990. Traditional use of tobacco among the Dene. *Arctic Medical Research*, Supp 2: 51-53.
- The killer who lives at home, Tobacco Embraced by Inuit, *Nunatsiaq News*, May 27, 1998 (www.nunatsiaq.com/nunavut980531/nvt80529_10.html)

Smoking Among Youth

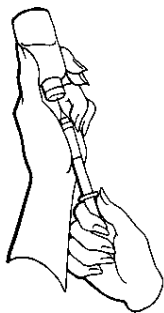
15-19 Years Old By Region, NWT, 1993



Source: Research and Analysis Unit, GNWT.
Adapted from Tobacco Use by Youth in the NWT 1982, 1987, and 1993



Alexandra Robles
Research and
Analysis Unit
Department of Health
and Social Services



Marnie Bell
Nursing Consultant
Department of Health
and Social Services

Guidelines for Childhood Immunization

By striving to practice according to the National Guidelines for Childhood Immunization Practices¹, we will achieve the national goals and targets for vaccine-preventable diseases of infants and children, published in 1995.²

Success requires policy makers, program administrators and immunization providers to work together to achieve high standards of excellence. This article will look closely at the things governments, administrators, and managers can do to support providers in doing the best job they can in protecting our children our communities.

Guidelines

Routine childhood immunization services should be publicly funded.

The GNWT Department of Health and Social Services funds health and social services boards for provision of core programs and services. Immunization according to the approved NWT schedule is a component of the core infant and child health program. All routine immunizations are provided free of charge in the NWT through public health units and community health centres.

Providers should maintain easily retrievable summaries of the vaccination records to facilitate age-appropriate vaccination.

The use of manual Immunization Record cards is a standard documentation practice. Although time-consuming, these records can be manually reviewed to assess immunization coverage in a community. Tickler files serve for identification and recall of children needing immunization, but use of this manual monitoring system varies. We need to move towards maximizing technology to increase efficiencies in this area.

The Department of Health and Social Services, through a Community Health Information User Group is overseeing the process to replace the current CHMIS with an automated information system managed at the provider level. Features of this new information system will facilitate identification of children needing immunization, booking of appointments, and entry of immunization data on site. This will increase the accuracy of the data and make it easier to generate meaningful reports of immunization coverage. For example, in the case of a community outbreak of pertussis, there would be automatic capability to identify those children with an inadequate immunization history so immediate steps could be taken to protect the susceptibles.

Providers should operate a tracking system.

A National Consensus Conference sponsored by Health Canada in March 1998, identified the need for all provinces and territories to establish comprehensive immunization tracking systems within five years. The NWT has representation on a working group to support the development of a National Immunization Records Network. NWT's participation will ensure the replacement information system contains all the essential data elements, conforms to standards and has the capability to link with this national network.

What will this mean? It means that one day all Canadians might actually be able to access their up-to-date immunization record no matter where they are in this country. Immunization providers will be easily able to identify **who** requires **what** vaccination **when**. Providers will be better able to maximize any client encounter to update immunization. There will be less over-immunizing. For example, at a glance, providers will know the child received the second MMR last month while visiting with relatives in another community, preventing an unnecessary booster.

Providers should adhere to appropriate procedures for vaccine management.

Proper storage and handling of vaccines is crucial to maintaining vaccine potency and integrity. Vaccine manufacturers include heat and freeze indicators in vaccine shipments. The department recommends use of min/max fridge thermometers and daily temperature monitoring. Education is the key. Do you know how to keep vaccines at the recommended temperature range? Do you know what to do if the cold chain is breached? Previous issues of *EpiNorth* (May 1996, Vol.8, Issue 3 and November 1996, Vol. 8, Issue 6) have focused on these guidelines. Employers need to ensure immunization providers and any office staff handling vaccines are familiar with these guidelines.

Providers should maintain up-to-date, easily retrievable protocols at all locations where vaccines are administered.

Is the fifth edition of the *Canadian Immunization Guide 1998* close at hand in your office? This, along with the NWT Immunization Schedule and vaccine product inserts, is the primary resource. The NWT Advisory Committee on Immunization (NWTACI) will determine through provider feedback, whether these resources are adequate or if NWT protocols are needed, specifying appropriate vaccine dosages, contraindications, recommended sites and techniques of vaccine administration, possible adverse events and their emergency management.

Before Giving Immunization

1. Ask if the child is well
2. Question about potential contraindications
3. Question about reactions to previous vaccines; and
4. Observe the child's general state of health

Practices: A Closer Look (Part 2)

Providers should be properly trained and maintain ongoing education regarding current immunization recommendations.

NWTACI is finalizing a certification program for immunization providers. Beginning in 1999-2000, boards will be expected to certify nurses as a pre-requisite to administering vaccines, and recertify all immunization providers every 3 years. The program has been adapted for the Territories from a national prototype. This is a significant step in ensuring current, safe and high quality immunization practices.

Audits should be conducted in all immunization clinics to assess the quality of immunization records and assess immunization coverage levels.

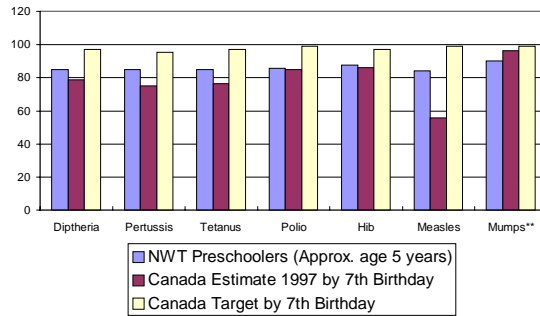
Regional managers of NWT health and social services boards are responsible for ongoing quality assurance reviews. Part of that process includes random immunization record audits, and follow-up with staff to discuss findings and ways to continually improve practice.

