EPI NORTH

The Northwest Territories Epidemiology Newsletter

Fall 1998 Vol. 10, Issue 4

Making Resources Work for You...

Our the past several years, *EpiNorth* has attempted to bring articles to our readers which deal with a wide variety of health-related topics. An attempt has been made to provide information which is pertinent and useful to our readers, especially to primary health care providers. This issue is no exception. In fact, this issue emphasizes information exchange and makes use of the resources available to us in the NWT. This includes:

Written resources on: nutrition, immunization and tobacco enforcement.

Clinical resources available: a speech-language program, orthopedic expertise, a diabetic education program and regional nutritionists.

Program evaluation: patient satisfaction survey.

Disease specific information: Hepatitis B program, meningitis and general communicable disease data.

And finally...a new section...directly from you, the reader. The last page of this issue features a number of letters which respond to articles from prior issues.

There is something in this issue for everyone. Read on, and, as always, if you have any comments or questions, please feel free to contact us at any of the addresses below.

In our next issue...

- Guidelines for Childhood Immunization (Part II);
- A review of 1998 diseases...and much, much more.

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Northwest Territories Health and Social Services

Nutrition Resources Span the Lifecycle

Elsie DeRoose
Consultant, Nutrition
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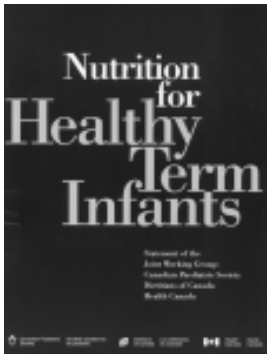
Reliable nutrition resources can help increase awareness and importance of healthy eating habits as part of a healthy lifestyle, no matter at what age. It is well known that populations with access to sufficient good quality and nutritious foods are among the healthiest in the world.

Awareness of good eating habits is a positive health promotion activity and this is augmented through nutrition education resources produced by knowledgeable dietitians and nutritionists. These materials are generally used to provide education, the first step in behaviour change. In addition to qualified dietitians and nutritionists, many other individuals utilize resource materials in teaching and promoting health that focus on nutrition.

There are a number of nutrition resources available through the Department of Health and Social Services, regional boards and hospitals, where dietitians and nutritionists are employed.

Six nutrition resource materials available are highlighted here. A list of dietitians and nutritionists is also provided to help you access these resources at the location nearest you:

Nutrition For Healthy Term Infants

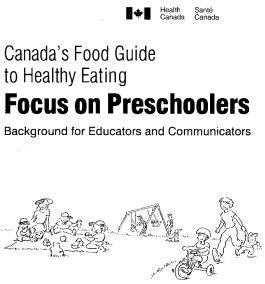


A 1998 statement of a joint working group of the Canadian Pediatric Society, Dietitians of Canada and Health Canada. This booklet is intended for health care professionals and provides the most recent infant feeding information for infants from 0-24 months. It provides basic standard information to be communicated to parents and caregivers in Canada. All recommendations are based on the latest available scientific evidence, accepted practice and rationale. This booklet is also available on Internet: http://www.hc-sc.gc.ca.

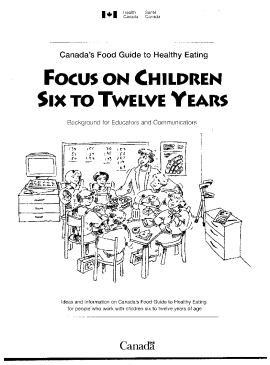
The Breastfeeding Guidebook

A practical guide to common breastfeeding concerns, 1998. This booklet was developed for Prenatal and Postnatal Nutrition Projects in the Northwest Territories. It is also available to organizations and groups who may find information on breastfeeding and promotion useful. Topics covered include breastfeeding positions, expressing breastmilk, mother's milk supply, travelling with newborns, nutrition, medications as well as much more.

Canada's Food Guide to Healthy Eating - Focus on Preschoolers



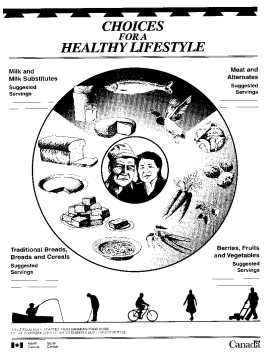
Background for educators and communicators, Health Canada, 1995. This resource discusses how educators can use the food guide to promote healthy eating among children between 2-5. Healthy eating is important for preschool children to: provide energy and essential nutrients to grow, develop and be active; develop a sense of taste, acceptance and enjoyment of all kinds of foods; contribute to their overall sense of well-being; and to instill attitudes and practices for lifelong healthy eating habits.



Canada's Food Guide to Healthy Eating Focus on Children Six to Twelve Years

Background for educators and communicators, Health Canada, 1997. This booklet contains ideas and information for people who work with children 6-12 years of age. Between 6-12, children are learning to make decisions on their own about eating. This booklet explains the things that can influence children's attitudes and behaviours, how to help children learn about healthy eating and to develop the decision-making skills needed to make healthy food choices, and how to create situations to make healthy food choices easier.

Choices for a Healthy Lifestyle, An Adult Guide Adapted from Canada's Food Guide



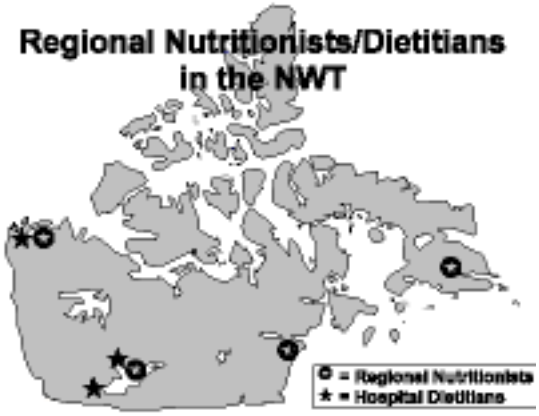
This is a four-page Health Canada resource for adults that can be used as an education tool and self-assessment form of an individual's eating habits. Information on

label reading and decreasing fat and sugar, making healthy food choices and increasing activity are contained in this resource.

Healthy Aging - Eat Well, Live Well, for a Lifetime

The theme of national nutrition month this year is Healthy Aging, to coincide with the United Nations Declaration of 1999 as the International Year of the Older Person. The campaign will focus on the importance of healthy eating as we age. A resource manual for health professionalswill be available from the Dietitians of Canada, as well as consumer resources, factsheets and promotional items. The website will be www.dietitians.ca/eatwell.

If you would like more information on these or other resources, please contact the following dietitians and nutritionists in the NWT.



Regional Nutritionists/Dietitians in the NWT			
✪	Baffin Regional H&SS	Brenda McIntyre	979-5306
✪	Keewatin Regional H&SS	Jill Christensen	920-6546
✪	Yellowknife H&SS		
★	Stanton Regional Hospital (Yellowknife)	Faye Seymour/ Leslie Bill	669-4111
★	Diabetic Outpatient Program (Stanton)	Mabel Wong	669-3100
★	HH Williams Memorial Hospital (Hay River)	Lesia Jacula	874-6512
✪	Inuvik Regional H&SS	Lorna Sampson	777-2955
★	Inuvik Regional Hospital	Andrea Lee	777-2955
	Department of Health and Social Services	Elsie De Roose	920-8032

Canada — A Society for All Ages

The United Nations has named 1999 as the *International Year of Older Persons*. A pamphlet providing ideas for honouring all the Elders of the North is available in both English and Inuktitut. For more information on what you can do to work with and for Elders in your community and to find ways to recognize what they have done and are still doing, contact:

International Year of Older Persons 1999

Northwest Territories/Nunavut Co-ordination Committee

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Yellowknife, NT X1A 1E9

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867-920-7444

Fax: 867-873-4318

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Recognizing Speech-Language Problems

Sharon Evelyn
Speech-Language Pathologist
Stanton Regional Hospital

Most of us pay little attention to our ability to communicate. Our linguistic skills develop at an early age and little more thought is given to them. However, for those who have communication disorders, their emotional, psychological, social, educational, and vocational well-being may be affected. As a discipline, Speech-Language Pathology specializes in both the normal development and disorders of human communication. A communication disorder is any impairment in the ability to receive, process and/or produce a linguistic message. Children and adults may have disorders of delayed receptive and/or expressive language, social language (pragmatics), articulation/phonology, stuttering, voice, hearing impairment, cognitive-linguistic abilities, motor speech, aphasia and swallowing.

The Speech-Language Pathology Department at Stanton Regional Hospital provides services for the habilitation and rehabilitation of individuals with congenital and acquired communication delays/disorders. Assessment, therapeutic and/or consultation service for preschool/school-age children and adults is offered for a variety of communication delays/disorders.

Accessing Services

Speech-Language services can be accessed in many ways. Referrals are accepted from client self-referral, parents/guardians, public health nurses, physicians, community health workers, teacher referrals (with parental permission) and other disciplines (e.g. Audiology, Occupational Therapy, Physiotherapy, etc.). The waiting list in Yellowknife for initial assessment is about 1-2 months long and for treatment is about 3- 4 months long. The length of these wait-lists vary across the year due to the quantity of referrals at any given time.

Outreach

A wide variety of service delivery models are utilized as part of our outreach service program, to ensure the maximum benefit to community clients and associated caregivers (e.g. parents, teachers, nurses, etc.). As many communities are a long distance from Yellowknife, it is difficult to carry out "direct" treatment. Instead, a more "collaborative/ consultative" approach is used, which involves the use of home and school-programming and conferencing, assistant training, school and community-based workshops and small group demonstration sessions. The goal is to develop skills in the community for other people to draw upon.

