



In This Issue

Gonorrhoea & Chlamydia: A Review of Stats & Treatment in the NWT

Page 2

A TB Outbreak...Close-up:TB in the NWT

Page 4

Access to Good Foods: How it Affects Health in the NWT

Page 6

Active Living...Really?

Page 9

Health Protection Unit Mailbox: The Risks and Benefits of BCG Vaccine

Page 10

X-rays...Who Checks Them?

Page 12

Buying Used Children's Products: How Safe Are They?

Page 13

Notifiable Diseases Reported in the NWT: Nov/Dec 1997 & Totals for 1997

Page 14/15

Final Notes:1997 EpiNorth Articles

Page 16

Editorial Note:

Welcome to another year, and another issue of EpiNorth. A new year presents not only a time to reflect on the past, but also an opportunity to assess the present and plan for the future.

This issue of EpiNorth demonstrates all of those things. The PAST is reflected by examining trends in STDs and TB in the NWT, as well as in an overview of the 1997 EpiNorth articles (on the back page).

A number of items reflect the PRESENT and project to the future, including articles on: the cost of nutrition in the NWT, maintenance of xray equipment, a fire starters prevention program and the state of active living amongst NWT youth.

As Editor, this also provides me with an opportunity to reflect on the past two years which I have been involved with EpiNorth. This brings us to the FUTURE. We've undergone some changes at the DH&SS over the past few months and EpiNorth is part of that. It is "moving" from the Health Protection Unit, to the newly-formed Health Intelligence Unit. And while it will still include items regarding communicable disease, immunization programs and environmental health, the focus will broaden to include more items on overall health status, chronic disease and health promotion.

The baton of editorial responsibilities has also been passed along to the Health Intelligence Unit. Publication will be changed to quarterly, rather than bimonthly and items which are time-sensitive will be communicated by other means (such as regular bulletins to the regions/health centres) rather than through EpiNorth. As well, a new Editorial Board has been formed.

Thanks to everyone who has contributed articles, ideas, questions and feedback over the past two years. We want to continue to make this newsletter one that is both interesting and thought-provoking, so...keep your contributions coming and...here's to an exciting 1998!

Lona Heinzig



EpiNorth Communication

Telephone: (867) 920-8646

Fax: (867) 873-0442

cc:Mail: EpiNorth, H&SS

Mail:

Health Protection Unit: CST-6
Health and Social Services
Government of the NWT
Yellowknife, NT X1A 2L9

E-mail: Epi_North@gov.nt.ca

EpiNorth Staff

Managing Editor:
Lona Heinzig

Scientific Advisor:
Dr. André Corriveau

Production Assistants:
Kim Fraser
Marilyn Kenny
Helen McPherson
Monica Mandeville

Internet: www.hltss.gov.nt.ca





Gonorrhoea and Chlamydia in the NWT:

In 1997, there were 149 reported cases of Gonorrhoea, a 20% increase from the previous year. Numbers increased both in Nunavut and in the Western NWT. Figure 1 shows the trend over the past 10 years.

Overall, levels of chlamydia infections have not shown any improvement throughout this past decade (Fig. 3). Reports of chlamydia infections totalled 1047 in 1997, a 16.5% increase over the previous year. However, whereas the number of reports decreased slightly in the West, the increase in documented chlamydia infections was in the order of 37% in Nunavut.

"...whereas the number of reports decreased slightly in the West, the increase in documented chlamydia infections was in the order of 37% in Nunavut."

Fig. 1: Gonorrhoea Reports

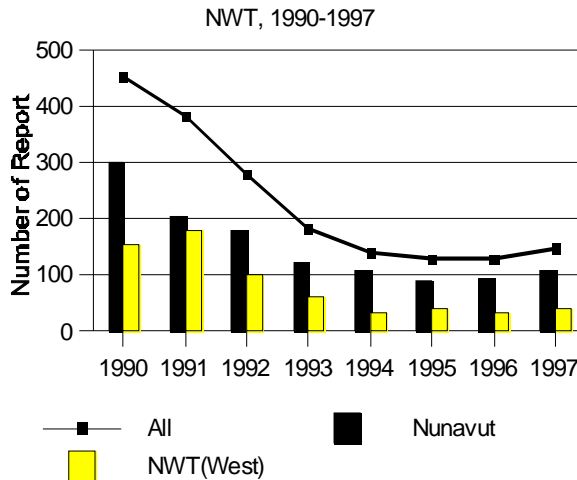
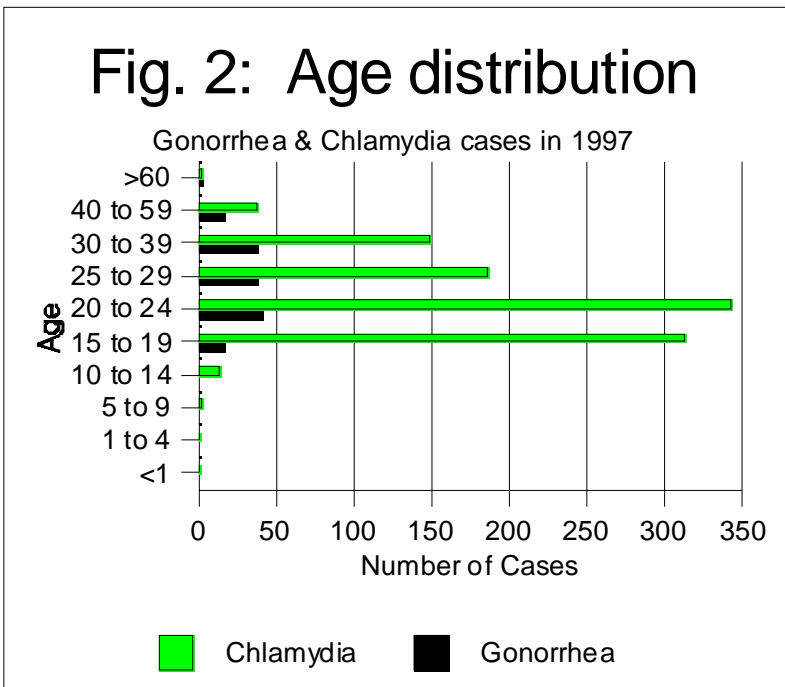


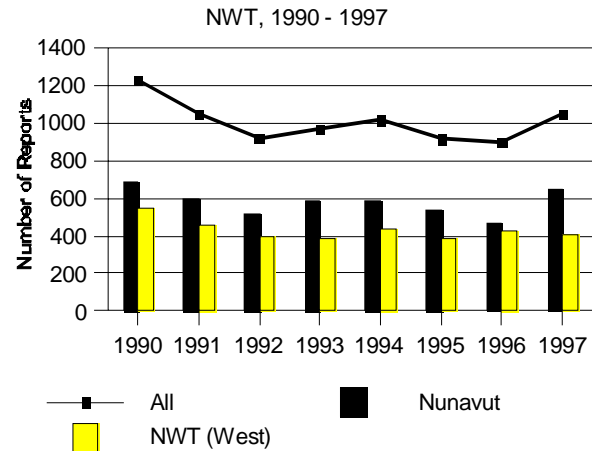
Figure 2 presents the age distribution of STD cases reported in 1997. The age distribution for chlamydia differs from that of gonorrhoea in that it peaks in the younger 15-24 age group, while the risk of acquiring gonorrhoea is spread more evenly in the 20 to 39 population.