Do you know what percentage of two year olds or seven year olds are up-to-date for immunization in your community or your region? This monitoring and assessment activity should be undertaken annually. At the territorial level, a preschool immunization survey was completed in August 1998. The results of that survey are shown in the graphs: DPT and polio coverage at 85%, Hib at 88% and measles (second dose) at 84%, mumps and rubella at 90%. The results for this cohort of NWT children entering Kindergarten (average age 5 years) compares favourably to the 1997 Canadian esti-

mates for children by their seventh birthday. Although there is work to be done to reach the Canadian targets, the encouraging news is the target is well within reach.



Immunization Coverage, NWT, 1998



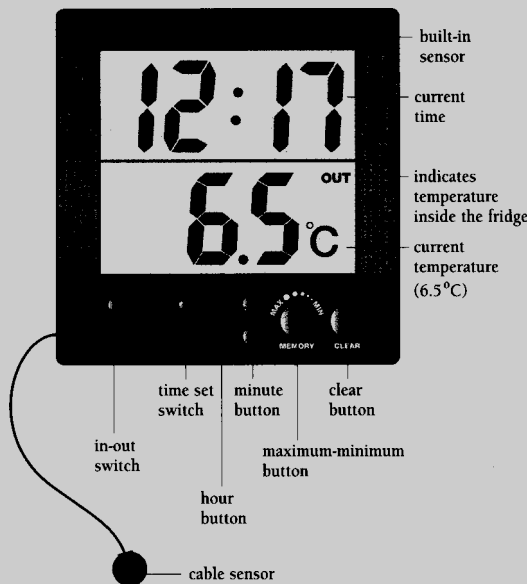
** Rubella is included in the immunization
 Source: Health Research and Analysis Unit, GNWT
 Adapted from Survey: August 1998, Immunization of Children at Preschool Screening.

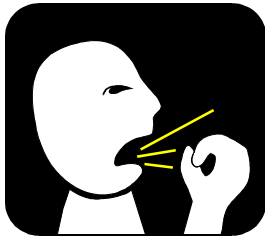
References

1. Canada Communicable Disease Report, December 1, 1997; Vol. 23. Guidelines for Childhood Immunization Practices: An Advisory Committee Statement. Health Canada, LCDC, Ottawa.
2. Canada Communicable Disease Report, 1995; Vol. 21. National Goals and Objectives for the Control of Vaccine-Preventable Diseases of Infants and Children. Health Canada, LCDC, Ottawa.

Using A Minimum-Maximum Thermometer

A digital minimum-maximum thermometer will document what the minimum and maximum temperatures have been inside the refrigerator since the thermometer was last reset, as well as the current temperature. This will identify if the vaccines were exposed to temperatures colder or warmer than the 2° and 8° Celsius range. The min-max thermometer is the only way to know if the refrigerator is keeping vaccines at the right temperature. Check the thermometer twice daily.





Cheryl Case
Communicable
Disease Consultant
Department of Health
and Social Services

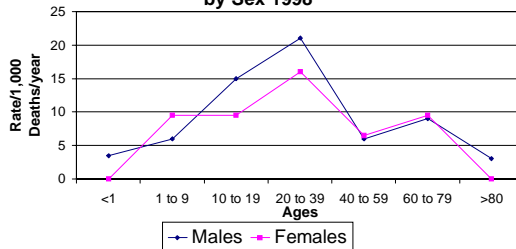
Wanda White
Communicable
Disease Consultant
Department of Health
and Social Services

1998 TB Activity in the NWT

Introduction

In the NWT during 1998, 37 active cases of tuberculosis (TB) were reported (see Figure for details on age, and sex), of these, 28 cases were located in Nunavut. They were mainly related for an ongoing outbreak in one community. The details of this outbreak emphasizes the importance of early case finding and treatment.

**Figure 1: Rate of Tuberculosis:
by Sex 1998**



Outbreak Summary

1998 Baffin Overview

An earlier *EpiNorth* article (Stark, *EpiNorth* Sept/97) noted delayed diagnosis of TB as one of the major factors that contribute to continued TB outbreaks in the NWT. The latest TB outbreak in the Eastern Arctic was uncovered in late December of 1997, when five young males were identified with TB. These individuals ranged in age of 17-23 years.

Index Case

One of the young males had been investigated 7 months earlier because he had been in contact with a highly infectious case of TB. Mantoux testing on the young man in May 1997 gave a result of 40mm, indicating he had been infected with mycobacterium tuberculosis (MTB). He was offered chemoprophylaxis but refused. Due to his high risk of developing tuberculosis within the first two years of infection, he was to be monitored closely by the community health nurse. Numerous approaches were made by the health care staff to have the young man in for a health assessment since he was at very high risk of developing tuberculosis. All attempts failed until 7 months later, December 1997, when he became ill.

At the time of diagnosis, there was a history of a progressive chronic productive cough, fever with night sweats, anorexia and profound weight loss. Symptoms were reported to have started six weeks prior to diagnosis. It was no surprise to the primary health care providers that the infection of MTB had developed into pulmonary tuberculosis.

Failure to identify this case early not only jeopardized the health of this young man but the health of many others he had infected by then. Legislation does not make it mandatory for a person infected with MTB to take chemoprophylaxis, but it can enforce periodic TB investigation, should someone decide not to take chemoprophylaxis. Legislation also allows for persons with tuberculosis to be apprehended and placed in isolation until treatment has ensured others are no longer at risk for contracting this airborne disease.