The Speech-Language Department also works as part of a Pediatric Rehabilitation Team, along with Audiology, Pediatrics, Occupational Therapy, Physiotherapy and Social Work. The team participates with community health and education personnel in providing integrated and coordinated services for children who are medically at-risk, or who experience neuromuscular, developmental, hearing and/or speech-language difficulties.

1997 Fast Facts

Stanton Hospital

SLP Department

- 1669 clients of all ages in Yellowknife
- 695 assessments done in communities
- 79.5 days spent travelling
- 126 workshop attendees in communities

For concerns about speech or language development, please contact Stanton Regional Hospital's Speech-Language Pathology Department at (867) 669-3100.

Red Flags for Recognizing Speech-Language-Hearing Disorders

The following "red flags" will help identify children who may have speech-language-hearing disorders. It is important to refer a child as soon as a speech, language or hearing disorder is suspected.

Speech

- Unfamiliar people cannot understand child's speech by the time he or she turns three.
- Child uses mostly vowels, and frequently omits consonants.
- Child's voice sounds as if it is coming through the nose (hypernasal) or it sounds as if the nose is always plugged (hyponasal).
- Child has frequent colds or ear infections.

Language

- Child is not combining words by age two.
- Parent is able to keep count of child's words by the age of two (vocabulary may not be developing fast enough).
- Child has difficulty following directions.

Hearing/Listening

- Stops using vocal play in infancy.
- Does not respond to sounds in the environment.
- Frequently asks for words to be repeated.
- Does not consistently pay attention to the speaker.
- Cannot monitor his or her own voice pitch or loudness.

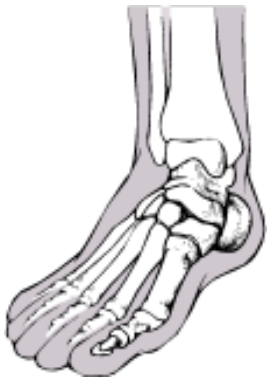
Stuttering (fluency)

- Repeats sounds, syllables or phrases.
- Hesitates when talking.
- Sometimes blocks and cannot get words out.
- Has behaviors associated with stuttering such as eye blinking, head shaking or fist clenching.

Voice

- Voice is too high, too low, too soft, too loud or hoarse.

Intoeing and Outtoeing - Cause for Concern?



Dr. Roger Purnell
Orthopedic Surgeon
Stanton Regional Hospital

What is Intoeing and Outtoeing?

Intoeing and outtoeing, or the turning in or out of the feet, commonly occurs during infancy and childhood. Their importance relates to:

- the vast number of children affected;
- the frequency of parental concern; and
- the high cost of unnecessary treatment.

Many of the pediatric orthopedic referrals to Stanton Regional Hospital are for examination of this condition. This article will briefly review this condition, discussing history, physical exam and treatment.

Normally, the femur and tibia have a twist (version), external for the femur and internal for the tibia. This normal version changes with growth and the two usually balance each other to give "normal" leg alignment. Femoral anteversion (internal rotation) decreases from about 40 degrees at birth to about 15 degrees at skeletal maturation, whereas the tibia increases its external rotation from about 5 degrees to an average of 15 degrees at maturity. This means that normally children intoe when they begin walking and slowly straighten out by 4-6 years. Some will go on to become outtoers by age 12 (the usual age for maximal outtoeing).

Patient History

Assessment of the child includes asking about:

- age of walking (delay beyond 18 months may indicate cerebral palsy, a rare cause of intoeing);
- family history (a child's leg alignment often follows that of their parents); and
- disability (usually negligible).

Physical Exam

Examination should not show leg/foot asymmetry (its presence should prompt a referral). Three measurements (as shown below) help assess the child's leg rotation and can be serially recorded to document change.

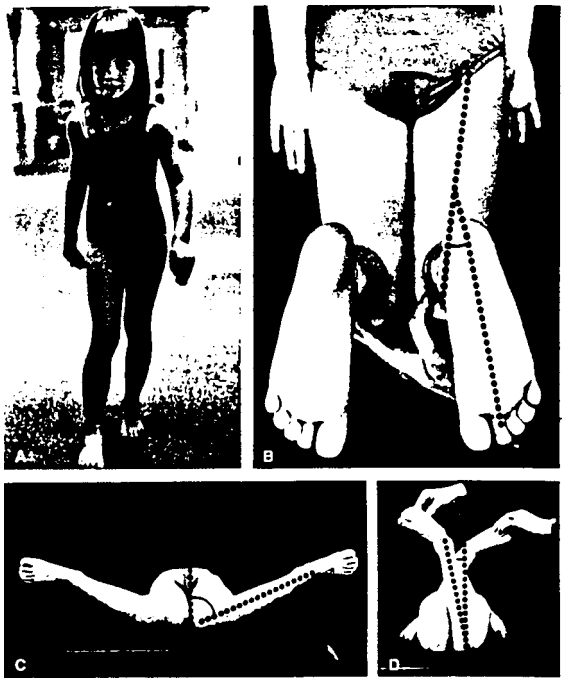
The foot progression angle (FPA) is the angle the foot makes with the direction of walking (zero degrees in this picture). The child is now examined prone with the knees bent 90°. The thigh-foot angle (TFA) is the angle the long axis of the foot makes with the thigh and assesses tibial rotation. Hip rotation is the best measure of femoral version. The hips are maximally internally and externally rotated. The angles between the tibia and the vertical are assessed. Figure 1depicts excessive internal rotation which results from increased femoral anteversion. The range of normal values is wide. Normative data is available for comparison.

Treatment

Although treatment is individualized, certain management principles apply and some generalizations can be made. Trying to control the sleeping, walking or sitting positions of children is impossible. Such attempts are frustrating, are probably ineffective and address the effect rather than the cause. Daytime bracing has been studied and found to be ineffective. Night splints and special shoes have no known adverse effects but their usefulness is unproven.

In view of the benign natural history and the effectiveness of non-operative management, observational management is clearly indicated for most children with torsional problems. The family should be advised of the small possibility (about 1%) that the deformity will persist and require operative correction. Such correction is appropriate only after 8 years of age. The likelihood of the need for correction is greater if adults in the family have the same deformity or if the deformity is severe. In the interim, the child may be seen yearly as long as the parents require reassurance.

Figure 1



Patient Satisfaction:

Dr. Pierre Lessard
Dr. Fabian Simard
Obstetricians/
Gynecologists
Stanton Regional
Hospital

Are Northern women satisfied with the health care they received in Northern clinics/hospitals? When surgery is the chosen treatment, are the outcomes comparable to southern facilities? Do patients actually feel better once they recover from their surgical procedure? Are complication rates and long term cure rates the same when comparing Aboriginal and non-Aboriginal patients? These are some of the questions asked during a clinical audit of major gynecological surgeries at Stanton Regional Hospital.

Why Audit?

Clinical audits are undertaken either for research purposes or quality assurance. Pollock and Evans state

> A good practice will aim to be effective, safe, efficient, and to satisfy patients. If patients are to be satisfied (and this is probably the most important of all the aspects of quality assurance), they must be satisfied with the availability, accessibility and continuity of health care; the cost must be reasonable and the outcome of that care satisfactory. At least as important are communication and compassion, including the patient's awareness that she is a partner in the process of care, not merely a passive recipient.[1]

The American College of Obstetricians and Gynecologists also address Continuous Quality Improvement by asking four questions:

- What is the mission?
- Who are the clients?
- Are their needs being met?
- Can it be done better?[2]

With this in mind, a prospective audit included all surgeries from January 1994 to January 1996. Patients' satisfaction was the primary measurement, but complication rates and long-term cure rates also were assessed. Telephone interviews were carried out at 6 and 24 months after surgery by the Stanton Regional Hospital Medical Clinic gynecology nurse. Only two surgeons were involved, and all interviews were conducted by the same individual. All the patients were made aware of the study at the time of surgery and told to anticipate the telephone interviews.

Table 1: Type and Number of Procedures

Vaginal hysterectomy (with LAVH assistance-11)	47
Vaginal hysterectomy with retropubic urethrpexies (RPU) repair	30
Adominal hysterectomy	33
Abd. hysterectomy with RPU	3
RPU alone	20
Vaginal repair (alone)	3

Participants and Procedures

Of the 136, 103 were done by Dr. Simard and 33 by Dr. Lessard, who also assisted each other for most cases. There were 126 procedures done on a booked/elective basis and 10 on an urgent basis. Of the total sample of 136 patients, 15 were Inuit, 31 Dene, 10 Metis and 80 non-Aboriginal. Sixty-six were from Yellowknife, 16 from Hay River, 23 from Fort Smith Region, 14 from Kitikmeot Region, 16 from Inuvik Region and 1 from Baffin Region. The youngest patient was 25 years old and the oldest 74. Table 1 shows the types of procedure done.

The average length of stay, including one day pre-op for 45 vaginal hysterectomies without repair was 5.4 days and for 33 abdominal hysterectomies without RPU was 6.9 days.

Complications which developed included:

- Intraoperative blood transfusion - 1
- Inadvertent cystotomies - 4 (2 had undergone 3 previous cesarean sections)
- Bowel obstruction - 1
- Vault cellulitis - 4
- Urinary retention - 5 (> 5 weeks post incontinence procedures)

Summary of Findings

Of 136 patients, 133 were contacted at six months and 122 at 24 months postoperatively. Only one expressed strong regrets about having surgery and five had some regrets or were unsure. Six patients were contacted through interpreters. All reported being pleased that the Language Services Department had been available during their hospital stay and as well that they had been contacted as a result of the audit. The findings from the two interviews are summarized in Tables 2 and 3.