Fig. 2: Age distribution



This increase coincides with the introduction of the Ligase Chain Reaction (LCR) technique at the Baffin Regional Hospital Laboratory in January of 1997 (previously reported in the Jan/Feb 1997 issue of EpiNorth). The Keewatin region also began using the Baffin lab in April. LCR, only requiring a urine specimen, offers much greater specificity and sensitivity while being more acceptable to patients in the context of screening. STD control's success depends first on adequate education on healthy sexual behavior, but must also rely on the diagnosis and treatment of all infections, including asymptomatic ones. [Availability of Azithromycin for

Fig. 3: Chlamydia Reports



single dose therapy is the one extra "tool" thought to improve compliance and hopefully improve treatment rates.] Over 50% of Chlamydia infections are thought to be asymptomatic and the traditional EIA technique has poor performance in this context; the LCR testing technique should therefore bring us one step closer to better control by greatly enhancing our capacity to identify asymptomatic carriers and offering them treatment. It is likely that introducing LCR in the Western NWT would initially lead to a similar "increase" in the number of reported cases. By treating more cases that previously went unrecognized, one would expect being finally able to make a real dent on the frequency of new reports in subsequent years. Our 1998 update in one year's time should therefore be of interest on this account. Until then, please watch for the "year-to-date" updates in each issue of EpiNorth.

A Review of Stats and Treatment Guidelines

*Dr. André Corriveau
Medical Health Officer
GNWT - H&SS*

The treatment guidelines outline in *Canadian STD Guidelines - 1995 Update* were adopted in the NWT in 1995. These guidelines have been sent to all health centres, medical clinics and public health units. They have also been highlighted in EpiNorth twice in the past two years. On a weekly basis however, Communicable Disease Reports (CDRs) are received in the Health Protection Unit outline treatment which does not fit under these guidelines. Given a continual turnover of nursing and medical staff, the time has come yet again to highlight these guidelines.

Treatment of Gonococcal Infections in Adolescents and Adults (except pregnant women and nursing mothers)

Cefixime (Suprax) 400 mg po in a single dose

or

Ciprofloxacin (Cipro) 500 mg po in a single dose

or

Ofloxacin (Floxin) 400 mg po in a single dose

PLUS

Concurrent Treatment for Chlamydia in Adolescents and Adults

All patients should also receive empiric treatment for chlamydia and nongonococcal infections

Doxycycline (Vibramycin) 100 mg po BID x 7 days

or

Tetracycline 500 mg pr QID x 7 days

or

Azithromycin (Zithromax) 1 g po in a single dose

Treatment of Gonorrhea and Chlamydia in Pregnant Women and Nursing Mothers

Gonorrhea*

Cefixime 400 mg po in a single dose

*ofloxacin and ciprofloxacin are contraindicated in pregnancy

Chlamydia

Erythromycin** 2 g/day in divided doses for at least 7 days

or, if not tolerated

Erythromycin 1g/day in divided doses for 14 days

(**erythromycin estolate is contraindicated in pregnancy)

Amoxicillin 3 g orally or ampicillin 3.5 g orally with probenicid 1 g orally***

(***if the isolate is known to be sensitive)

"On a weekly basis however, Communicable Disease Reports (CDRs) are received in the Health Protection Unit outline treatment which does not fit under these guidelines..."



More information regarding identification and treatment of STDs can be found in the light green CCDR publication *Canadian STD Guidelines: 1995 Update*. Copies of this publication can be ordered from the Canadian Medical Association. To order by phone, on credit card, call: 1-800-663-7336 (Cost: \$19.95 + GST and \$3.00 shipping)



A TB Outbreak...Close up

In September, 1995 a symptomatic, smear positive tuberculosis case was identified in a small community of 323 residents in the NWT. The index case reportedly had cough, fever, weight loss and night sweats for a period of 3 months. He first presented to the Health Centre when hemoptysis commenced. The source case was thought to be the mother of the index case, as DNA finger printing linked her to a case from another community from the previous year (see sidebar - this page).

Contact Investigation

The first round of contact tracing focused on high and intermediate risk contacts, household contacts, close friends and co-workers. One month into the investigation 152 contacts had been screened, 10 cases of active TB and 38 converters were identified.

Figure 1: First Round Contact Tracing

# Screened	# of Cases	# of converters	Rate
152	10	38	31.5%

With an infectivity rate of 31.5%, the contact circle was immediately widened. The entire community population, all work clients, tourists from around the world and other visitors to the community were followed. 1,187 contacts were screened over a period of 6 months. This required contact tracing in 11 communities in the NWT, 7 provinces across Canada, Ireland, Australia, New Zealand, United States, France and Denmark.

Figure 2: Second Round Screening

	# Screened	# of Cases	Converter- s/ Reactors	Rat- es
NWT	938	44	138	19.4-
Outside of NWT	249	1	8	3.6%

Problems Identified

The biggest problems identified in this outbreak were timely communication, and workload.

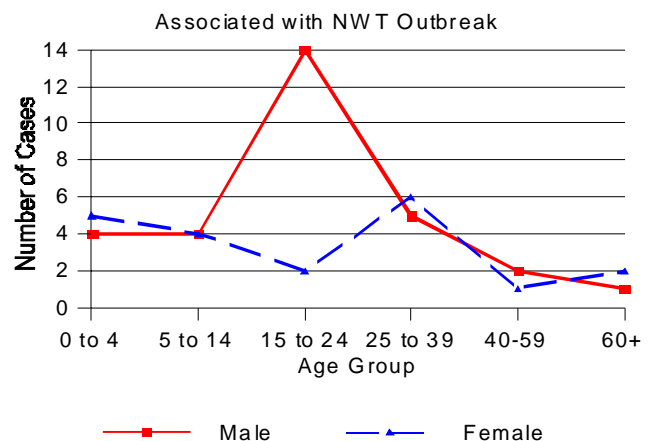
Delay in Information Transfer

There were delays in information transfer between the Health Centre and the Health Protection Unit which led to further delays in getting prophylaxis started. Problems in follow-up lead to 8 children who should have begun INH prophylaxis three months earlier were either behind schedule or had not started at all; one of those cases was diagnosed with miliary TB. The Medical Health Officer (MHO) visited the community to ensure that TB protocol was adhered to and reviewed reporting and follow-up timelines with Health Centre staff. The MHO also met with the Community Health Committee and Band Council to illicit support from the Community when compliance was an issue. The Health Centre staff could then ask for their help to ensure that TB medications were taken.

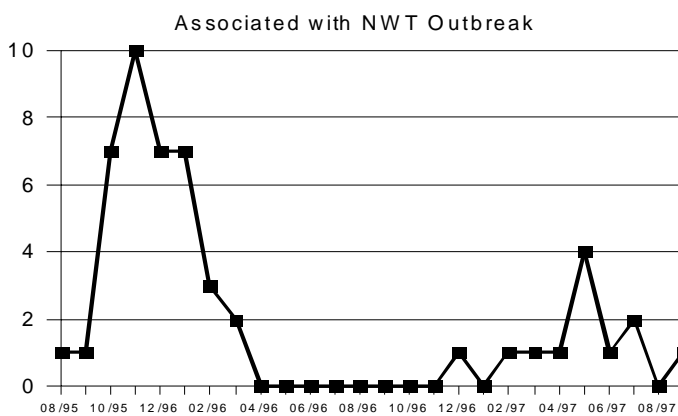
Workload/Costs

The cost of this outbreak in terms of resource and human effort was tremendous. Most of the 50 cases required hospitalization as there weren't adequate resources at the community level to do the assessment and initiate treatment. An extra nurse was hired and the Community Health Representative was designated to the TB Program for a 9 month period to complete contact investigation and to ensure treatment and prophylaxis was directly observed.