Contact Tracing of Contacts of Index Case

Close contacts of smear positive cases should receive the highest priority when contact tracing is done to determine potential infectivity. (*Tuberculosis Protocol for the Northwest Territories, Part V-3*). The highest rates of TB in the NWT during the past 5 years have involved males aged 15-24 years old. Some of the risk factors cited for the increased susceptibility of males in this age-group are: alcohol and substance abuse, smoking, living in overcrowded housing, under employment and/or unemployment as the risk factors were identified from social profiles on each of the identified cases.

The initial contact tracing of the index case identified four active cases in the first week. A total of 26 high risk contacts were identified, with 10 showing evidence of TB infection, giving an infectivity rate of 38%. As further contact tracing was completed around other identified cases, the infectivity rates ranged from 0-46%.

Due to the high infectivity rates surrounding the identified cases, it was determined that a community surveillance would be necessary. The total number screened in the community were 600: 14 new active cases were identified and 35 infected (converters/reactors) cases were discovered. All of the converters/reactors were offered chemoprophylaxis, with only two withdrawing from the preventative therapy due to drug toxicity.

In the fall, a woman from this outbreak community was attending a bible study in another Baffin community. Following the bible study session, she was diagnosed as a smear positive case of pulmonary TB. Extensive contact tracing was done in all Baffin communities, some in the Keewatin and many of the northern communities in Northern Quebec. Over 200 contacts have been screened. To date there have been two converters identified and no active cases discovered.

The outbreak activity spread from one community to the other with the movement of people. This resulted in TB activity being identified in 7 of the 13 communities for the Baffin region. From the Baffin region there were 5 active cases associated with this outbreak in 1997 and 28 cases in 1998.

There were also 183 converter/reactors identified; of these 170 were given prophylaxis to prevent future development of tuberculosis.

Other 1998 TB Activity in Nunavut and the Western NWT

In the Western NWT there were nine cases of active tuberculosis identified in 1998. Four cases were directly related to an outbreak of tuberculosis in a Dogrib community in 1995-1996. Another three cases were from another Dogrib community which experienced an outbreak in 1994. The one case in the Kitikmeot was confirmed by DNA fingerprinting to be an unidentified contact of the 1993 Keewatin outbreak. The Keewatin reported one reactivated case of TB. Three of the nine cases for the Western NWT were reactivation of inadequately treated TB from prior TB outbreaks, all of whom were not on directly observed therapy (DOT). Treatment failures occurred due to inadequate duration of therapy.

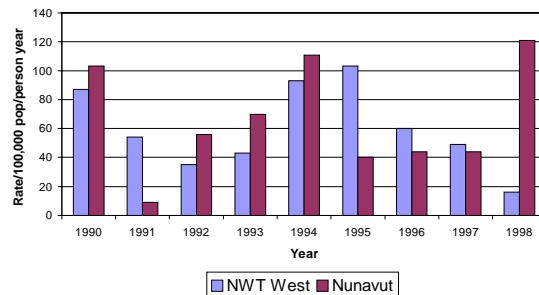
Drug susceptibility testing was done on all isolates, all tested susceptible to the first line drugs which consist of isoniazid, rifampin, PZA, ethambutol, and streptomycin.

None of the cases were determined to be co-infections with HIV, although it must be noted that less than 50% of the cases underwent testing for HIV. Testing for HIV for all cases of tuberculosis is recommended for all active cases, since tuberculosis is one of the indicator diseases for HIV/AIDS.

Conclusion

The continued outbreak activity in a number of the Regions in the NWT highlights the need for more proactive efforts and extra resources at the community, regional and department level to fight TB. Tuberculosis rates have been increasing in the North since 1988 (see figure below). In Canada, the TB rate is 6.2/100,000. Aboriginal and Immigrant populations have the highest rates of TB in Canada. The NWT's TB rates are the highest for any jurisdiction in Canada at 57/100,000.

Figure 2: Rate of Tuberculosis
NWT West and Nunavut, 1990-1998



Source: Health research & Analysis Unit, GNWT. Adapted from Health Canada and GNWT Cancer Registry

Funding for tuberculosis prevention and eradication is something that has been identified in our NWT Outbreak Protocol and at the National Consensus Conference on TB in 1998. Ongoing screening and surveillance is an absolute necessity for TB control in populations with high TB rates. All regions in the NWT have had past and/or current high rates of TB. Much of the proactive surveillance activities were discontinued when health care was transferred from the federal Medical Service Branch in 1988. In the past three years more proactive, systematic screening has been reintroduced in many of the boards, but this requires extra resources and staff turnover has made the problem of sustaining these efforts difficult to maintain.

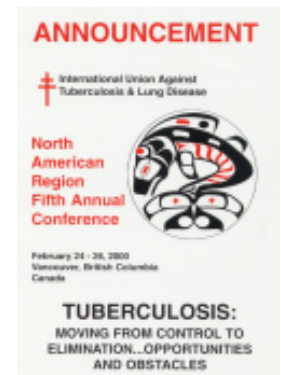
Public health education is another area that requires attention to ensure TB control. Increased awareness of tuberculosis at the community level would allow the public to recognize the early signs and symptoms of the disease, as well as a better understanding of the burden of TB in northern communities.

The only way to eliminate tuberculosis in the NWT is to **prevent** further spread. Complete treatment of all active cases and infected (converters and reactors) will ensure elimination. TB is a social disease, thus there is no quick fix. Resources have to be considered for the elimination of the disease with case finding, treatment of cases and those infected, enhanced surveillance of high risk groups, public education, improved housing and other social conditions.