When asked if they would have advice for patients experiencing the same surgery, 60 (45%) commented on the importance of understanding the proposed surgery as well as its necessity. Family involvement was felt to be necessary by many.

Discussion

While clinical and physiologic indicators have traditionally been the outcome of research, an attempt is now being made to measure quality of care by examining such aspects as cost, patient satisfaction and quality of life, as well as mortality. Outcomes research also attempts to avoid surrogate outcomes in favour of outcomes relevant to the patient.[3]

A Gynecological Surgery Audit

Cummings states,

> There are few valid studies on quality of life after a hysterectomy, and even fewer which record quality of life before and at intervals after a hysterectomy. Yet, this is what determines that the individual and group clinical decision making process is correct. "True" quality of life studies tend to support the decision for surgery. Although there is little benefit to life expectancy, there appears to be substantial benefit to quality of life which outweighs the effect of operative morbidity.[4]

This audit showed a high degree of patient satisfaction, as 95% of patients had no regrets about having undergone surgery and 84% felt their expectations were met totally. Two years later, 94% of contacted patients felt better than they had prior to surgery. These results support other studies which suggest that appropriately selected and managed surgery for common non-malignant gynecological conditions provides highly effective symptom relief and patient satisfaction as a result.[4,5,6]

Complication rates, mainly operative site infections, injuries to adjacent organs and blood transfusions, are consistent with rates reported elsewhere.[7,8] There were no fistulas nor thromboembolic complications reported during the study period. Rates for the above three groups of complications were 7.5% for non-Aboriginals and 11.3% for Aboriginals.

Patients perceived preoperative, intraoperative and post operative care to be excellent. Patients were also satisfied with the outcomes of their surgery. Despite the need to improve quality of care continuously, this audit did not reveal necessary changes to current hospital protocols and routines, but a "significant risk" form/consent has since been developed for all gynecological procedures.

Limitations

There were limitations with this audit, mainly in relation to sample size. Also, choice of surgeons was limited to the two local gynecologists. Despite the fact that they assisted each other for most procedures, all vaginal surgeries were done by one surgeon and all retropubic urethropexies by the other one. The abdominal hysterectomies were shared between both surgeons.

Conclusions

Audit of patient satisfaction following surgical procedures has the potential to improve care, including consumer education. Such an approach was carried out in our unique northern setting. Although the results were reassuring, the process of the audit itself was perceived by the patients to improve their overall treatment and contributed to their positive outcomes. Such audits should be carried out as a part of provision of care and continuous quality improvement.

Table 2: Summary of the First Interview (at 6 mos.)	Yes	No
Any regrets about having had surgery? (133)	6 (5%)	127 (95%)
Were expectations met totally? (133)	112 (84%)	21 (16%)
Could we have done anything better? (133)	34 (26%)	99 (74%)
Did you develop problems with sexuality? (97)	15 (15%)	82 (85%)

Acknowledgements

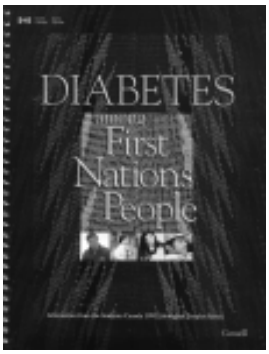
The authors would like to acknowledge Ms. Virginia Whitehead, Yellowknife, for her dedication and compassion and Dr. Philip Hall, Winnipeg, for his editing comments and continuous support.

Table 3: Summary of Second Interview (at 24 months)	
Present Condition (n=122)	
Improved (better/much better)	115 (94%)
No change (the same)	6 (5%)
Worse (recurrent CIN III)	1 (1%)
Improvement per type of surgery	
Hysterectomies: Elective (91)	89 (98%)
Hysterectomies: Urgent (9)	8 (89%)
Vaginal Repairs (32)	27 (84%)
RPUs (22)	21 (95%)

References

1 Pollock A, Evans M. Surgical Audit. Butterworths, Boston: 1989.
2 ACOG. Quality Assessment and Improvement in Obstetrics and Gynecology, Library of Congress, Washington: 1994.
3 Chelmow D. Outcomes Research Applied to Obstetrics-Gynecology. Contemp Ob/Gyn 1996; 41.4:131-43.
4 Cumming D. Hysterectomy Revisited. J. SOGC 1996; 18: 869-79.
5 Carlson KJ, Miller BA, Fowler FJ Jr. The Maine Women's Health Study: I. Outcomes of Hysterectomy. Obstet Gynecol 1994; 83: 556-64.
6 Swift D. Hysterectomy better received than perceived. The Medical Post, July 15, 1997:84-85
7 Harris WJ, Daniell JF. Early Complications of Laparoscopic Hysterectomy. Obs Gyn Survey 1996, 51: 559-66.
8 Harris WJ. Early Complications of Abdominal and Vaginal Hysterectomy. Obs Gyn Survey 1995, 50: 795-805.

For more information, or to receive a complete copy of this audit, please contact Dr. Pierre Lessard, Stanton Regional Hospital Medical Clinic at 867-669-4111.



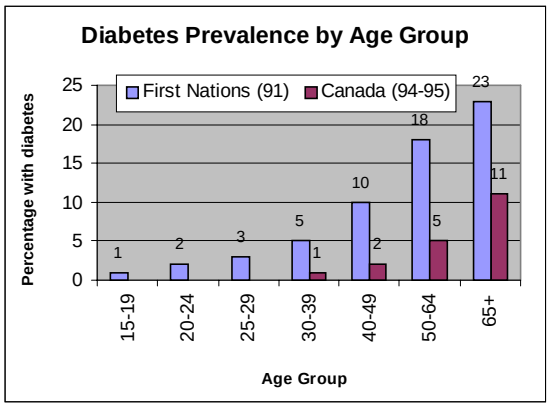
Diabetes in First Nations People:

Mabel Wong, Nutritionist
Onalee Randall, Nurse Educator
Diabetes Education Program
Stanton Regional Hospital

A 1991 Statistics Canada survey called the Aboriginal Peoples Survey (APS), examined the prevalence of diabetes among First Nations people in Canada. Items surveyed also included lifestyle habits, coping strategies, other health concerns and support systems. A 1998 Health Canada report, *Diabetes among First Nations People*,[1] discusses the results of the APS. Health care workers will find this information useful when developing programs to prevent and manage diabetes. This article will review some of the findings in this report, as well as items pertinent to incidence, management and prevention in the NWT.

Some Key Findings of the APS

- Diabetes rates among First Nations people are three times the Canadian average, using age-standardized rates; 6.5% of First Nations people over the age of 15 report that they have been diagnosed with diabetes. It is believed that most are diagnosed with Type 2 diabetes.
- Prevalence is highest in Ontario, Manitoba and Saskatchewan and lowest in British Columbia and the Northwest Territories.
- The age of onset is younger in First Nations people. The prevalence among people aged 30-39 is 5%, compared with 1% in that age group for Canada.
- First Nations people with diabetes tend to be over 40 years of age, to have lower incomes and less formal education.
- More women than men report being diagnosed with diabetes.



New Diabetes Classifications

The 1998 Canadian Diabetes Association classification guidelines are now based on pathogenesis rather than on treatment.

Type 1 Diabetes occurs when there is beta-cell destruction and the pancreas no longer produces any insulin. There is a very low incidence in the NWT.

Type 2 Diabetes occurs when the pancreas does not produce enough insulin or when the body does not use it's own insulin effectively. It is estimated that Type 2 represents over 90% of cases in the NWT.

Gestational Diabetes is diabetes in pregnancy. It is a temporary condition that happens on in every 20 pregnancies. According to the 1993 NWT Breastfeeding Survey, gestational diabetes was diagnosed in 2.4% of the mothers during pregnancy.

Other types include genetic defects of beta-cell function and disease of the pancreas.

Incidence of Diabetes in the Northwest Territories

As diabetes is not currently a reportable disease in the NWT, there are no centralized data available on incidence or prevalence. Some information provided by the Extended Health Care program indicates that in 1996, there were 105 claims for full benefits for people with diabetes and 125 claims for partial benefits related to diabetes care. This includes medical supplies, pharmacare, medical equipment and transportation for 230 individuals. Diabetes ranks third, after asthma and hypertension, for extended health benefit claims in the NWT.

The Canadian Diabetes Association and Health Canada are working on a national diabetes surveillance system, so hopefully in the near future more information will be available about the incidence and prevalence of diabetes in the NWT.

Challenges to Managing Diabetes

Most Type 2 diabetics are insulin-resistant. This means that the body is unresponsive to insulin. Obesity, especially around the abdomen, is associated with insulin-resistance. In practical terms, the greater the weight, the greater degree of insulin-resistance. Part of the treatment for Type 2 is weight loss, which for some people is a challenge.

The APS report indicates that lifestyle factors such as weight, diet and exercise, affect blood sugar control. Obesity contributes to the development of diabetes and its complications. People with diabetes are about twice as likely to be overweight. Physical activity is important in diabetes prevention and treatment. Smoking also increases the risk of cardiovascular disease related to diabetes[1].

Did You Know?? Treatment Costs...