Active TB Cases-Aug 95 to Sep 97



Active TB Cases



Out of the 938 contacts screened in the NWT, **50 cases of active TB** were eventually found and **146 converters identified**. Outside of the NWT, 249 contacts were followed. One case of TB and 8 reactors/converters were identified.

TB in the NWT

A year and half after the outbreak started there are still occasional cases of TB being detected. Persons who refused INH chemoprophylaxis were followed at 3, 6, 18 and 30 months. Early detection of 4 additional active cases has been possible due to this screening effort.

Compliance

The highest rate of TB was seen within males aged 15-24. This group provided additional challenges with screening, medication compliance, follow up and obtaining thorough history/contact tracing.

Overall, medication compliance (both treatment and prophylaxis) was a problem which took up additional staff time. Several individuals had to be apprehended during treatment and hospitalized after failing to comply with their treatment regime.

As is often the case in outbreak situations, there were individuals who failed to comply with prophylaxis and later went on to develop active TB. Efforts were made at the community level to directly observe prophylaxis.

Recommendations

1. Because of the increased demand for resources and the need for timely intervention anytime there is a cluster of 5 or more TB cases in a community the TB Outbreak Protocol should be put into place.
2. Directly Observed Prophylaxis and treatment must be implemented for all identified persons.
3. Ongoing surveillance as required for those who refused prophylaxis as they are at highest risk to develop TB.
4. A Community Surveillance Plan is to be put into place for ongoing detection of any TB activity in the future.

References:

¹Friedman, Lloyd N. (1994) Tuberculosis: Current Concepts and Treatment, CRC.

Attention all NWT Health Centres, Public Health Centres, physicians and hospital personnel:

Have YOU looked at the new updates to the NWT TB Protocol Manual? (for more information, see page 11)



- In Canada, the rate of active TB has been consistently around 7 cases per 100,000 in this decade, with the 1995 rates dropping to 6.5 cases/100,000.

- A current resurgence in TB activity in Canada has been seen predominately in urban areas where high rates of immigration from areas where TB is endemic have affected the rates.

- In the NWT, however, the number of cases annually has ranged from 23 to 65 cases per year since 1990 with an average rate of 58.2/100,000.
- There have been 9 outbreaks of TB in the NWT since 1990--in the Baffin, Keewatin and North Slave regions.

1997 NWT TB Statistics:

Total cases : 31 (M - 22; F - 9)

Regional Breakdown: Nunavut: 11
Western NWT: 20

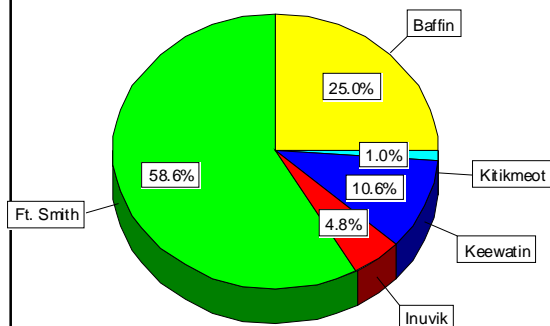
By Age Group:

<1:	0
1-9:	2
10-19:	5
20-39:	14
40-59:	6
60-79:	2
80+:	2

By Status: Dene - 21
Inuit - 9
Non-status - 1

TB Cases in the NWT

Cumulative totals(1990 to 1997)



*Wanda White, RN BSN
Lona Heinzig, RN BSN
Disease Consultants
Health Protection Unit*

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 @ 920-8646.



Access to Good Foods:

Having enough healthy food to eat on a regular basis is necessary in order to have healthy people and healthy communities. Proper nutrition provides the foundation for good health. Poor nutrition, on the other hand, leads to chronic illnesses, malnutrition that affects the normal growth and development of babies and children, an inability to function effectively at school and at the workplace, and a loss of self-esteem.

A population health model recognizes the many factors that exert a strong influence on health. These factors include: income and social status, social support networks, education, employment and working conditions, physical and social environments, biology and genetic endowment, personal health and coping skills, healthy child development, health services, family structure and culture. These factors are also at the root of *food security*.

What is food security?

Food, clothing and shelter are three of the most basic human needs. Without enough of the proper food, a community does not have "food security" and will find it hard to achieve community wellness.

Food security means that *all* people can get enough healthy, safe, affordable and culturally acceptable foods at *all* times. A community where all people have enough food to eat that meets their needs for health have food security. Food security is a very broad, complex and multifaceted issue that implicates a wide range of sectors.

A lack of healthy food to eat on a regular basis leads to many health and social problems. People who are hungry may feel angry and lethargic, as well as frustrated or helpless, especially when foods that are a part of their culture are not available or are inappropriate.

Factors affecting food security

1) Income: Food accessibility is ensured when all members of households have sufficient resources and abilities to obtain enough food for a nutritious and acceptable diet. Food access depends on the distribution of income in the household, availability of traditional and store-bought food, food costs, information and adequate knowledge about healthy eating, and skills for food shopping and cooking.

High unemployment and federal and territorial budgets have an impact on the amount of money available for social programs. Two of the most important determinants of health are income and social gradients. Societies which are reasonably prosperous and have even distributions of wealth have the healthiest populations, regardless of what they spend on health care.¹

In the NWT, many families live below the poverty line - almost 80% of the NWT population depend on some form of income support for at least part of the year. In June, 1991, the unemployment rate in the NWT was 3.9% for non-aboriginal people and 25% for aboriginal people. Aboriginal populations made up 56% of the adult population, held 38% of the jobs and 31% of the income. In 1992, over 4.5 million Canadians (that's about 1 in 5) were living below the poverty line. This makes it hard to afford the basic healthy foods and warm clothing, especially for large families.

2) Education: Higher education levels usually lead to higher incomes, provided there are jobs available in the community. Young or single mothers may not finish school and rely on social assistance. A growing number of families are headed by single mothers. About one-third of families are headed by single-parent families. In 1991, almost two-thirds of single parent families had low-incomes, compared to just over one tenth of two-parent families. In addition, the NWT has a high birthrate - our birthrate is about 2.5 times the national average in Nunavut and 1.5 times in the Western Arctic.

3) Changing Lifestyle: Northerners have gone through major changes. The shift from a traditional lifestyle to a life in communities has decreased self-reliance. In the past, except for periods when there was a scarcity of food, most people ate a nutritious diet. Traditional foods are nutritious and healthy. In the past, fewer decisions had to be made about choosing healthy foods.

Traditional foods have become expensive to gather - many people have the expertise to hunt and fish, but the equipment, repairs and other costs are high. In some cases, animal herds are far away from the community. Wage economies affect the time available to hunt, fish, or gather foods from the land.

4) Food Costs: Indian and Northern Affairs Canada provides a food subsidy for the transportation of nutritious, perishable food to northern communities which do not have year-round road access. This subsidy, called the *Food Mail Program*, offsets the cost of foods by lowering the cost of air freight. Even with the subsidy for nutritious perishable foods *eligible* for the subsidy, such as fluid milk, nutritious perishable foods are very expensive.