Signs and symptoms of TB

- Weight loss •Fatigue •Chronic cough •Hemoptysis •Dyspnea •Chills/night sweats •Anorexia

Any individual presenting with these symptoms should have their history reviewed and have either a mantoux or chest xray/sputa for AFB, depending on their history. Questions can be directed to the Health Protection Unit at 867-920-8646.





1998 Review of Gonococcal and

Gonorrhoea

Dr. André Corriveau
Chief Medical
Health Officer
Department of Health
and Social Services

In 1998, there were 155 reported cases of gonorrhoea in the NWT, a non-significant increase from the previous year's total of 150. However, this total figure masks a 32% reduction (from 109 to 74) in Nunavut and a 98% increase (from 41 to 81 cases) in the Western NWT. Figure 1 presents the trends over the past 9 years in the two regions. In Nunavut, the decrease is entirely attributable to the Baffin region, while in the Western NWT, the increased incidence was primarily noted in the cities of Yellowknife and Inuvik.

Age-specific rates of gonorrhoea are presented in figure 2, using a 5 year average, and compared with Canadian rates for 1996. It highlights the fact that STD rates in the NWT remain significantly above those in the rest of Canada. The average crude incidence rate for gonorrhoea has been 370/100,000/year for Nunavut and 176/100,000/year in the Western NWT. The Standardized Incidence Ratio¹ (SIR) for Nunavut is 19 times that of Canada, while in the Western NWT, the SIR equals 6.

¹ Using the indirect standardization method

Chlamydia

Despite significant year-to-year fluctuations, the incidence of chlamydia infections is showing no sign of improvement over the past 9 years (Figure 3). In the Western NWT, reports of chlamydia infec-

tions totalled 475 in 1998, an 18% increase over the previous year. At 646 reports, the incidence in Nunavut remained essentially unchanged. As indicated in figure 4, the 15-19 age group represents those at highest risk of infection. Crude incidence rates over the past five years averaged 2245/100,000/year in Nunavut and 1654/100,000/year in the Western NWT, giving SIR's of 15 and 7 respectively.

STD Control and Testing

The success (or failure) of STD control efforts depends first on the effectiveness of sexual health education at home, in the school and at the community level. However, it must also rely on the diagnosis and treatment of all infections, including asymptomatic ones. The reliability of the traditional EIA test for chlamydia is known to be poor, with an overall test sensitivity of about 70%, falling to below 40% when dealing with asymptomatic patients.

There is also a need to improve current screening and contact tracing approaches to identify asymptomatic carriers, particularly the 15 to 29 year old males, who are not reached by traditional screening programs (usually associated with PAP testing and prenatal care) and act as the main reservoir of infection.

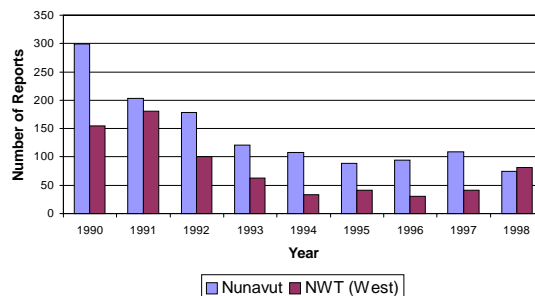
Gonorrhoea Reports: Nunavut and NWT West, 1990-1998

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Nunavut	299	203	178	121	108	89	94	109	74
NWT (West)	155	180	101	63	33	41	30	40	81

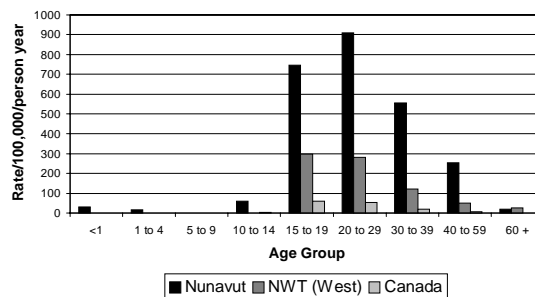
Age Specific Gonorrhoea Rates: Nunavut, NWT West, and Canada 5 year average 1994-1998

	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-59	60+
Nunavut	31	14	0	60	747	912	555	252	20
NWT (West)	0	0	0	0	295	281	119	50	26
Canada (1996)	0.8	0.3	0.2	3.4	59.4	54	19.5	5	0.6

**Figure 1: Gonorrhoea Reports
Nunavut and NWT West, 1990 - 1998**



**Figure 2: Age Specific Gonorrhoea Rates
Nunavut, NWT West and Canada, 5 year average, 1994 - 1998**



Chlamydia Infections in the NWT

Nucleic Acid Amplification Tests

1998 was the second year since the introduction of the Ligase Chain Reaction (LCR) technique at the Baffin Regional Hospital Laboratory in January of 1997. The LCR test is a nucleic acid amplification (NAA) technique which only requires a urine specimen. The Polymerase Chain Reaction (PCR) is another similar test. NAA offers much greater specificity and sensitivity, while being more acceptable to patients in the context of screening or contact tracing activities. Both the Baffin and Keewatin regions had access to LCR to test for both chlamydia and gonorrhoea. This may explain some of the modest success that was achieved in those regions. In 1998, a PCR test for chlamydia also became available in the Western NWT (as well as for Kititmeot) regions. However, it was limited to male urine samples and many providers may not have been aware of this new option. Increasing the availability of LCR or PCR testing in the Western NWT would be a step in the right direction with regard to reducing the rates of chlamydia.