One of every 7 dollars in Canada's health care system is spent on diabetes-related care or treatment of related complications[2]. This is estimated to total $5-6 billion a year. These direct costs include inpatient care; out-patient care, medications, medical equipment, supplies and lab tests. Indirect costs include transportation, lodging and family (child) care. The costs of treatment for diabetes is more than that used for cancer and heart disease combined.

Prevention is the Key

Healthy Eating and Diabetes

Approaches to modifying the meal plans of people with diabetes vary from one individual to another, depending on the diagnosis (Type 1 or Type 2). Variation also occurs because each person's eating habits are different.

Counselling for those individuals with Type 1 diabetes involves teaching clients to count carbohydrates to calculate insulin dose. Multiple daily injections with new insulins, often with very rapid action insulin, provides a meal plan closely related to a person's usual eating habits. This allows individuals a greater degree of timing of meals.

At least 90% of people with diabetes in the NWT have Type 2 diabetes. Those with Type 2 diabetes recognize that it is largely a problem of insulin resistance. Reducing fat intakes and reducing body weight, often by a modest amount of even 4.5 kg, can reduce insulin resistance. Generally, meal plans are low in fat and high in complex carbohydrates.

The Diabetes Education Program provides individualized counselling that takes into account usual eating habits, and makes as few changes as possible. The program also addresses any misconceptions about eating that still exist. For example, these include the notion that just cutting out sugar is "good enough," or that a person will get "sick" if they lose weight, and people with diabetes have to eat a lot of fresh fruits. The Diabetes Education Program can provide updates to other health professionals who are interested in more specific and up-to-date information.

Prevention is the Key

In the NWT, there is a unique opportunity to prevent the increased prevalence of diabetes already reported in some of the aboriginal populations in other parts of Canada. Acculturation, lifestyle and eating habits have occurred somewhat more slowly in the North. It is expected that trends seen in some Aboriginal populations in Canada will be seen in the NWT as well, unless there are aggressive strategies aimed at prevention.

A health promotion approach can focus on active living and a healthy lifestyle, including healthy eating, to maintain healthy weights. If prevention strategies, awareness campaigns and screening can be established, the trend can not only be reversed, but healthy lifestyles will also reduce the risk of many types of cancers, heart disease and other chronic diseases strongly associated with diabetes. Population-based prevention strategies that target all people is the best approach.

References:

1 Diabetes among First Nations People, Health Canada, 1998
2 Canadian Diabetes Association website: www.diabetes.ca
3 Diabetes Education Program statistics
4 GNWT Extended Health Care, Inuvik Office
5 Canadian Medical Association Journal. 1998 Clinical Proactive Guidelines for the Management of Diabetes in Canada. Supplement to CMAJ 1998; 159(8).

Recommendations for Screening

Early detection through screening for diabetes is recommended by the Canadian Diabetes Association:

- every 3 years after age 45;
- earlier or more frequent (e.g. annual screening) if: belong to a high risk population group (Aboriginal, Asian, Pacific Islander, African or Hispanic); or
- have a close relative with diabetes, are obese, have a low HDL or triglycerides.

Other significant risks include:

- history of impaired glucose tolerance,
- history of gestational diabetes and/or baby with birth weight >4.5 kg; or
- presence of hypertension or coronary artery disease.

The Diabetes Education Program Program Stanton Regional Hospital

In 1996, a Diabetes Education Program opened in Yellowknife. The program favours a learner-centered approach which focuses on personal experience and encourages self-management of diabetes. The program offers group and individual counselling to adults. People are referred by a physician or nurse to a three-day group session or self-referred to weekly drop-ins. Children are sent to Edmonton for treatment and education.

Educators (a dietitian, nurse, and other allied health workers) make available a wide range of resources as part of the eduction sessions. Learners choose what they wish to learn and which skills they want to improve. This includes such things as meal planning, shopping trips to the grocery store, better blood monitoring techniques, stress management and exercise.

Selected facts and figures from the Diabetes Education Program[3]:

- The program runs 24 weeks of the year
- 292 people with diabetes and 150 family members have been seen from April 1, 1996-March 31, 1998
- 158 of the 292 patients were aboriginal (Inuit, Dene, Cree, Metis)
- Of the 158 clients, 153 have Type 2 diabetes, 1 has Type 1 and 4 had gestational diabetes

For more info:

Diabetes Education Program, 867-669-3100

Canadian Diabetes Association, Alberta/NWT Division, Edmonton Branch 1-800-563-0032

Tobacco Enforcement

Karen Johnson
Research and Analysis Unit
Health and Social Services

Tobacco addiction is a serious public health problem in the NWT. More people die from cigarette use than AIDS, car accidents, alcohol, suicide, homicide and illegal drugs combined. Luckily death and disease related to tobacco use is preventable if people quit smoking or if they don't start in the first place. We need to focus anti-smoking efforts on the children and youth of the NWT to stop smoking before it starts.

Cigarette smoking has been related to an increased risk of heart disease, lung cancer, emphysema and other chronic lung diseases and with low birth weight. The survey, *Tobacco Use by Youth in the NWT*, conducted in 1993, revealed the high number of youth who smoke in the NWT. In the 15-19 year old category, 41% smoke regularly (daily) and 14% are occasional smokers. In the 10-14 year old category, 13% smoke occasionally (not every day) and 7% are regular smokers. Very few people, who start smoking before age 18 will be able to get over their addiction.

Federal Law

The federal *Tobacco Act* includes laws to control promotion, sales and packaging of tobacco products. The act describes in detail the laws that apply to stores that sell tobacco. Federal laws:

- prohibit selling or giving tobacco products to anyone under 18;
- don't allow self-serve displays;
- require photo identification to confirm the age of the buyer;
- require stores to post signs for health warnings and age limit in specific places; and
- describe the fines of up to $50,000 for repeated offences.

Territorial Law

The NWT has not made any laws relating to tobacco sales. Many of the provinces have passed their own laws. For example, British Columbia has changed the legal age for buying tobacco products to 19 years.

Municipal Law

Municipalities in the NWT have the power to make by-laws that cover smoking in public places. Exposure to harmful environmental tobacco smoke (second hand smoke) could be reduced if smoking was not allowed in public places. By-laws could increase public awareness of the bad effects of smoking on health and send a clear message, especially to youth, that smoking is socially unacceptable.

Tobacco Enforcement in Canada

Five provinces run their own tobacco enforcement programs. Depending on the province, the people who check on the stores that sell tobacco may be environmental health officers or tobacco enforcement officers. In Manitoba, finance department inspectors enforce the laws relating to selling tobacco products to youth.

Tobacco Enforcement in the NWT

The majority of adults who smoke became addicted before they were 18 years old. Thus, the laws that refer to selling or giving tobacco to youth need to be enforced. *Tobacco Use by Youth in the NWT* also revealed that 17% of youth below the legal age (16 at the time) tried to buy tobacco products. In the majority of cases (62%), underage youth were not asked their age. Only 23% of youth who were below the legal age were refused a tobacco sale.

Since 1994, the Tobacco Program of the Health Protection Branch of Health Canada has conducted annual enforcement tours of the NWT to inspect establishments selling tobacco products. These inspections were conducted under federal tobacco legislation, the *Tobacco Sales to Young Persons Act* and the *Tobacco Products Control Act.* These acts were replaced by the *Tobacco Act* in 1997.

Tobacco enforcement officers have covered Yellowknife, Hay River, Fort Smith, Enterprise, Fort Resolution, Fort Providence, Fort Simpson, Fort Liard, Rae, Edzo and Inuvik. Early inspections indicated problems with retailers not displaying the required federal age signage. These problems were voluntarily corrected when retailers posted signs provided by the tobacco enforcement officers.

With respect to selling tobacco products to young persons under the *Tobacco Act*, 11 non-compliant retailers were sent warning letters. Follow-up decoy compliance checks with these retailers indicated that none offered to sell tobacco products to the test shopper following the warning. On the last visit to Yellowknife, 15 compliance checks of other retailers indicated two non-compliant retailers. These stores have been sent warning letters. To date, the inspections and compliance checks conducted by the tobacco enforcement officers have not required federal prosecution.

The research study results and the federal inspections of stores selling tobacco products show that youth are able to buy tobacco products. Enforcement obviously helps by discouraging store owners to sell to under-age youth. Regular enforcement of the laws relating to the sale of tobacco products to youth is needed in the NWT.

Communicable Disease News Briefs

New Swab Transport Media Available

Effective September 15, 1998, a new and improved transport medium became available from the University of Alberta Provincial Laboratory of Public Health (Edmonton). This media is for the submission of specimens for viral, chlamydial, genital and respiratory mycoplasma and ureaplasma cultures.

The new multi-microbe transport medium M4 is pink in colour and is packaged in a plastic tube with a red top. It has a long shelf life and will replace the following:

- Virus culture transport medium (pink) - Virus swab kit;
- Mycoplasma pneumoniae transport medium (pink) - MP kit; and
- Chlamydia and ureaplasma transport medium (clear) - CHL kit.

M4 medium is available loose or in a kit called the MULTICULT kit. It can be ordered from the Laboratory Distribution Centre at 403-492-8971.

Instructions for use:

1 M4 Transport Media must be stored in the refrigerator (at 2-8° C) to prevent deterioration.

2 Allow the transport medium to come to room temperature before use. Check the expiry date indicated on the label. Do not use the medium if it has expired, is cloudy or has changed colour.

3 Use the appropriate swab to collect the specimen; place swab in the transport medium and snip off the shaft of the swab to accommodate the size of the tube.