Table 1 illustrates the costs of some basic foods in selected communities. The cost of flour in Pelly Bay, for example, is about four times the cost of flour in Yellowknife. Food costs in these selected communities demonstrate that food prices can severely limit the ability of northerners to buy basic healthy foods.



"Food security means that all people can get enough healthy, safe, affordable and culturally acceptable foods at all times."

"Food accessibility, which is ensured when all members of households have sufficient resources and abilities to obtain enough food for a nutritious and acceptable diet."

How It Affects Health in the NWT

*Elsie DeRoose
Consultant, Nutrition
GNWT - H&SS*

Running out of money to buy food was identified as a major issue by Inuit women, according to the Food Mail Program Monitoring Program reports. A 1992 report² conducted by DIAND found that it required from 101% to 127% of after shelter social assistance income and 81% - 100% of total minimum wage income to purchase a nutritious diet.

The food industry makes little profit from raw, basic foods. Their profits come from the highly processed, packaged foods. Advertising increases consumer demand for these foods. Pop, a highly processed and advertised product, costs pennies to produce but can sell for \$2.50/can (or more) in some communities.

5) Food Choices: Poor eating habits are related to health problems in the north - such as iron-deficiency anemia, overweight/obesity, infections, low resistance to disease, dental problems and low/high birth weight babies. These preventable diseases and illnesses cost our overburdened health care system a great deal of money. Much of our health care budget goes to treating these preventable diseases. It has been estimated that 71% of all deaths, including more than one third of cancer deaths, fall into disease categories that have strong associations with diet.³ Poor lifestyle habits (smoking, drinking alcohol, pop) also take money away from the food budget. Most often, it is the children who suffer as a result.

A recent article in NewsNorth⁴ indicates pop consumption as a major issue in the NWT. For example, 3,000 cans of pop have been estimated to be sold each week in one community of 1,100 residents. At \$2.00 per can, this would mean \$6,000.00 per week, or \$312,000.00 per year spent on pop alone. A can of pop has about 8 teaspoons of sugar. This means that 24,000 teaspoons of sugar per week are also being consumed.

Who are the Nutritionally Vulnerable?

Nutritionally vulnerable people are least likely to have food security. Nutritional vulnerability is related to low incomes, poverty, the elderly, high risk pregnant women, single mothers, low birth weight babies, and children. Vulnerability may result from several factors, such as mental or physical disabilities, lack of education, acute or chronic illness, growth and aging. High risk populations for nutrition-related problems are those with limited incomes, a lack of education and often are socially disadvantaged in other ways. Improving the quality of life for people through food security is needed to improve health.

"Nutritional vulnerability is related to low incomes, poverty, the elderly, high risk pregnant women, single mothers, low birth weight babies, and children..."

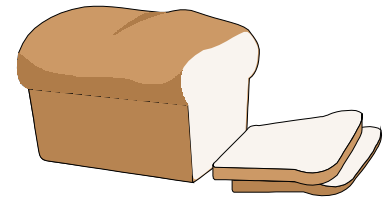


Table 1: Cost Comparison of Various Food Items in NWT Communities

Community	Flour (10 kg)	Bread (1 loaf)	Skim Milk Powder (500 g)	2% Milk (2 litres)	Eggs (1 dozen)	Hamburger (1 kg)	Carrots (2 lb Bag)	Unsweetened orange juice (1 litre)	Enfalac Ready-to-use (235 ml)
Arviat	\$22.-	\$2.52	\$7.17	\$5.48	\$3.04	\$7.09	\$3.12	\$2.95	product N/A
Baker Lake	\$19.9- ³⁰	\$4.59	\$7.29	\$7.29	\$3.69	\$4.84	\$3.65	\$3.49	\$3.59
Pelly Bay	\$29.- ⁹ 99	\$2.59	product N/A	\$10.64	\$3.97	\$8.16	\$3.14	\$4.90	\$14.99 (400 g powder)
Pangnirtung	\$21.3- 5	\$2.58	\$7.37	\$5.89	\$3.43	\$10.00	\$2.86	\$3.70	\$16.64 (400 g powder)
Grise Fiord	\$39.- 98	\$2.00	\$7.96	\$3.90	\$3.60	\$10.57	\$3.32	\$3.05	\$14.99 (400 g powder)
Holman	\$27.- 99	\$3.14	\$6.45	\$6.28	\$3.51	\$8.06	\$3.38	\$6.75	No price given
Ft. Good Hope	\$16.0- 9	\$2.69	\$ 7.09	\$6.45	\$3.59	No price given	\$3.29	\$1.97	\$3.19
Tsiigehtchic	\$16.9- 9	\$1.99	\$6.49	\$3.99	\$2.75	\$7.68 (lean)	\$2.35	\$2.99	\$2.29
Ft. Smith	\$6.49	\$1.19	\$5.49	\$2.50	2.29	\$4.19	\$1.08	\$2.09	\$2.49
Yellowknife	\$7.99	\$1.09	\$5.79	\$2.27	\$1.74	\$3.63	\$0.98	\$1.38	\$1.87
Edmonton	\$4.99	\$0.98	\$4.99	\$1.89	\$1.29	\$2.16	\$0.98	\$1.39	\$5.99 (945 ml concentrate)



Access to Good Foods (continued from p. 7)

What are some recent activities related to food security?

1) National and International Level

*Canada's Action Plan on Food Security*⁵:

Agriculture and Agri-Food Canada coordinate Canada's participation in the Rome Declaration and World Food Summit Plan of Action and has the lead in the development of a multi sectorial Canadian Plan of Action on Food Security. Health Canada is one of many other federal departments and civil organizations participating in this process. Health Canada is coordinating the government's input into the Plan of Action with respect to issues related to health, nutrition and food security. One of the issues to be addressed in the Rome Declaration and World Food Summit Plan of Action is to "implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient nutritionally adequate and safe food and its effective utilization".⁶

2) Territorial Level

The NWT Child Benefit⁷ - this program will come into effect in July 1998. Some highlights of this program are: all families with net incomes of \$20,291 or less will receive an annual benefit of at least \$330 per child. It is estimated that about 14,300 children or 59%, would receive some benefits under the program.

The NWT Bureau of Statistics and the Department of Education, Culture and Employment are updating the food price indices used to help set the scales for the food portion of social income support. There are approximately 165 items included in the food price survey. The survey results will be available in the spring of 1998.

3) Regional level

Regional Nutritionists are working with communities to provide training in food preparation, to support prenatal nutrition programs and feeding programs and develop relevant educational resources.

4) Community Level

Some activities include: lunch and breakfast programs for children, community freezers, community sharing, food banks, cooking programs for prenatal women, meals-on-wheels, food programs for elders, community hunts.

5) Everyone's Responsibility

Food security issues cut across the responsibility areas of many sectors. Food security includes issues of human rights, food access, food costs, food safety, food quality, nutrition and agriculture, trade, emergency, preparedness, monitoring and surveillance.

Vulnerable groups require special support. Employment creation, income support and community based food related policies and programs must be implemented to protect the nutritional health of vulnerable groups. This will in turn lead to community wellness.