Guidelines, 1998 Edition. However, it is time to consider the systematic use of observed therapy. In health centre settings, treatment is usually provided “on the spot.” However, where people access care through private medical clinics, patients must currently make a trip to the drug store to fill their prescription. This extra step, as well as the cost of the medication, may act as a barrier, especially when dealing with asymptomatic contacts who have little motivation to make this extra “investment.” The option of providing free medication for STD treatment, which is common practice in several other jurisdictions, should be considered in the NWT as well.

The continuing high STD rates in the NWT also remind us that a significant portion of our population remains vulnerable to the spread of HIV. The presence of STD, besides serving as a marker for unsafe sexual practices, greatly enhances the risk of transmission of HIV. We cannot afford to remain complacent about this issue.

Treatment Issues

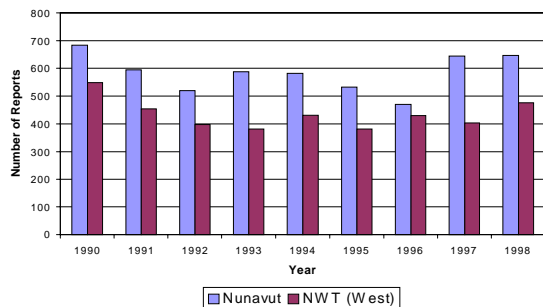
The clinical management of gonorrhoea and chlamydia greatly benefits from the availability of single dose treatment. It is recommended that all NWT practitioners make use of the *Canadian STD*

The 1998 Edition of Health Canada’s “Canadian STD Guidelines” are now available.

For a summary and quick reference, Health Canada’s “Highlights- 1998 Edition of the Canadian STD Guidelines” calendar is also available.

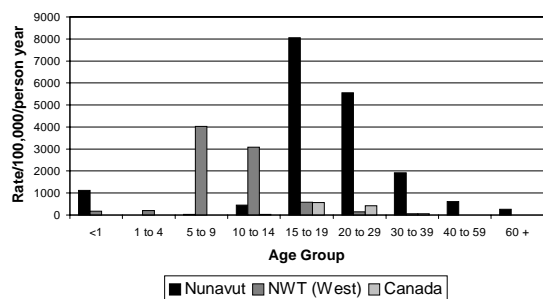


Figure 3: Chlamydia Reports
Nunavut and NWT West, 1990 - 1998



Chlamydia Reports: Nunavut and NWT West, 1990-1998									
	1990	1991	1992	1993	1994	1995	1996	1997	1998
Nunavut	684	595	521	588	583	532	470	645	646
NWT (West)	549	454	398	382	432	381	429	402	475

Figure 4: Age Specific Chlamydia Rates
Nunavut, NWT West and Canada, 5 year average, 1994 - 1998



Age Specific Chlamydia Rates: Nunavut, NWT West, and Canada 5 year average 1994-1998									
	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-59	60+
Nunavut	1121	13.5	23.4	442	8060	5548	1930	616	259
NWT (West)	161	182	4038	3087	587	133	44	0	0
Canada (1996)	6.2	0.6	0.7	22.7	563.3	428	66.2	12.8	1



Frank Hamilton
Consultant,
Environmental
Health (West)
Health and Social
Services

Food Safety Facts: Hamburger Disease

What is foodborne illness?

Foodborne illness occurs when a person gets sick by eating food that has been contaminated with an unwanted microorganism. This condition is often called “food poisoning.” Bacteria, parasites and viruses are microorganisms that can cause foodborne illness. Microbes and pathogens also describe the microorganisms that cause foodborne illness.

Many cases of foodborne illness go unreported because their symptoms often resemble the stomach flu. The most common symptoms of foodborne illness include stomach cramps, nausea, vomiting, diarrhea and fever.

What are Escherichia coli 0157:H7 and hemolytic uremic syndrome?

E. coli 0157:H7 bacteria live in the intestines of such animals as cattle, pigs, sheep and poultry.

When these animals are butchered, the bacteria can spread to the outer surfaces of the meat.

E. coli 0157:H7 infection can be spread by hand-to-hand contact with an infected person or even surfaces he or she may have touched. It may cause an unusual type of kidney failure and blood disorder called hemolytic uremic syndrome (HUS).

There are other dangerous strains of E. coli.

What are the symptoms?

E. coli 0157:H7 produces a toxin in humans that can break down the lining of their intestines and damage their kidneys.

A small number of people who become infected with E. coli 0157:H7 do not get sick at all; some experience flu-like symptoms; others experience severe, even life-threatening symptoms.

People may develop stomach cramps, vomiting and a mild fever within two to ten days of eating food contaminated with E. coli 0157:H7. Some of them may experience bloody diarrhea (hemorrhagic colitis).

Most people recover within seven to ten days.

Roughly 10%, mostly children, develop HUS. Some HUS victims may require blood transfusions and kidney dialysis. Some may have seizures or strokes. Most people who develop HUS recover and need not continue dialysis. However, some people die, and others live with permanent kidney damage or other effects.

Where could I come in contact with E. coli 0157:H7?

Although HUS is commonly called “hamburger disease,” other kinds of undercooked meat and poultry, unpasteurized milk, non-chlorinated water and raw apple juice contaminated with E. coli 0157:H7 have made people ill.

Ground beef may be easily contaminated by E. coli 0157:H7, due in part to its preparation. The grinding process spreads the bacteria, generally found on the surface, throughout the meat.

How can I protect myself and my family?

Always cook ground meats until they reach an internal temperature of 71°C (160°F), and juices run clear.

Never place cooked meat on the same plate used to carry raw meat. People often make this mistake when barbecuing.