4 Label the transport medium with the patient's name and the specimen collection site.

5 Provide one specimen in transport medium and a completed requisition per collection site. Include history on the requisition where appropriate.

6 Transport specimen to the laboratory on ice, as quickly as possible for optimal results. If transport is delayed, store specimens in the refrigerator.

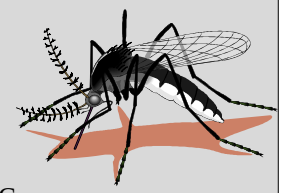
Additional information is available by calling 403-492-8962 or 403-492-8975.

Trichinosis in the Baffin

As of late October, there have been six positive cases of Trichinosis reported from one Nunavut community since early August. All known cases are being treated and any known contact or suspected contact is being investigated by environmental health officers. All cases reportedly consumed meat from a highly infected walrus. In total, there are 13 suspect cases, along with the six serology-positive cases. All suspect cases also consumed meat from this walrus. Much of the meat was eaten fresh and most of the meat had already been consumed before the outbreak was identified.

More information on the causes, identification and treatment of trichinosis is available from regional environmental health officers.

Canadians contracting Malaria on the rise

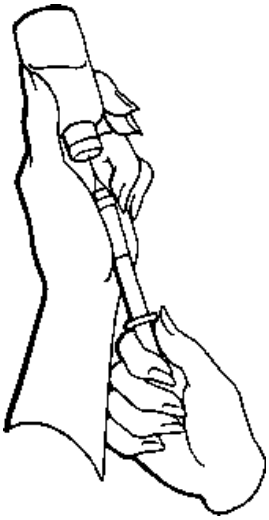


In 1996, 752 cases of Malaria were reported in Canada. This is a 73% increase from 1994. As of June 24 1998, 1036 cases were reported to the Laboratory Centre for Disease Control (LCDC) for this calendar year. Every year at least one case of malaria is diagnosed among travellers in the NWT. LCDC is recommending a high index of suspicion be maintained for the disease. Providing information to people travelling to endemic areas will also go a long way towards reducing these numbers.

In this regard, Health Canada has been promoting a 1997 publication entitled Canadian Recommendations for the Prevention and Treatment of Malaria Among International Travellers. It was published as a supplement to the Canadian Communicable Disease Report and was prepared by the Committee to Advise on Tropical Medicine and Travel (CATMAT).

The publication can be accessed through LCDC's web page (http://www.hc-sc.gc.ca/hpb/lcdc/malar97/index.html) or through the LCDC fax retrieval system FAXLINK by calling 613-941-3900 using the handset of your fax machine and following the instructions. A printed version can be obtained (for a fee) from the Canadian Medical Association at 613-731-8610 ext. 2307.

Guidelines for Childhood Immunization



Marnie Bell
Nursing Consultant
Health and Social Services

For the first time this year Canada has officially proclaimed a National Immunization Week from October 25-30, 1998. It is a time not only to promote the benefits of childhood immunization to the public but also for immunization providers to reflect on best practice.

What is best practice? Best practice reflects the attempt to deliver a service or program according to the current standards of the day. It means doing the best job we can. This article, Part one of two, focuses on ways immunization providers can achieve best practice. Part two, which will be printed in a future issue of *EpiNorth*, will shift focus to look at what managers and government can do to support and ensure best practice.

In the NWT, a dramatic decrease in Haemophilus B infections followed the introduction of Hib vaccine to infants in 1992. Similar success stories abound in Canada. Vaccines have impacted significantly on the morbidity of diseases like measles, polio, rubella, and pertussis. The epidemiology of such diseases in Canada before and after the introduction of vaccines are vivid examples of the benefits of immunization.[1]

Yet we cannot become complacent. In 1996, we saw outbreaks of measles in Alberta, mumps in BC and rubella in Manitoba. These have been attributed largely to inadequate immunization in certain populations.[2] Pertussis remains the most uncontrolled vaccine-preventable disease, with almost every province—including the Northwest Territories—reporting pertussis activity in 1996. Will the acellular pertussis vaccine formulation now in use, with its improved immunogenicity and decreased reactogenicty, remedy the situation?[3] Surveillance over the next few years is crucial to answering this question.

Instead of missing opportunities, we need to look for ways to maximize opportunities for administration of vaccines. Several of the guidelines will be looked at more closely. For a more complete set of guidelines, see the December 1, 1997 issue of the *Canada Communicable Disease Report*.

Before giving immunization

- ask if the child is well;
- question about potential contraindications;
- question about reactions to previous vaccines; and
- observe the child's general state of health.

Guidelines

There should be no unnecessary prerequisites or barriers to the receiving of vaccines.

While appointment systems are valuable, are there families for whom this system doesn't work? What alternatives will better meet the needs of those hard-to-reach families? How do you determine whether or not to vaccinate? The guidelines recommend, at a minimum, we assess the child's relevant history prior to administering vaccine.

Providers should educate parents in general terms about immunization.

Plain simple language is always the best when explaining the importance of immunization to parents; what disease is prevented, the recommended immunization schedule, the importance of children receiving vaccines at the recommended ages and the importance of bringing the child's health record to every health care visit. An ideal time to talk about these things is at the first postnatal home visit. It's a time to encourage parents to take responsibility for their child's health.

Providers should inform parents in specific terms about the risks and benefits of the vaccine their child is to receive.

Making sure parents are informed and voluntarily consent to immunization is fundamental to best practice. Ensure documentation is complete and all questions have been answered.

Providers should recommend deferral or withholding of vaccine for true contraindications only.

Studies continue to expand our understanding of immunization. Immunization providers must keep current to avoid perpetuating old immunization practices that no longer can be substantiated. Always check *EpiNorth* for highlights of new findings. The topic of contraindications is one which has seen major change. Several years ago, convulsions, high fevers or persistent inconsolable crying following DPT vaccine was reason to withhold further pertussis vaccination components - not now. There are very few true contraindications to vaccination as the table at the right shows. Assess each child's history to determine if any precautions or contraindications exist.

Providers should ensure that all vaccinations are accurately and completely recorded.

What to record:

- name of vaccine;
- date (d/m/y);
- route;
- name of vaccine manufacturer;
- lot number; and
- name and title of person administering the vaccine.

Providers should report clinically significant adverse events following vaccination - promptly, accurately and completely.

Best practice requires informing parents/guardians about the usual expected reactions associated with vaccination, as well as the unusual reactions that

Practices: A Closer Look (Part I)

could occur. Parents should be instructed to report these adverse events to the provider.

Providers should report all clinically significant events, regardless of whether the events are believed to be caused by the vaccine or not.

Reports are to be sent to the Health Protection Unit on the Health Canada form, *Report Of A Vaccine-Associated Adverse Event*. These reports are first reviewed by the Chief Medical Health Officer, then forwarded to Health Canada's Laboratory Centre for Disease Control. Prompt and complete reporting is essential for ensuring vaccine safety. Recommendations for immunization of that individual child may also result. Receiving this information also helps Health Canada to continually monitor and update information regarding vaccine risk-benefit and contraindications.

Providers should report all cases of vaccine-preventable diseases as required under provincial and territorial legislation.

The NWT Advisory Committee on Immunization urges you to use these guidelines in assessing and modifying your immunization programs for Well Children. This self-reflection will lead you to discover your best immunization practice. See the table below for more information on contraindications and precautions.

References

1 Paediatrics and Child Health (Vol. 3, Supplement B, March/April 1998) Canadian National Report on Immunization, 1997. Update on the epidemiology of selected vaccine-preventable diseases. Canadian Paediatric Society, Ottawa.

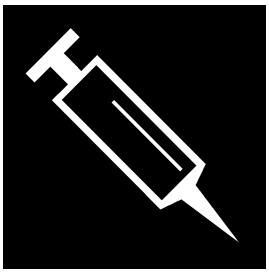
2 Canada Communicable Disease Report (December 1, 1997, Vol.23) Guidelines for Childhood Immunization Practices: An Advisory Committee Statement. Health Canada, Ottawa.

3 Canada Communicable Disease Report (July 15, 1997, Vol. 23) Statement on Pertussis Vaccine: An Advisory Committee Statement. Health Canada, Ottawa.