Considerations for Action⁸

- develop a database to better define vulnerable populations and to understand food and nutrition issues
- monitor the cost of nutritious food baskets and use this information in the development of education programs and income support initiatives.
- strengthen the food and nutrition component of community programs and services for vulnerable groups
- provide broader and more consistent access to prenatal nutrition programs for vulnerable pregnant women
- ensure families have supports to nourish their children adequately
- ensure that nutrition is part of the continuing care programs in the community
- support community meal programs to meet the nutritional needs of seniors or those who cannot leave home.
- request resources and people, such as nutritionists, to address needs and work with communities on food security issues
- form partnerships with major food suppliers in communities, for example community stores and organizations
- develop policies that address food security as well as high intakes of unhealthy food

Acknowledgements

The author thanks the CPNP project workers and the Regional Nutritionists and Health Promotion Officer, Kitikmeot, for their assistance.

For More information Contact:

- Population Health, H&SS
- Regional Nutritionists

References:

1. Food Security in the North - Ideas for community Action, Working Paper for community consultation Department of Health and Social Services, January 1996
2. Air Stage Subsidy Monitoring Program Report, 1992
3. Nutrition and Food Security Network Newsletter, 1997 #3 Fall, Dietitians of Canada
4. News North, Monday, October 13, 1997
5. Canada's Plan on Food Security, 1997.
6. World Food Summit, Rome Declaration on World Food Security and World Food Summit Plan of Action, 1996.
7. Education, Culture and Employment, National Child Tax Benefit, 1998.
8. Nutrition for Health - An Agenda for Action, Joint Steering Committee, 1996

Active Living...Really???

*Rick Tremblay,
Consultant, H&SS
Health Promotion Unit*

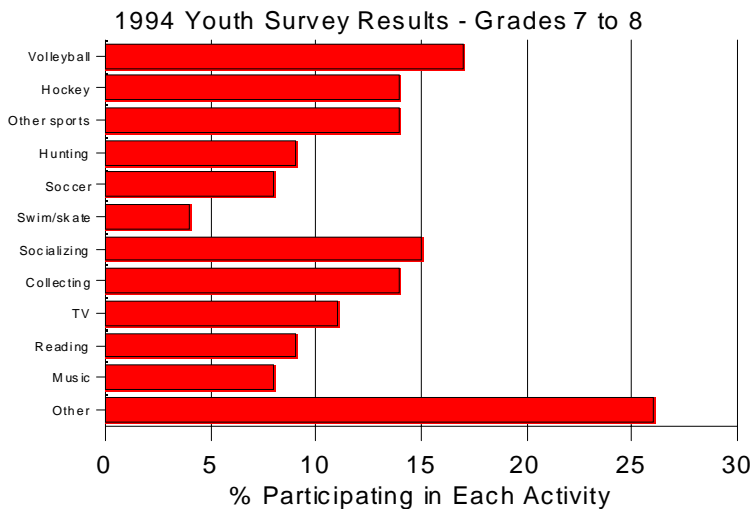
The 1994 study "Health Behaviours, Attitudes and Knowledge of Youth in the Northwest Territories", published in 1996 says, "Most students appear to have a good level of physical activity, playing sports, games and exercising with friends most days."

In looking further at the results, a number of other conclusions might be suggested. The study shows that the most active group of students is in the age category - Grade 7-8, followed by, Grades 9-10, with the least active being grades 4-6. Males tend to be a little bit more active than females.

So, in looking at the conclusion of the study: "Most students appear to have a good level of physical activity..." the key word here is "appear". If a majority watch TV, socialize, read and listen to music, are they really being physically active?

Reported on the same page as the above statistics on activity, "Many NWT students eat a number of foods every day that are high in sugar, salt/and or fat - like pop, potatoe chips, cookies/cakes, chocolate bars. It appears that these foods may be replacing nutritional foods from the four food groups in some students' diet."

Recreational Activities in NWT



If students are eating more of these foods and exercising less, it will not be long before a generation of students become less healthy due to their diet and level of exercise.

On the national level, the Canadian Heart and Stroke Foundation recently released their new "Report Card on the Health of Canadian Kids" which sampled 400 households across Canada. The survey found that Canadian children are not physically active enough. Only 63% of children in the study play actively with their friends three or more times a week. The flip-side to that is that 31% of Canadian children aren't getting the activity they need to develop cardiovascular

"In the study results, the table referring to "Leisure time activites done 'Most Days', Grades 7-8 and Grades 9-10" does not even list a physically active activity."

The study lumped together physical activity and leisure time activities. When you look at activities listed by students "favourite hobbies" some are more "ACTIVE" than others.

All the results are not stated in the report, but for the grades 7-8 group, the most active group, 17% chose volleyball, 14% chose hockey, 14% chose other sports, 9% chose hunting, 8% chose soccer, 4% chose swimming or skating.

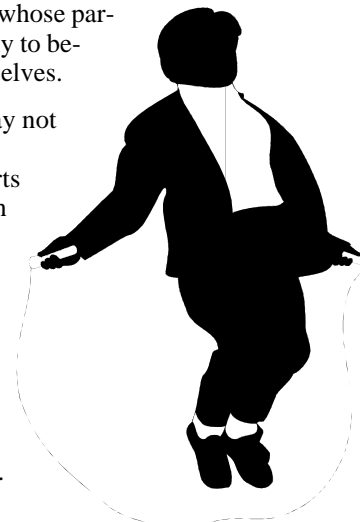
However, in the "not so active" activities, 15% chose socializing, 14% chose collecting things, 11% chose watching television, 9% chose reading, 8% chose listening to music and 26% chose doing other things - working, nintendo, cards.

If you add up the percentages, more people are doing "not so active" activities than those that are doing "active" kinds of things (by 13%). In the study results, the table referring to "Leisure time activites done 'Most Days', Grades 7-8 and 9-10" does not even list a physically active activity.

fitness, muscle strength and flexibility.

This study also showed that only one in five children get the recommended daily minimum of five servings of fruits and vegetables. The foundation also reports that approximately half of Canadian children are exposed to second-hand smoke at home. In addition, children whose parents smoke are twice as likely to become regular smokers themselves.

So, while northern youth may not fare so differently than their southern counterparts, efforts must be made to get children to adopt positive lifestyle habits early in their youth. This gives them the best chance for a healthy adult life. Habits developed in youth will likely last a lifetime. Let's all take part in promoting active living and healthy habits to our youth.





Health Protection Unit Mailbox:

The Risk And Benefits of BCG

Q. BCG was not a part of the vaccine schedule where I worked in the south. What are the main areas of concerns for this program?

A. Bacille Calmette-Guerin vaccine (BCG) is a vaccine offered to all infants in the NWT. BCG is shown to be effective against serious forms of disease (eg, miliary and meningeal tuberculosis), even if its effectiveness to prevent 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 vaccine should be given, with informed consent, soon after birth, prior to hospital discharge, or as soon thereafter (up to 24 months of age). Infants under 6 weeks of age should not be tuberculin tested before receiving BCG, since reactivity does not develop before that age.

BCG is most important for infants at high risk, which includes infants from:

- aboriginal communities
- families in which there is a strong history of tuberculosis
- communities or groups in which high rates of new infection are demonstrated.

All hospitals that provide birthing services should establish a program that offers BCG at birth to the groups noted above. One of the common complaints received from communities is that all mothers are not given a choice to have their babies immunized. Babies are sent back to the community and mothers are reporting that they were not offered BCG. When offered, and the risk explained, most mothers opt for BCG.

Adverse Reactions

Mild and Expected Reactions:

- Erythema
- Papule formation
- Superficial ulceration 3 to 6 weeks after BCG
- Scarring of site.