Prepare extra marinade and set some aside so you can baste meat with marinade or sauce that has never touched raw meat.

Always marinate meats in the refrigerator, never on the counter.

What are producers and processors doing to protect consumers?

The beef industry is currently developing new post-slaughter technologies that could reduce or eliminate E. coli in beef.

From the farm to the retail store, efforts are being made to reduce the risks associated with E. coli 0157:H7 throughout the food production process.

What protection do consumers have in the NWT?

Environmental Health Officers (EHOs) administer and enforce the *Eating and Drinking Places Regulations* throughout the Northwest Territories.

EHOs provide safe food handling courses and educational materials to the food professionals and consumers.

The Department of Health and Social Services and the Department of Resources, Wildlife and Economic Development are working with the Canadian Food Inspection Agency to ensure that standards in theNorth will be harmonized with standards across Canada.

E. coli in the NWT	
Year	Total
1989	1
1990	0
1991	186
1992	3
1993	3
1994	0
1995	0
1996	0
1997	7
1998	0

Food Safety Tips

Bacteria multiply on food that is mishandled and some of these bacteria may cause disease. Follow these food safety tips to make sure the food you buy and prepare remains safe. You can play an important role in reducing the risks of foodborne illness.

Buyer be aware!

Examine food and its packaging at the store and again when you are ready to use it. Avoid swollen or leaking cans, or damaged packages — they may expose the contents to bacteria.

Select perishable foods last and put them away first — surface bacteria begin to multiply as soon as food surfaces warm.

Store it right!

Keep the refrigerator at 4°C (40°F) or less. Keep the freezer at -18°C (0°F) or less. ***Sixty-five percent of all food poisonings are the result of inadequate cooling and cold holding!***

Keep it clean!

Always clean your hands, utensils and cooking surfaces thoroughly. Wash your hands with soap and hot water before you handle food, repeatedly while you prepare it, and again when you've finished.

Sanitize countertops, cutting boards and utensils with a bleach solution (5 ml/1 tsp. bleach per 750 ml/3 cups water). This will kill surface bacteria.

Food Safety Tips for the Barbecue

Handling and preparing food is always important in preventing foodborne illness, but when barbecue season rolls around, there are some additional steps to follow to ensure your food remains safe. Use the following tips to properly handle food when barbecuing.

Before Cooking

Keep meats, salads and other perishable foods in the refrigerator until you are ready to use them. If food is being stored in a cooler, pack the cooler with ice or freezer packs. If possible, keep the cooler in the shade.

After Cooking

Keep serving bowls covered

When in doubt, throw it out!

Examine food carefully immediately before you use it. Look for damaged packaging, obvious mold growth, discoloration and unusual odours, feel and texture.

Make sure it's thawed right!

Thaw foods in the refrigerator. Thawing in cold running water or in a microwave oven is also acceptable. Thawing at room temperature is unsafe because surface bacteria begin to multiply as soon as the surface warms.

Cook foods right!

Prepare foods quickly, cook them thoroughly and serve them immediately. Don't let potentially unsafe foods linger at temperatures where bacteria can grow. The "danger zone" is between 4°C (40°F) and 60°C (140°F).

Don't spread it around!

Keep certain foods, like meats and their juices, separated from others during storage and preparation.

Clean (soap and hot water) and sanitize (bleach and water) cutting boards and utensils after each use.

Keep a separate cutting board for meat.

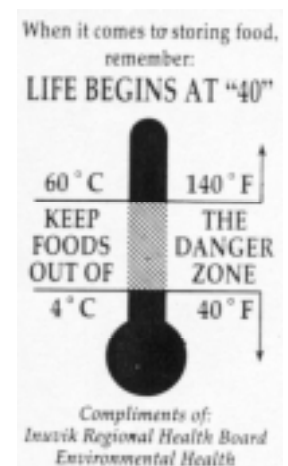
Keep foods covered. Flies, other insects or accidental splashing during preparation of other foods can introduce bacteria.

Eat food as soon as it is ready

Store leftovers in covered containers in the refrigerator and eat within two days. Keep the refrigerator at 4°C/40°F or less. When re-heating leftovers, heat to 74°C/165°F.

These tips were compiled by the Canadian Food Inspection Agency in consultation with Health Canada. For more information, visit the Canadian Food Inspection Agency website at www.cfia-acia.agr.ca or the Health Canada site at www.hc-sc.gc.ca

Please direct food safety questions or concerns to the Environmental Health Officer with your local health and social services board or to the Health Protection Unit, Department of Health and Social Services.