For more information on vaccines or immunization programs, contact Marnie Bell, Consultant, Primary Care or Wanda White, Communicable Disease Consultant

True Contraindications	Precautions*	Not Contraindications	
-Anaphylactic reaction to previous vaccine dose -Anaphylactic reaction to vaccine constituent -Moderate or severe illness with or without a fever		-Mild to moderate local reactions following injection of vaccine -Mild acute illness with or without a fever -Current antimicrobial therapy -Convalescent phase of illness -Prematurity -Recent exposure to infectious disease -Personal or family history of allergy, except personal history of anaphylaxis to one or more vaccine components	**All Vaccines**
BCG:- Immunodeficency state - Pregnancy - Positive TB skin test (mantoux) or previous history of TB - extensive active skin disease (weeping eczema, open sores) or burns - HIV infection or infants born to HIV infected mothers **DPT:** - Anaphhylactic reaction to previous dose of vaccine **IPV:** - anaphylactic reaction to neomycin Influenza - anaphylactic reaction to eggs **MMR:**- Anaphylactic reaction to neomycin - Pregnancy (The theoretical risk of fetal damage, if any, is very small. Thus rubella immunization in the first trimester should not be a reason to consider termination of pregnancy.) - Immunodeficiency state	**DPT:** -Hypotonic-hyporesponsive state within 48 hours of prior dose of DPT **MMR:** -Anaphylactic reaction to egg ingestion -Recent IG administration -Revaccination (2nd dose) in HIV infected persons	**DPT:** -History of pertussis -Fever > 40.5° C after prior dose of DPT -Family history of SIDS -Convulsions or persistent, inconsolable crying lasting > 3 hours,within 48 hours of prior dose of DPT -Family history of convulsions **HIB:** -History of HIB disease **HBV:** - Pregnancy **Influenza:** -Pregnancy **MMR:**-Tuberculosis or positive TB skin test (mantoux) -Simultaneous TB skin testing -Current antimicrobial therapy -Infection with HIV for 1st does if given at 12 months or shortly thereafter -Non-specific allergy	**Specific Vaccines**

***Precautions are not contrindications but should be carefully considered in determining the benefits and risks of administering a specific vaccine. If the benefits are believed to outweigh the risk (eg. travel), the vaccine should be given.**



Hepatitis B Vaccination Catch-Up Program

Wanda White
Communicable Disease Consultant
Health and Social Services

The Hepatitis B Virus (HBV) is one of the many causes of viral hepatitis, and HBV infection has been recognized as a cause of prolonged viremia. The main ways of contracting Hepatitis B Infection are: sexual transmission (up to 2/3 of all transmissions), intravenous drug use, vertical transmission (mother to child - prior to or during birth) and horizontal transmission, (most commonly - toddler to toddler, but also through sharing toothbrushes, etc.). No risk factor is identified in up to 40% of cases.

After the initial infection, some individuals recover completely, while a significant number of individuals become chronic Hepatitis B carriers, remaining infectious. The probability of becoming a chronic carrier is inversely related to age. Reports show that up to 90% of infants infected at birth from a Hepatitis B positive mother become chronic carriers, while between 25-50% of children infected under 5 years old become chronic carriers. Among acutely infected adults, only 6% become carriers. Chronic carriers are also at risk of developing chronic liver disease and primary liver cancer.

Hepatitis B viral infection is distributed widely throughout the world. It is estimated that there are approximately 300 million Hepatitis B chronic carriers worldwide, and 250,000 individuals die annually due to sequelae of Hepatitis B infection. Chronic viral hepatitis is also the main cause of liver failure requiring liver transplantation.

The Canadian National Advisory Committee on Immunization (NACI), in conjunction with the World Health Organization, has recommended that each province/territory implement a universal program for Hepatitis B. Most provinces have implemented a pre-adolescent program, while 3 have also introduced an infant program. The NWT implemented a program in 1995 with all newborns and Grade 4 students receiving Hepatitis B vaccine. However, the NWT is still documenting transmission of Hepatitis B in adolescents and young adults (see Tables 1 and 2).

Table 1: Acute Hepatitis B (1989-1997)

By Region		By Gender	
Nunavut	14	Male	13
Western Territory	15	Female	16

By Age					
0-5	**6-10**	**11-20**	**21-30**	**31-40**	**>40**
0	0	4	12	7	6

Total: 29 cases

Recommendations

On September 10, 1998, the Northwest Territories Advisory Committee on Immunization (NWTACI) recommended that the Department of Health and Social Services, together with health and social services boards, implement a Hepatitis B vaccination catch-up program as soon as possible. This would involve the unimmunized high school population which has been missed by the current newborns/Grade 4 program. This recommendation came after reviewing and considering the following:

- Hepatitis B is endemic in NWT.
- Cases of Hepatitis B continue to be reported in adolescents and young adults who are not immunized.
- Adolescents and young adults are more likely to contribute to the pool of chronic carriers and further spread of the disease. Since sexual activity is the major contributor to the transmission of Hepatitis B, stopping this transmission will contribute to reducing the development of serious chronic disease.
- Cost effectiveness studies have demonstrated that mixed programs targeting both infant and adolescent population for immunization significantly reduce incidence of disease and lead to the greatest savings. This is due to the elimination of childhood cases through vertical transmission and horizontal transmission. The vaccination of all adolescents provides good protection of teens and young adults which would further decrease the incidence in that age group.

Catch-Up Program

Knowing that Hepatitis B virus infection is endemic in the NWT, with a high prevalence in some communities, and in order to enhance the current strategy for infection control, the following immunization program will be implemented to prevent and control the spread of Hepatitis B in the NWT.

- Hepatitis B vaccine coverage of school grades from Grade 8-12 will occur in the 1998 to 2000 school years.
- As with the Measles catch-up program of 1996, the NWTACI recommends that the Hepatitis B vaccination catch-up program be

Overview of NWT Hepatitis B Catch-Up Program

Objective: By the end of June 2000, at least 80-85% of school children in Grades 8-12 in the NWT will be fully immunized for Hepatitis B.

Designated Group: Students currently in Grades 8 to 12.

Number/Year: 1500 students each cohort year

Total: Total of 9000 students to be immunized

Recommend: Three doses of 0.5/ml Hepatitis B immunizations/series

$8.95 for each dose; $26.85/series

undertaken in partnership with the boards, with the department covering the purchase of the vaccine and the boards providing the equipment and staff to deliver the program. A phased-in approach is also recommended, to make the extra workload more manageable for health centres and public health units, as well as meet fiscal restraints.

N.B. All regions were surveyed and voiced a preference for a blitz catch-up program over a one to two year period.

Hepatitis B immunization will be offered to Grade 11 and 12 students in the 1998/1999 school year. During the second year of the catch up program, students currently in Grades 9, 10 and 11 and/or those that remain unimmunized will be offered the vaccine to complete coverage. At the end of the 1999 and 2000 school years, each board will be expected to submit a summary of the total numbers vaccinated by community. The evaluation of this program will be instrumental in determining its effectiveness. Funding for the second phase will be released upon receipt of this report on the number and proportion of the target population that has been reached in phase 1.

Immunization does require individual consent and should also be recorded and reported on an individual basis according to the current reporting system.

Commonly Asked Questions:

Q. Can Hepatitis B vaccine be given in pregnancy?

A. There is always a concern in the adolescent age group about undiagnosed and undetected pregnancies. Pregnancy is not a contraindication for the use of Hepatitis B vaccine. Hepatitis B can result in severe infection in pregnant women and chronic disease in infants. Therefore the acceptable standard is to vaccinate. If the pregnancy is known, then, due to the lack of data on safety for the fetus, do not vaccinate. However, the risk is expected to be negligible since the vaccines consist of noninfectious units (*Canadian Immunization Guide*, 4th edition).

Q. Could the Hepatitis B vaccine be given with Tetanus and Diphtheria (Td).

A. Most of the commonly used antigens can be administered simultaneously. Hepatitis B and Td are inactivated vaccines The immune response of inactivated vaccines are comparable to that found in patients receiving vaccines at separate times. Knowing that one inactivated vaccine does not interfere with the immune response of another, no particular interval between inactivated vaccines need be respected. Inactivated vaccines can be given at the same time, but at different sites.

N.B. Not all live vaccines can be given at the same time, please refer to the *Canadian Immunization Guide*, page 13 for guidance on other vaccines.

For more information contact:

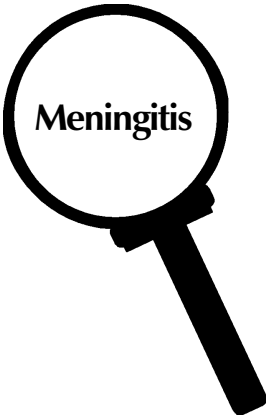
Wanda White, Communicable Disease Consultant or Marnie Bell, Consultant, Primary Health Care.

Table 2: Hepatitis B Carrier Identified (1989-1997)

By Region		By Gender	
Nunavut	87	Male	56
Western Territory	31	Female	62

By Age					
0-5	**6-10**	**11-20**	**21-30**	**31-40**	**>40**
1	1	6	13	13	84

Total: 118 cases



Meningitis in the NWT:

Cheryl Case
Communicable Disease Consultant
Health and Social Services

Any mention of the word "meningitis" evokes concern, not only with the public, but with public health practitioners as well. While there are always several cases of meningitis in the NWT each year (see Table 1), there have been 10 cases of meningitis reported in the NWT in the past 10 months. Several of these cases have received media coverage. This article will briefly examine the various types of meningitis, review case definition and epidemiology, as well as disease control measures. Case presentations from recent cases will illustrate several of these types.

Haemophilus Meningitis\ Invasive Infection

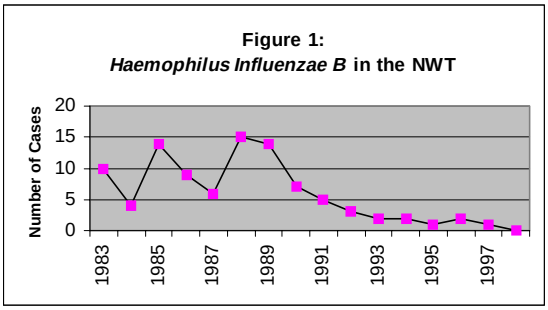
Prior to 1987, most cases of meningitis were caused by the bacteria Haemophilus influenzae type b (HIB) and generally occurred in children younger than two. HIB is a major cause of serious invasive infections in infants and young children. While it often presents as epiglottitis, arthritis, cellulitis, septicaemia or pneumonia, the most serious manifestation is meningitis. The HIB meningitis case-fatality rate is about 5%. Severe neurologic sequelae present in 10-15 % of survivors and deafness in 15-20%.