Moderate Reactions

- Skin ulceration lasting up to 3 months with a tendency to local spread
- Regional lymphadenitis
- Lipoid (ulcerative) reactions and keloid (scar) formation
- Abscess formation

Moderately Severe Reactions

- Suppurative adenitis (frequency 1:1000)(draining lymph nodes)

Severe Reactions

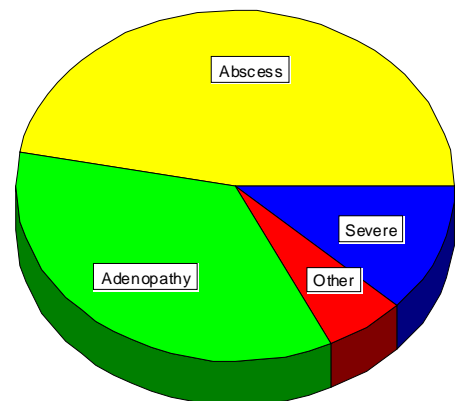
- Disseminated BCG infection (frequency <1:1,000,000) which may result in subsequent mortality¹

Most adverse reactions to BCG are mild and usually occur in less than 2% of infants.² The number of adverse events reported due to BCG has also risen slightly over the last five years, although total number of reports remains low. Abscess formation and suppurative adenitis may be related to technique of administration, improper dilution or injecting too deeply. Until recently, BCG had been administered once infants returned to their home community. Now, most infants receive their BCG shortly after birth, at the same time as their first Hepatitis B vaccination.

The most common adverse event reported is abscess formation.

BCG Adverse Reactions

1993 to 1997 (n=17)



For more information contact:

Wanda White

Communicable Disease Consultant

GNWT - DH&SS

(867)920-8646

The Risk and Benefits of BCG Vaccine

Further Complications

Abscess Management

Abscesses lead to more problems because physicians from southern jurisdictions aren't aware that BCG abscesses are usually best left alone. Subsequently abscesses have been incised and drained, providing an avenue for exposure of the patient and others to a live organism.

Management of a BCG Abscess

1. DO NOT INCISE AND DRAIN
2. Observation and documentation on TB monthly report and client health record
3. In summer, cover with a dry (non-occlusive) dressing to keep clean. Swab for C&S if secondary infection is suspected
4. Medical therapy (INH) is NOT routinely indicated. Consult Medical Health Officer or Paediatrician for management guidelines if drainage occurs.

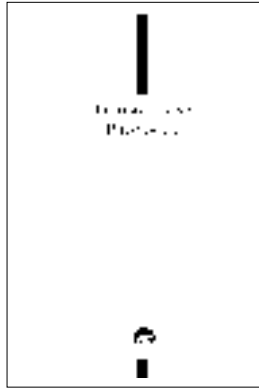
Severe Reactions

The most severe adverse reactions seen to date in the NWT were: disseminated BCG infection, and osteomyelitis.

BCG is never to be administered to persons with impaired immune response (eg. an HIV-infected individual and infants born to HIV infected mothers). In the case of the BCGitis, the infant was born to a mother who tested negative for HIV. The infant was term with no family history or evidence of an immune deficiency. BCG was given as per protocol on the day of birth. At four weeks of age the child developed pneumonia. At 5 weeks she was admitted to Montreal Children's Hospital (MCH) for investigation of rash and failure to thrive (no diagnosis certain at that time). At 3 month's of age she was admitted again to MCH with disseminated BCG Disease secondary to Adenosine Deaminase Deficiency, which causes severe immune deficiency. Chromosome studies are being done to determine if there is a familial genetic trait involved.

The recent confirmed report of BCG osteomyelitis is still under investigation. The 7 month old child was diagnosed with TB Osteomyelitis of the left humerus. The culture is positive for mycobacterium complex, which turns out to be BCG. The Health Protection Unit is awaiting the investigation report from the Region which should assist in identifying factors that contributed to the event.

BCG is recommended to protect designated population with increased risk of TB. As noted above it has to be administered using excellent technique. (see Appendix 3A "BCG Vaccination", NWT Tuberculosis Protocol.) Management and knowledge of mild or expected reactions is also necessary to avoid further complications.



The NWT Tuberculosis Protocol Manual has recently been updated. If you did not receive your update, or would like to obtain a complete manual, please contact the Health Protection Unit @ 920-8646.

3rd Canadian National Immunization Conference

Partnerships for Health through Immunization

The Calgary Convention Centre - Calgary, Alberta
December 6-9, 1998

Organized by: The Laboratory Centre for Disease Control, Health Canada, and the Canadian Pediatric Society

Objectives: To present a forum for discussion and information exchange related to the practical aspects of immunization programs in Canada, and means of improving them. This will cover issues such as vaccine supply and delivery, education, assessment of vaccine programs, regulations and legislation, and global immunization efforts. The conference will look at both programmatic and disease-related issues, with primary focus being on programmatic issues. The main focus will be on childhood immunization. There will also be an examination of progress towards the achievement of established Canadian national goals for the reduction of vaccine-preventable diseases of infants and children.

To access conference information or to be put on conference mailing list, check the conference website at:
<http://www.hc-sc.gc.ca/hpb/lcdc/events/cnic/index.html>

or fax to: Chuck E. Schouwerwou
Conference & Committee Coordinator
Division of Immunization
Fax: (613)952-7948



X-Ray Equipment: Who Checks It?

So, the question was asked, "Who checks the xray machines in the north? Somebody, right?"

We've all heard about the dangers of radiation. When we visit the dentist or other places with x-ray equipment we feel somewhat comfortable knowing the equipment is regularly checked and is working safely, right? So, who checks and how often?

The GNWT has responsibility for all equipment located in hospitals, Health Centres and Dental Therapist locations, that come under "Health". Back in the late 80's, the DHSS asked Health Canada Radiation Protection to come and inspect all of the facilities that came under Health's jurisdiction, i.e. hospitals and nursing stations. Since then, Health Canada's Radiation Protection Bureau has been inspecting the NWT Health facilities every three years.

Things Have Changed...

Now, however, things are changing again. Since each Health Board gets its money from the Department of Health and Social Services and is taking on the responsibility of running its own programs, the Bureau of Radiation Protection will be dealing with each individual Health Board. The Boards may also choose to enter into a contract with a private company.

Regulations

As far as private clinics are concerned, the WCB regulations state that the worker has to be protected against radiation. There are no other regulations in the NWT that cover radiation.

Occupational Health & Safety, now Prevention Services Division of WCB, is planning to:

1. Amend the NWT General Safety Regulations to adopt the federal radiation safety codes. Specifically, Safety Code 20-A, "X-ray Equipment in Medical Diagnosis Part A: Recommended Safety Procedures for Installation and Use", and Safety Code 22 "Radiation Protection in Dental Practice - Recommended Safety Procedures for Installation and Use of Dental X-ray Equipment. They'll also need something for veterinary clinics.
2. Enter into a contract with the Federal X-ray Section of the Bureau of Radiation and Medical Devices whereby their inspectors will inspect all x-ray equipment in the NWT. Copies of their inspection reports will be forwarded to WCB and if enforcement action is required they would initiate it.
3. Their mandate is to ensure worker safety. Because the federal x-ray safety team can also provide training and quality assurance type activities on site, we may be interested in sharing contract costs with respective employers/ health departments.

They are hopeful the above plan can be completed in 1998.