Reprinted from the Spring 1998 Issue of EpiNorth

Notifiable Diseases by Region: October-December 1998

Disease	Month	Cumulative		Regions (YTD - 1998)								
	Jan-Mar 1998	1997 YTD	1998 YTD	Baffin	Ft. Smith/Mackenzie	Inuvik	Keewatin	Kitikmeot				
H. influenzae B	0	5	0	0	0	0	0	0				
Hepatitis B	1	3	4	1	2	1	0	0				
Vaccine Preventable Diseases												
Influenzae	0	10	22	6	12	1	3	0				
Measles	0	0	0	0	0	0	0	0				
Mumps	0	0	0	0	0	0	0	0				
Pertussis	28	18	30	0	14	0	1	15				
Rubella	0	0	0	0	0	0	0	0				
Sexually Transmitted/Bloodborne Diseases												
Chlamydia	306	717	1122	317	313	162	232	98				
Gonorrhoea	41	103	155	57	63	28	8	9				
Hepatitis C	14	17	40	3	26	7	1	3				
Hepatitis, Other	0	0	0	0	0	0	0	0				
Syphilis	0	0	0	0	0	0	0	0				
Diseases by Direct Contact/Respiratory Route												
Chicken Pox	185	227	657	43	395	149	70	0				
Group A Strep	0	3	4	0	2	0	0	2				
Legionellosis	1	0	2	0	2	0	0	0				
Meningitis, Pneumococcal	2	1	6	0	4	1	1	0				
Meningitis, Other Bacterial	1	2	5	1	0	0	4	0				
Meningitis, Viral	0	1	1	0	0	0	1	0				
Meningococcal Infections	0	3	1	0	0	1	0	0				
Tuberculosis	15	26	37	28	7	0	1	1				
Botulism	0	5	0	0	0	0	0	0				
Campylobacteriosis	2	13	13	0	11	1	0	1				
Cryptosporidiosis	2	19	2	1	0	0	1	0				
E.Coli 0157:H7	0	6	0	0	0	0	0	0				
Enteric, Food and Waterborne Diseases												
Food Poisoning	0	2	2	0	2	0	0	0				
Giardiasis	3	9	16	2	8	2	1	3				
Hepatitis A	0	0	5	0	5	0	0	0				
Salmonellosis	4	18	26	2	11	6	0	7				
Shigellosis	0	2	2	0	1	1	0	0				
Tapeworm Infestation	0	1	0	0	0	0	0	0				
Trichinosis	43	1	58	35	0	0	23	0				
Yersinia	0	0	2	0	0	0	0	2				
Vectorborne/Other Zoonotic Diseases												
Brucellosis	1	5	3	0	0	1	1	1				
Malaria	0	0	1	0	0	0	1	0				
Rabies Exposure	3	5	72	0	0	53	1	18				
HIV Infections by Year Seen in NWT Residents												
Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Number/Year	3	2	2	3	3	8	4	2	0	2	1	
Cumulative	3	5	7	10	13	21	25	27	27	29	30	

Notifiable Diseases Reported by Community

October 1998	November 1998	December 1998
	NWT 1: Rankin Inlet.	
NWT 1: Yellowknife	NWT 1: Yellowknife.	
NWT 38: Repulse Bay, 15; Yellowknife, 10; Hay River, 5; Wrigley, 2; Ft McPherson, 2; Hall Beach, 1; Igloolik, 1; Iqaluit, 1; Rae Edzo, 1.	NWT 76: Yellowknife, 33; Ft Providence, 27; Wrigley, 9; Igloolik, 2; Baker Lake, 1; Pond Inlet, 1; Rae Edzo, 1; Tuktoyaktuk, 1; Ft Simpson, 1.	NWT 71: Yellowknife, 33; Hay River, 10; Ft Providence, 6; Rankin Inlet, 6; Repulse Bay, 6; Rae Edzo, 5; Wrigley, 3; Ft Simpson, 1; Iqaluit, 1.
NWT 111: Baker Lake, 15; Yellowknife, 12; Iqaluit, 11; Inuvik, 7; Pond Inlet, 7; Pangnirtung, 6; Arviat, 5; Broughton Island, 5; Cambridge Bay, 5; Cape Dorset, 4; Rae Edzo, 4; Ft Simpson, 3; Kugluktuk, 3; Wha Ti, 3; Rankin Inlet, 2; Kimmirut, 2; Ft Liard, 2; Coral Harbour, 2; Taloyoak, 1; Rae Lakes, 1; Arctic Bay, 1; Whale Cove, 1; Tuktoyaktuk, 1; Igloolik, 1; Ft Good Hope, 1; Ft McPherson, 1; Ft Providence, 1; Hay River, 1; Grise Fiord, 1; Hall Beach, 1; Lutsel'e, 1.	NWT 102: Arviat, 16; Rae Edzo 14; Yellowknife 12; Inuvik 8; Kimmirut 6; Kugluktuk 5; Rankin Inlet 5; Wha Ti 5; Sanikiluaq 4; Ft Resolution 4; Iqaluit 3; Arctic Bay 3; Pangnirtung 3; Pelly Bay 2; Pond Inlet 2; Tuktoyaktuk 2; Aklavik 1; Ft Liard 1; Ft Providence 1; Ft Smith 1; Ft Simpson 1; Taloyoak 1; Whale Cove 1; Cape Dorset 1.	NWT 92: Inuvik 12; Iqaluit 9; Yellowknife 8; Sanikiluaq 8; Rankin Inlet 7; Arviat 7; Rae Edzo 4; Igloolik 4; Tuktoyaktuk 4; Cape Dorset 3; Taloyoak 3; Kugluktuk 3; Baker Lake 2; Aklavik 2; Tsiigehtchic 2; Tulita 2; Wha Ti 2; Cambridge Bay 2; Kimmirut 2; Norman Wells 1; Holman Island 1; Ft Smith 1; Ft Simpson 1; Ft Providence 1; Pond Inlet 1.
	NWT 1: Rankin Inlet.	NWT 1: Iqaluit.
NWT 1: Inuvik.		NWT 2: Ft Simpson,1; Pond Inlet, 1.
NWT 17: Inuvik, 4; Gjoa Haven, 3; Yellowknife, 3; Deline, 2; Iqaluit, 2; Cape Dorset, 1; Wha Ti, 1; Broughton Island, 1.	NWT 14: Wha Ti,3; Iqaluit, 3; Inuvik, 2; Yellowknife, 2; Ft Simpson, 1; Kimmirut, 1; Tuktoyaktuk, 1; Coral Harbour, 1.,	NWT 10: Deline, 3; Yellowknife, 2; Tuktoyaktuk, 2; Hay River, 1; Iqaluit, 1; Kugluktuk, 1.
NWT 1: Pangnirtung.		
NWT 4: Yellowknife, 3; Iqaluit, 1.	NWT 6: Yellowknife, 3; Ft Smith, 2; Iqaluit, 1.	NWT 4: Aklavik, 1; Ft Resolution, 1; Inuvik, 1; Kimmirut, 1.
NWT 1: Rae Edzo.		
		NWT 1: Yellowknife.
	NWT 1: Baker Lake.	NWT 2: Baker Lake, 1; Yellowknife, 1.
NWT 1: Yellowknife.	NWT 8: Yellowknife, 6; Cambridge Bay, 2.	NWT 19: Cambridge Bay, 13; Yellowknife, 5; Hay River, 1.
		NWT 3: Tuktoyaktuk, 2; Arviat, 1.
NWT 1: Kugluktuk.	NWT 3: Aklavik, 1; Holman Island, 1; Tulita, 1.	
NWT 26: Pangnirtung, 23; Repulse Bay, 2; Arviat, 1. * 3 <i>Trichinosis</i> from Pangnirtung are pending laboratory confirmation.	NWT 6: Cape Dorset, 4; Repulse Bay, 1; Pangnirtung, 1. * 1 <i>Trichinosis</i> from Igloolik is pending laboratory confirmation.	NWT 11: Repulse Bay, 3; Cape Dorset, 2; Coral Harbour, 2; Pangnirtung, 2; Iqaluit, 1; Sanikiluaq, 1. * 1 <i>Trichinosis</i> from Pangnirtung is pending laboratory confirmation.
NWT 2: Clyde River, 1; Cape Dorset, 1.	NWT 6: Cape Dorset, 2; Rae Edzo, 1; Pangnirtung, 1; Lutsel'e, 1; Iqaluit, 1.	NWT 7: Iqaluit, 3; Pangnirtung, 1; Cape Dorset, 1; Arctic Bay, 1; Ft. Simpson, 1.