In 1987, an HIB vaccine was introduced in the NWT, but was only licenced for children over the age of two years, as this vaccine was unable to elicit a protective immune response in younger children. In 1988, a new vaccine conjugate (combined) was introduced which could be used for children 18 months and over. By 1992, another conjugate vaccine was produced which could be given to children at 2 months of age. It became part of the infants primary vaccine series and is truly a vaccine success story. Since that time, the numbers of invasive HIB infections have been less than 3 cases per year in the NWT. There have been no documented cases of HIB in the NWT in children who have completed their primary HIB vaccine series. Figure 1 illustrates the impact that the introduction of HIB vaccine has had in the NWT. There have been no cases of HIB meningitis to date in 1998. Prophylaxis with Rifampin should be administered as soon as possible to all close contacts exposed to the index case.

Table 1: Meningitis in the NWT

Disease	1993	1994	1995	1996	1997	1998 (to Sept 98)
Neisseria meningitidis	0	0	1	2	3	1
Streptococcal pneumonia	1	2	2	1	2	4
Viral meningitis	2	4	0	0	1	1
Unspecified/ Other bacterial	3	2	1	1	4	4
Hib meningitis	2	2	1	3	1	0
Total	**10**	**10**	**5**	**8**	**11**	**10**

Figure 1:
***Haemophilus Influenzae B* in the NWT**



Meningococcal Meningitis

Since the introduction of Haemophilus influenzae type b vaccination of infants, meningococcal meningitis has become one of the two leading causes of bacterial meningitis in young children. The causative agent is Neisseria meningitidis isolated from cerebrospinal fluid. Also an important cause of septicemia, N. meningitidis is a virulent gram negative diplococcus with multiple serogroups known to cause invasive disease. Serogroup C strains are isolated the most frequently and have been the strain most commonly associated with outbreaks.

The disease occurs most often in children younger than 5 years, but Canadian statistics indicate the incidence of disease has doubled since 1989 for those aged 5-19 years. Close contacts of patients with meningococcal disease are at an increased risk for developing infection. Outbreaks generally occur in semi-closed communities, including child care centres, schools, colleges and military recruit camps.

Prophylaxis with Rifampin should be administered to all close contacts exposed to the index case within 24-48 hours. The sooner prophylaxis is administered, the better. A meningococcal vaccine (immunoprophylaxis) to the most common types of N. meningitidis is available and is used sometimes in the management of outbreaks.

Case Presentation

F*ollowing a one day history of flu-like symptoms accompanied by a seizure, a young man presented to the health centre with a high fever and quickly went into systems failure. He died while arrange-*

A 1998 Update

ments for his medivac were being made. The body was sent for autopsy immediately. The following day, the Chief Medical Health Officer was notified by the Chief Coroner that the likely cause of death was meningococcal meningitis. Immediate action was taken to do a proactive investigation of people in contact with this index case. All identified contacts were screened for the classic symptoms of meningitis, which are stiff neck, vomiting, lethargy, seizures and rashes of unknown cause. Within 48 hours of the reported case, all close contacts had been given chemoprophylaxis and there were no other cases of meningococcal meningitis reported. This gave some assurance to the general public and health officials that this infectious disease had been halted.

Pneumococcal Meningitis

Pneumococcal meningitis is caused by the gram positive diplococci, Streptococcus pneumonia. There are 90 pneumococcal serotypes identified. Some serotypes are primarily prevalent in adults, others are more prevalent in children. Pneumococci are colonized in the upper respiratory tract of many people. Transmission is from person to person, presumably by respiratory droplet contact. Pneumococcal infections are most common in infants, young children and older adults.

Invasive pneumococcal infections are not considered highly infectious, therefore prophylaxis is not recommended. Although many people do colonize Streptococcus pneumoniae in their upper respiratory tract, pneumococcal infections often occur in people who have been weakened by flu, a bad cold, or some other type of acute or chronic illness. Pneumococcal vaccine will prevent pneumococcal pneumonia and invasive pneumococcal infection. Individuals at high risk should be vaccinated (see Canadian Immunization Guide for more information).

Case Presentations

Case 1: *A 44 year old man presented with a two day history of headache and fever. He had been out on the land hunting. Streptococcus pneumonia was isolated from the CSF obtained at admission to the Inuvik Hospital. He underwent antimicrobial treatment and recovered completely from the infection.*

Case 2: *A 7 month old Dene boy was brought to the Stanton Regional Hospital with symptoms of fever, seizures and bulging fontanelle. He had a one day history of fever, irritability and decreased appetite. Seizures were brought under control by treatment with Valium, Ativan and Dilantin. He was given ceftriaxone and medivaced to University of Alberta Hospital. Streptococcus pneumonia was isolated from CSF. Since receiving treatment in Edmonton, the child has returned to his home community and sequelae effects are still being investigated.*

Case 3: *A 30 year old Dene woman was found at her home by family with a seizure. She was medivaced to U of A Hospital where she died. This case was reported to the Health Protection Unit through the Coroner's Office. Laboratory testing done at the time of the autopsy revealed gram positive diplococci and was positive for an antigen specific to Streptococcus pneumoniae.*

Viral Meningitis

Often referred to as Aseptic Meningitis, the causative agents include Coxsackie virus, Echovirus, Mumps, Polio virus and Varicella. These viruses are spread by fecal-oral or respiratory routes. Infections and clinical attack rates are typically highest in young children, but infections also occur in adolescents and adults.

There is no prophylactic treatment available. There are preventative measures that should be taken. Since viral infections often manifest in the gastrointestinal tract as well, particular attention should be given to hand washing and personal hygiene, especially after diaper changing. Isolation of the infected person should be maintained until asymptomatic. As well, routine vaccination is offered to prevent mumps and polio virus infections.

Case Presentation

A 3 week old Dene boy was medivaced to Stanton Regional Hospital. The baby had been febrile for approximately 12 hours. The baby had been in contact with a relative who had a flu-like illness a few days prior to onset. Cerebrospinal fluid laboratory analysis revealed WBC 526 x 106/L (ref: 0-6 x 106/L) with 95% mononuclear cells. Viral cultures still pending.

Bacterial and viral meningitis continues to be a serious health concern as can be seen from the above cases. Quick identification of the causative organism is essential to stopping the spread of the disease, as intervention is directly related to the specific disease entity.

References:

1 Canada Communicable Disease Report. Volume 20-3. Guidelines for Control of Meningococcal Disease.
2 Red Book, 1997 ed. American Academy of Pediatrics. USA
3 Canadian Immunization Guide. 1998. 5th Edition. Minister of Public Works and Government Services Canada

For more information, contact the Health Protection Unit at 867-920-8646

Notifiable Diseases by Region: July-September 1998

	Disease	Month	Cumulative		Regions (YTD - 1998)				
		Jul-Sept 1998	1997 YTD	1998 YTD	Baffin	Ft. Smith/ Mackenzie	Inuvik	Keewatin	Kitikmeot
Vaccine Preventable Diseases	H. influenzae B	0	5	0	0	0	0	0	0
	Hepatitis B	1	3	3	0	2	1	0	0
	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	0	18	2	0	1	0	1	0
	Rubella	0	0	0	0	0	0	0	0
Sexually Transmitted/ Bloodborne Diseases	Chlamydia	308	717	817	241	229	118	157	72
	Gonorrhea	56	103	114	48	40	14	7	5
	Hepatitis C	5	17	25	0	18	5	1	3
	Hepatitis, Other	0	0	0	0	0	0	0	0
	Syphillis	0	0	0	0	0	0	0	0
Diseases by Direct Contact/ Respiratory Route	Chicken Pox	190	227	472	36	248	146	42	0
	Group A Strep	0	3	4	0	2	0	0	2
	Legionellosis	0	0	1	0	1	0	0	0
	Meningitis, Pneumococcal	4	1	4	0	3	1	0	0
	Meningitis, Other Bacterial	1	3	4	1	0	0	3	0
	Meningitis, Viral	1	1	1	0	0	0	1	0
	Meningococcal Infections	1	3	1	0	0	1	0	0
	Tuberculosis	2	26	22	16	4	0	1	1
Enteric, Food and Waterborne Diseases	Botulism	0	5	0	0	0	0	0	0
	Campylobacteriosis	7	13	11	0	9	1	0	1
	Cryptospridiosis	0	19	0	0	0	0	0	0
	E.Coli 0157:H7	0	6	0	0	0	0	0	0
	Food Poisoning	0	2	2	0	2	0	0	0
	Giardiasis	5	9	13	1	7	1	1	3
	Hepatitis A	0	0	5	0	5	0	0	0
	Salmonellosis	11	18	22	2	11	4	0	5
	Shigellosis	0	2	2	0	1	1	0	0
	Tapeworm Infestation	0	1	0	0	0	0	0	0
	Trichinosis	10	1	15	0	0	0	0	0
	Yersinia	2	0	2	0	0	0	0	2
Vectorborne/Other Zoonotic Diseases	Brucellosis	1	5	2	0	0	1	0	1
	Malaria	0	0	1	0	0	0	1	0
	Rabies Exposure	3	5	69	0	0	51	0	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