The GNWT has no regulation of its own covering radiation emitting device. Therefore, Health Canada uses the Federal Radiation Emitting Devices Act, Regulations, and Codes when inspecting facilities in the NWT. The only regulations we have are the WCB's Occupational Health and Safety two paragraph statement which addresses worker safety.

Quality Assurance

Preventative maintenance and continued quality monitoring are very important. A good quality assurance program should look at components such as:

- operator training
- basic components of positioning
- how to set up the chart
- the correct film processing

The film processing is also a critical part because the film could be ruined and/or the patient could end up with more radiation than they should. Checks must be made to ensure that the right combination of film and screens are being used. Intensifying screens are used which convert the x-ray photon, when it strikes the screen, to 4000 light photons. The right screens have to be used since some of them emit green light or blue light and the film has to be matched to the right screen. They also have to have the right safe light filter for the right kind of film. Health Canada also checks to ensure the equipment is functioning properly and safe to operate.

Staff from Health Canada's Bureau of Radiation do not do repairs, but they do take time to train individuals as time allows.

Previously, the Radiation Protection Bureau used to charge only for their expenses, i.e. travel and accommodation but will now also charge for their time. However, for 1998, it may be still possible to have them come and inspect your facilities for expenses only, since their system may not yet be set up to charge for their time. So...hurry!

Contact Health Canada:

Paul Chaloner
X-ray Inspection Program
Radiation Protection Bureau
(613)954-0317.

(Responsible for the x-ray equipment in all Federal facilities and also does contract work for facilities in the NWT, Yukon, and PEI)



For more information regarding environmental safety, contact:

Frank Hamilton

Environmental Health
Consultant

GNWT - DH&SS

(867)920-8646

Buying Used Children's Products... How Safe Are They?

"Garage" sales, swapping, lending and handing down have been methods of dealing with the high costs associated with the ever-changing needs of growing children. While these methods are both economically and environmentally friendly, there can be some concerns regarding the safety of "second-hand" items.

The Canada Safety Council and consumer product watch-groups question whether "a penny saved" is worth the risk of acquiring a potentially hazardous item. The greatest risk in buying used items is that the consumer doesn't know how old they are, what abuse they have taken or what condition any moving

parts may be in. New children's items must not only meet Canadian Standards Association (CSA) standards, but must also meet other safety regulations for instance those established under the Hazardous Products Act. These regulations cover baby gates, walkers, cribs, cradles, playpens, car seats and booster seats, strollers, lawn darts, toys and children's sleepwear. By buying used items, one may end up purchasing items which are no longer deemed safe and can no longer be purchased in Canada. The Canadian Safety Council have produced guidelines which provide guidance for those purchasing used items for children. The guidelines below were taken from the Child & Family Canada web site which can be located at: www.cfc-efc.ca



Cribs	Cribs made before September 1986 do not meet current safety standards. They have a mattress support, suspended by hooks, that is not secure and can collapse easily. These cribs cannot be upgraded to meet the standard and must not be sold or given away.
Strollers	Strollers manufactured before 1985 may not meet current standards. It's best to choose one that is both sturdy and safe. The stroller must match the size and age of the child who will use it, and be sturdy enough to support the child and not be easily tipped.
Walkers	If you decide to buy a walker, it is recommended that you buy one that meets the Canadian Juvenile Products Association's voluntary safety standards. It should, among other features, be too wide to fit through a standard doorway of 81 cm (31 inches)
Playpens	In 1976, the Department of Consumer and Corporate Affairs introduced playpen regulations. Now, mesh-sided playpens must be made of mosquito-type netting with small holes so that fingers and little buttons cannot get through. Current standards also prohibit the use of more than two castors or wheels to prevent the playpen from moving too much.
Baby Barriers	Since 1990, new regulations have made expansion gates safer. Certain accordion-style baby gates, those that are made of wood or hard plastic have diamond-shaped openings and large V's at the top can no longer be sold in Canada because children can get caught in the openings and strangle themselves.
Car Seats	All car seats must meet the Canadian Motor Vehicle Safety Standard and carry the compliance label--which states the size of the child for which the seat is designed--on the side, rear or bottom of the seat. Instructions must also be provided on how the seat is to be installed. The date of manufacture of the car seat is important. Seats over 10 years old are generally regarded as no longer safe.
Sleepwear	Children's sleepwear should be made of nylon or polyester. Cotton, acrylic or cotton-acrylic blend polo pyjamas or sleepers are generally acceptable. But nightgowns, bathrobes, baby dolls and loose pyjamas made from those fabrics can be flammable.
Toys	Before 1970, there were numerous potentially dangerous toys in the marketplace. In 1970, however, regulations were issued under the Hazardous Products Act introducing safety standards for toys. The regulations established ways to help reduce the risk of injury to the users of toys under conditions of reasonably foreseeable use. Toys allowed to be sold in Canada are exposed to flammability, electrical and thermal risk and

Notifiable Diseases By Region For Nov & Dec 1997

DISEASE	Month	Cumulative		REGIONS (YTD - 1997)							
	Nov & Dec 1997	1996 Totals	1997 Totals	Baffin	Fort Smith/Mackenzie	Inuvik	Keewatin	Kitikmeot			
Vaccine Preventable Diseases											
H. influenzae B	1	2	1	0	0	0	0	1			
Influenzae	0	1	15	0	0	0	15	0			
Measles											
Mumps	0	1	0	0	0	0	0	0			
Pertussis	4	48	22	2	15	3	0	2			
Rubella											
Enteric Diseases											
Botulism	0	1	5	0	1	1	3	0			
Campylobacteriosis	4	20	17	0	11	1	2	3			
Cryptosporidiosis	13	11	27	20	0	0	2	5			
E.Coli 0157:H7	1	0	7	0	3	0	0	4			
Food Poisoning	0	0	5	0	5	0	0	0			
Giardiasis	5	22	18	3	13	0	2	0			
Salmonellosis	2	28	22	4	9	2	4	3			
Shigellosis	0	0	2	1	1						
Tapeworm Infestation	1	1	2	1	1	0	0	0			
Trichinosis	4	3	15				15				
Sexually Transmitted Diseases											
Chlamydia	202	426	1047	326	219	120	245	76			
Gonorrhoea	32	125	148	91	31	8	7	12			
Syphilis											
Viral Hepatitis											
Hepatitis A	0	2	0								
Hepatitis B	1	5	4	0	4	0	0	0			
Hepatitis C	3	35	21	3	15	2	1	0			
Hepatitis, Other	0	1	0								
Other Systemic Diseases											
Brucellosis	0	1	5	1	1	0	0	3			
Chickenpox	39	678	349	7	125	42	122	53			
Group A Strep	0	0	3	0	1	1	0	1			
Meningitis/Encephalitis	0	4	9	2	4	0	2	1			
Meningococcal infection	0	2	1	0	0	0	0	1			
Rabies Exposure	0	0	1			9					
Tuberculosis	4	37	31	8	20	0	3	0			
HIV INFECTIONS BY YEAR SEEN IN NWT RESIDENTS											
YEAR	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
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

November 1997

Campylobacteriosis, 1: Hay River

Chickenpox, 18: Norman Wells, 13; Ft Good Hope, 2; Ft. Liard, 2; Rae Lakes, 1.