- Brucellosis
- Campylobacteriosis
- Chicken Pox
- Chlamydia
- Cryptosporidiosis
- Giardiasis
- Gonorrhea
- Group A Strep
- Hepatitis A
- Hepatitis B
- Hepatitis C
- Invasive Streptococcus
- Influenza A
- Legionellosis
- Malaria
- Meningitis
- Pertussis
- Rabies Exposure
- Salmonellosis
- Shigellosis
- Trichinosis
- Tuberculosis

Notifiable disease information reported in *EpiNorth* on a monthly basis reflects reports **received** in the Health Protection Unit during the current month, not the month in which the cases occurred. Health professionals who suspect or diagnose a Notifiable Disease are required to report it to their **Regional Medical Health Officer** within the time frame legislated in the *Public Health Act/Communicable Disease Regulations*.



Final Notes: 1998 EpiNorth Articles

Communicable Disease

Transportation of Dangerous Goods - Vol 10 (2)

Reportable Diseases in the NWT

A TB Outbreak...Closeup: TB in the NWT - Vol 10(1)

Communicable Diseases News Briefs - Vol 10 (4)

Gonorrhea & Chlamydia: A Review of Stats & Treatment in the NWT - Vol 10 (1)

Reportable Diseases in the NWT: Anthrax Up Close - Vol 10 (2)

Meningitis in the NWT: A 1998 Update - Vol 10 (4)

Notifiable Diseases by Community/Region - Vol 10 (1, 2, 3, 4)

Vaccines/Drugs

Hepatitis B Vaccination Catch-Up Program - Vol 10 (4)

Health Protection Unit Mailbox: The Risks & Benefits of BCG Vaccine - Vol 10 (1)

Guidelines for Childhood Immunization Practices - Vol 10 (4)

Reporting Adverse Drug Reactions - Vol 10 (2)

Mental Health

Description of Suicide in the NWT - Vol 10 (2)

Diagnosis and Treatment

Trauma Update: Diagnosis & Treatment of Penetrating Trauma - Vol 10 (2)

Treating Otitis Media - Vol 10 (3)

Assessment of Hearing Loss - Vol 10 (3)

Recognizing Speech - Language Problems - Vol 10 (4)

Patient Satisfaction: A Gynecological Surgery Audit - Vol 10 (4)

Intoeing & Outtoeing - Cause for Concern? - Vol 10 (4)

Health Promotion

General Promotion

Active Living... *Really?* - Vol 10 (1)

X-rays...Who Checks Them? - Vol 10 (1)

To Screen or Not to Screen? - Vol 10 (2)

Active Living for a Healthier, Happier Lifestyle - Vol 10 (3)

Addictions

Youth Addiction: Reasons for Youth Smoking - Vol 10 (3)

As the Smoke Clears - Vol 10 (2)

Smoking During Pregnancy: A Risk Factor in Healthy Birth Outcomes - Vol 10 (3)

Environmental Tobacco Smoke and the Risk of Adverse Respiratory Events in Children Receiving General Anesthesia - Vol 10 (3)

Tobacco Enforcement - Vol 10 (4)

Nutrition

Access to Good Foods: How it Affects Health in the NWT - Vol 10 (1)

Promoting Breastfeeding: The Best Start for Children - Vol 10 (2)

Nutrition Resources Span the Lifecycle - Vol 10 (4)

Safety

Buying Used Children's Products: How Safe Are They? - Vol 10 (1)

Children and Fire: What a Community Can Do - Vol 10 (2)

Food Safety Facts - Vol 10 (2)