July 1998	August 1998	September 1998	
NWT 1: Gjoa Haven.			**Brucellosis**
NWT 3: Yellowknife	**NWT 4**: Yellowknife, 3; Cambridge Bay, 1.		**Campylobacteriosis**
NWT 119: Hay River, 40; Yellowknife, 18; Aklavik, 18; Ft Simpson, 10; Ft Providence, 9; Tuktoyaktuk, 7; Ft Mcpherson, 7; Rae Edzo, 6; Repulse Bay, 2; Tsiigehtchic, 1; Deline, 1.	**NWT 54:** Ft Providence, 17; Aklavik, 15; Yellowknife, 7; Hay River, 6; Ft Simpson, 5; Ft Liard, 2; Baker Lake, 1; Arviat, 1.	**NWT 17:** Repulse Bay, 10; Ft Providence, 5; Wrigley, 2.	**Chicken Pox**
NWT 85: Iqaluit, 12; Wha Ti, 7; Yellowknife, 7; Cambridge Bay, 5; Rankin Inlet, 4; Ft Liard, 3; Igloolik, 3; Inuvik, 3; Ft Simpson, 3; Ft Providence, 3; Hay River, 3; Baker Lake, 3; Pangnirtung, 3; Clyde River, 2; Aklavik, 2; Cape Dorset, 2; Arviat, 2; Grise Fiord, 2; Rae Edzo, 2; Rae Lakes, 2; Kugluktuk, 1; Gjoa Haven, 1; Ft Smith, 1; Lutselk'e, 1; Paulatuk, 1; Ft Mcpherson, 1; Pelly Bay, 1; Pond Inlet, 1; Broughton Island, 1; Taloyoak, 1; Wrigley, 1; Holman, 1.	**NWT 99:** Yellowknife, 14; Pangnirtung, 10; Arviat, 9; Kugluktuk, 6; Clyde River, 6; Inuvik, 5; Ft Providence, 5; Rankin Inlet, 5; Cambridge Bay, 4; Baker Lake, 3; Ft Smith, 3; Iqaluit, 3; Cape Dorset, 2; Tulita, 2; Wha Ti, 2; Hall Beach, 2; Ft Mcpherson, 2; Chesterfield Inlet, 1; Igloolik, 1; Arctic Bay, 1; Ft Resolution, 1; Ft Simpson, 1; Holman, 1; Lutselk'e, 1; Paulatuk, 1; Pelly Bay, 1; Rae Edzo, 1; Repulse Bay, 1; Resolute Bay, 1; Taloyoak, 1; Tuktoyaktuk, 1; Whale Cove, 1; Hay River, 1.	**NWT 124:** Iqaluit, 23; Arviat, 13; Yellowknife, 10; Rankin Inlet, 7; Kugluktuk, 6; Wha Ti, 5; Baker Lake, 5; Pangnirtung, 5; Inuvik, 5; Rae Edzo, 3; Cape Dorset, 3; Cambridge Bay, 3; Hay River, 3; Gjoa Haven, 2; Ft Smith, 2; Arctic Bay, 2; Clyde River, 2; Holman, 2; Whale Cove, 2; Paulatuk, 2; Pond Inlet, 2; Tuktoyaktuk, 2; Repulse Bay, 2; Ft Mcpherson 1; Tsiigehtchic, 1; Taloyoak, 1; Sanikiluaq, 1; Igloolik, 1; Deline, 1; Kimmirut, 1; Ft Providence, 1; Ft Simpson, 1; Resolute Bay, 1; Grise Fiord, 1; Lutselk'e, 1; Coral Harbour, 1.	**Chlamydia**
NWT 2: Hall Beach, 1; Holman, 1.	**NWT 2:** Rae Edzo, 1; Yellowknife, 1.	**NWT 1:** Ft Simpson.	**Giardiasis**
NWT 12: Iqaluit, 7; Yellowknife, 3; Grise Fiord, 2.	**NWT 16:** Yellowknife, 5; Pangnirtung, 2; Tulita, 1; Rae Edzo, 1; Lutselk'e, 1; Ft Simpson, 1; Ft McPherson, 1; Chesterfield Inlet, 1; Cape Dorset, 1.	**NWT 28:** Yellowknife, 7; Iqaluit, 5; Inuvik, 4; Rankin Inlet, 2; Paulatuk, 2; Lutselk'e, 2; Tuktoyaktuk, 1; Rae Lakes, 1; Pangnirtung, 1; Kugluktuk, 1; Grise Fiord, 1; Ft McPherson, 1.	**Gonorrhea**
		NWT 1: Rae Edzo	**Hepatitis B**
NWT 1: Hay River.	**NWT 1:** Yellowknife.	**NWT 3:** Yellowknife, 2; Aklavik, 1.	**Hepatitis C**
NWT 1: Fort Good Hope.	**NWT 4:** Coral Harbour, 1; Ft Providence, 1; Rae Edzo, 1; Repulse Bay, 1.	**NWT 2:** Ft. Providence, 1; Tuktoyaktuk, 1.	**Meningitis**
NWT 2: Deline, 1; Tuktoyaktuk, 1.			**Rabies Exposure**
NWT 3: Hay River, 2; Holman, 1.	**NWT 5:** Ft Good Hope, 1; Ft Resolution, 1; Ft Resolution, 1; Ft Simpson, 1; Pond Inlet, 1; Rae Edzo, 1.	**NWT 3:** Kugluktuk, 1; Aklavik, 1.	**Salmonellosis**
NWT 5: Coral Harbour.	**NWT 1:** Pangnirtung.	**NWT 3:** Rankin Inlet, 2; Pangnirtung, 2.	**Trichinosis**
NWT 1: Iqaluit.		**NWT 1:** Baker Lake	**Tuberculosis**
NWT 2: Holman			**Yersinia**

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 Office**r within the time frame legislated in the *Public Health Act*/*Communicable Disease Regulations*.

Letters to the Editor

The past two issues of EpiNorth have generated several comments from readers. All letters are welcome. Here are a few letters which were received.

Active Living: Not So Easy!

I would like to make a comment with regard to the article on active living in EpiNorth [Summer, 1998]. I have lived in the north for over 13 years and in that time I have lobbied, petitioned, begged, etc. to improve the conditions on our streets for bikers and walkers. To date, nothing has changed. In my community, the town has spent millions of dollars on a beautiful rec centre, but refuses to spend any money putting in sidewalks or bike paths. Not everyone wants to go to the rec centre or, for that matter, may not be able to afford to go there. The lighting in some parts of town in inadequate or nonexistent. All these things are barriers to people having easy, cheap, outdoor exercise. I have spent time in a number of other northern settlements and experienced this situation. If we, as health care workers band together for change in the settlements, we may convince the powers that be to take steps to encourage people to walk to work without risking their lives. Participation is fine, but not if it endangers your life. Finally, if the vehicles don't get you, the dogs certainly will! *Concerned citizen and public health nurse*.

Statistics Questioned

This issue of EpiNorth was excellent [Summer, 1998], however, I would like to point out something which I found to paint an incorrect picture of breast cancer screening in the NWT. In the "Fast Facts" section...I believe that there should have been some sort of indication that not all regions of the NWT send their patients to Stanton Regional Hospital for diagnostics.

Author's note *— It is correct that not all regions send their patients to Stanton Regional Hospital (SRH) for diagnostics. It is also true that some women receive screening outside of the NWT, usually when travelling and generally arranged by these individual women. However, the data presented were for screening mammography done in the NWT, and SRH has been the only centre in the NWT which has offered this service. This will be changing, however, as H.H. Williams Memorial Hospital has contracted Alberta Screen Test to offer mobile screening to the women in Hay River. Other centres will be offering screening early in 1999. A reminder to readers that diagnostic mammography refers to investigative mammograms whereas, screening mammography refers to mammograms done on asymptomatic women, based generally on age or other risk factors.*

If you have any comments or questions about this or any other issue of *EpiNorth*, please direct them to: Editor, *EpiNorth* (see front cover for address).

Screening: A Balanced Approach?

The following letter to the editor was received from the NWT Breast Cancer Working Group. They requested the printing of this letter. It has been edited due to space constraints.

We would like to comment on the article in the Spring 1998 edition of *EpiNorth* entitled "To Screen or Not to Screen?" While the title implies a balanced discussion of advantages and disadvantages of screening, the article downplays the importance of screening. In 1997 the Canadian Cancer Society and the National Cancer Institute of Canada held a workshop to identify key strategies for cancer control in Canada in the next decade. The workshop report states, "Early detection and intervention in cancer by screening will be a key strategic opportunity in the next decade. Good evidence already exists that population screening of women age 50-69 for breast cancer and for cervical cancer in women ages 20-69 can substantially reduce mortality from these diseases...." We hope that the intent of the article was not to discourage initiatives to establish organized screening mammography programs here, the last jurisdiction in Canada to be without such a program. Early detection is essential to saving lives.

Author's note *— The purpose of this article was to clear up some common misconceptions regarding screening and some of the considerations for developing screening programs. Screening begins in utero and continues throughout the lifespan in a number of different ways. While some screening methods are simple and inexpensive (such as taking a weight or doing a blood pressure), other methods are much more complex and expensive (such as amniocentesis). Therefore, rather than offering population-wide programs, screening may be offered to a more select group. This article was meant to be a general overview of screening criteria, and certainly was not meant to highlight any one type of screening practice or de-emphasize another. The examples, from a number of different areas, were used to illustrate the various points, but not meant to diminish the value of these methods when used in the appropriate context. There is no argument that screening mammography is a valuable tool in the ongoing early detection of breast cancer. The NWT Guidelines for Breast Cancer Screening (1997) identify the following components for breast cancer screening programs: Breast Self Examination (BSE), Clinical Breast Exam (CBE), screening mammography and education programs. Therefore, it is the position of the Department of Health and Social Services to emphasize all forms of breast cancer screening. Promotion of breast cancer screening programs, however, was not the purpose of this article.*