Chlamydia, 90: Yellowknife, 4; Arviat, 13; Rankin Inlet, 11; Igloolik, 8; Pond Inlet, 5; Rae Edzo, 5; Baker Lake, 4; Cape Dorset, 3; Gjoa Haven, 3; Kugluktuk, 3; Cambridge Bay, 2; Ft McPherson, 2; Sanikiluaq, 2; Wha Ti, 2; Broughton Island, 1; Ft Providence, 1; Ft Resolution, 1; Ft Simpson, 1; Ft Smith, 1; Hay River, 1; Inuvik, 1; Iqaluit, 1; Pangnirtung, 1; Repulse Bay, 1; Taloyoak, 1; Tuktoyaktuk, 1; Whale Cove, 1.

Cryptosporidiosis, 1: Igloolik

Escherichia coli, 1: Hay River

Giardiasis, 4: Repulse Bay, 2; Ft Rae, 1; Ft Simpson, 1.

Gonorrhoea 7: Ft Smith, 2; Baker Lake, 1; Cape Dorset, 1; Iqaluit, 1; Rae Edzo, 1; Yellowknife, 1.

Haemophilus Influenza B, 1: Taloyoak

Hepatitis C, 3: Ft Good Hope, 1; Hay River, 1; Yellowknife, 1.

Pertussis, 2: Ft Smith, 1; Pangnirtung, 1.

Tape Worm, 1: Cape Dorset

Trichinosis, 2: Coral Harbour

December 1997

Campylobacteriosis, 3: Hay River, 1; Taloyoak, 1; Yellowknife, 1

Chickenpox, 21: Norman Wells, 12; Ft. Liard, 3; Ft. Good Hope, 2; Sanikiluaq, 2; Grise Fiord, 1; Holman, 1.

Chlamydia, 112: Iqaluit, 28; Yellowknife, 9; Sanikiluaq, 8; Cape Dorset, 6; Arviat, 5; Igloolik, 5; Inuvik, 5; Ft Smith, 4; Kimmirut, 4; Broughton Island, 3; Cambridge Bay, 3; Hay River, 3; Pangnirtung, 3; Rankin Inlet, 3; Arctic Bay, 2; Ft Resolution, 2; Kugluktuk, 2; Rae Edzo, 2; Taloyoak, 2; Tulita, 2; Aklavik, 1; Baker Lake, 1; Deline, 1; Ft Good Hope, 1; Ft Simpson, 1; Gjoa Haven, 1; Lutselk'e, 1; Pond Inlet, 1; Repulse Bay, 1; Resolute Bay, 1; Wha Ti, 1.

Cryptosporidiosis, 3: Clyde River, 1; Grise Fiord, 1; Igloolik, 1.

Giardiasis, 1: Clyde River

Gonorrhoea, 25: Iqaluit, 15; Pangnirtung, 2; Arctic Bay, 1; Arviat, 1; Broughton Island, 1; Cape Dorset, 1; Gjoa Haven, 1; Kimmirut, 1; Kugluktuk, 1; Pond Inlet, 1.

Hepatitis B, 1: Ft Smith

Pertussis, 2: In Inuvik

Salmonellosis, 2: Baker Lake, 1; Ft Rae, 1.

Trichinosis, 2: In Coral Harbour

Tuberculosis, 4: In Cape Dorset



EpiNorth is a publication of the Health Protection Unit, Division of Population Health, Department of Health and Social Services.

Contributions are welcome and should be sent to the Managing Editor. Articles should be in WordPerfect format. Inclusion of material in **EpiNorth** does not preclude publication elsewhere.

Views expressed are those of the authors and do not necessarily reflect departmental policy.

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.

Erratum: An error occurred in the last issue of **EpiNorth** (Nov/Dec 1997 - 9(6)). On Page 14 "Notifiable Disease for September & October 1997", the column reading "1996 YTD" was YTD for August 1996 rather than for October 1998.



Final Notes: 1997 EpiNorth Articles

Communicable Disease

Laboratory Corner

- Guidelines for Controlling & Monitoring MRSA - 9(2)
- Screening for Red Rash - 9(4)
- Sputa Sampling - 9(3)

Reportable Diseases in the NWT

- Botulism Outbreak - Vol 9(5)
- Can You Pass the Food Safety Test? - 9(4)
- Chlamydia in Canada & the NT - Vol 9(5)
- Communicable Disease Regulations - Vol 9(2)
- Cyclospora - Vol 9 (3)
- E.Coli 0157:H7 - Vol 9(4)
- EHO: Making Use of a Valuable Resource - Vol 9(4)
- Emerging Infectious Disease - Vol 9(2)
- HIV Testing in a Northern Correctional Facility - Vol 9(2)
- Reportable Disease in the NWT: A Look at 1996 - Vol (1)
- Rabies Closeup - Vol 9(6)
- Salmonella Questions - Vol 9(6)
- Shigella ... Close up - Vol 9(3)
- Tuberculosis Outbreak: Factors which affect the spread of TB - Vol 9(5)

Vaccines

- Adverse Vaccine Reactions - Vol 9(3)
- Anaphylaxis .. What to do - Vol 9(4)
- Chickenpox Infection & Travel - Vol 9(1)
- Hepatitis B Screening - Vol 9(5)
- Influenza Vaccination Recommendations/NWT Influenza Fact Sheet- Vol 9 (5)
- Mantoux .. Doing the "Two Step" - Vol 9(1)
- MMR & Egg Allergy - Vol 9(1)
- Pertussis: A New Vaccine - Vol 9(2)
- Rubella .. What You Need to Know - Vol 9(3)
- Timing Can Be Everything (vaccine intervals) - Vol 9(3)
- Travel & Influenza Vaccine - Vol 9(1)
- Travel Wise .. Immunize - Vol 9(6)
- TB or Not TB (Atypical Mycobacterium) - Vol 9(2)

Cancer

- Breast Cancer in the NWT: A Retrospective Look - 1984 to 1996 - 9(3)
- Cancer Incidence and Mortality in the NWT: 1991 to 1996
- Cancer in the NWT: The Warm Crab and Us - No Encore for Oncos - 9(1)
- Loop Electrosurgical excision Procedure for CIN: Experience in the Western Arctic - 9(1)
- Lung Cancer in the Northwest Territories: 1989 to 1995 - 9(1)
- Preventing Breast Cancer: Diet May Hold the Key - 9(6)
- Skin Cancer: Enjoying the Sun Safely: Reducing the Risk of Skin Cancer - 9(3)

Health Promotion

General Promotion

- Debunking Myths in the Fight Against Tobacco Smoking - Vol 9(2)
- Enjoying the Sun Safely: Reducing the Risk of Skin Cancer - 9(3)
- Reducing the Risk of SIDS - Vol 9(2)

Nutrition

- Nutrition News: New Report Released - Vol 9(5)
- Prenatal Nutrition Programs: Improving Maternal & Infant Health - Vol 9(4)
- Preventing Breast Cancer: Diet May Hold the Key - 9(6)
- Rickets & Vitamin D Deficiency in the NWT- Vol 9(3)
- The NWT Traditional Food Fact Sheets: An Excellent Educational Resource- 9(6)

Safety

- Playgrounds: Are they safe for our children? - Vol 9(5)
- Slips and Falls: A Health Crisis for Senior Citizens - Vol 9(4)
- Vehicles and Children: The Critical Role of Child Car Seats - Vol 9(6)

**For reprints
contact:**

EpiNorth - Editor

(867) 920-8646

or

Fax: (867)873-0442