



ENORTH

The Northwest Territories Epidemiology Newsletter

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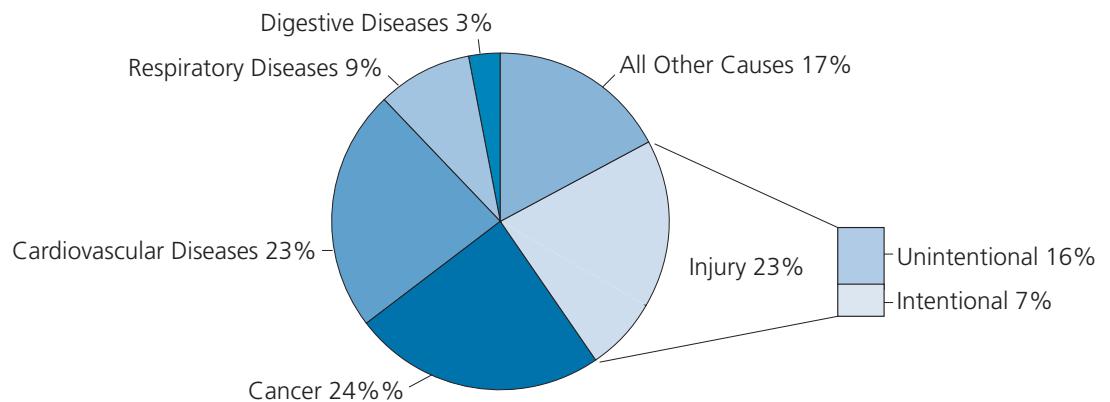
Overview – Injury in the Northwest Territories

Anthony Leamon, Senior Health Analyst, Department of Health and Social Services

Injury is one of the most serious public health issues affecting residents of the Northwest Territories. While many NWT residents might consider cancer, heart disease and infectious disease more serious threats to their health and well-being, injuries are one of the leading causes of death and disability in the territory.

This summary provides an overview of the extent and nature of injuries in the Northwest Territories. Injuries are compared to other causes of death and hospitalization. Mortality and hospitalization rates for unintentional and intentional injuries are compared with Canadian rates. The profile also presents trends in intentional and unintentional injury rates over time.

Figure 1
Leading Causes of Death, NWT, 1990-1999 (n=1,432)



Source: NWT Vital Statistics

Injury is one of the leading causes of mortality and morbidity for all residents of the Northwest Territories and the leading cause of premature death. More residents between one and 44 years of age died as a result of injury than from all other causes combined. Suicide was the leading cause of injury mortality in the NWT followed by motor vehicle traffic crashes and drowning. Unintentional falls were the main cause of injury-related hospitalization. Self-inflicted injury was second, followed closely by injuries sustained from interpersonal violence. Motor vehicle traffic and off-road vehicle crashes were also important causes of injury-related hospitalizations. Injuries tend to cluster around different groups of people determined by age, sex, ethnicity and community of residence.

HOW TO REACH **EPI**NORTH

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Editor's Notes

Deb Bain, Interim Managing Editor, EpiNorth, Department of Health and Social Services

September is often treated like the beginning of a new year – a time to make new resolutions after the indulgences of summer.

And just like in January, we resolve to exercise, eat better, learn something new, be healthy. Whatever it was we did not do in the first eight months of the year, we try to accomplish in the remaining four months before we start all over again. With that in mind, this issue of *EpiNorth* addresses a variety of safe and healthy lifestyle activities and behaviours.

Anthony Leamon submits an overview of the extent and nature of injuries in the Northwest Territories. The article highlights the magnitude of the problem, leading causes of injury, at-risk groups and risk factors. The second installment will appear in Volume 16, Issue 4 and offer more in-depth analysis and detailed data tables that illustrate the impact of injury on the health and welfare of residents of the NWT.

Dr. Amy Hendricks presents a fictional but typical example of a patient with heart trouble and addresses the types of and treatments for cardiovascular disease. She also outlines the range of care provided in the NWT and emphasizes the unique challenges of treating patients with cardiovascular disease in the north.

Wanda White provides information for community and public health nurses preparing for the seasonal immunization programs. This summary includes an overview of the 2003-2004 influenza season, the strains of influenza vaccine for the 2004-2005 season and reasons for immunization. A list of risk groups who should be offered the vaccine free-of-charge is also included.

Alana Kronstal offers an account of Dr. Jack Newman's breastfeeding seminar and public

information sessions that were part of a two-day conference in both Yellowknife and Inuvik earlier this year. Dr. Newman, a Toronto pediatrician, holds breastfeeding clinics in several hospitals in the Toronto area. He is a consultant with UNICEF's Baby Friendly Hospital Initiative and a popular speaker at breastfeeding conferences across North America and internationally.

In this issue we are happy to include a letter to the editor from Robyn MacQuarrie, a medical student from Dalhousie University in Halifax. Robyn spent six weeks in Yellowknife this summer working for the Department of Health and Social Services', Health Protection Unit. She had the opportunity to shadow community physicians and was able to visit some of the communities with them. In her letter, she writes about her experience in Wha Ti.

Since this issue covers an array of topics and information, *Health.online* considers how and where we get our facts, figures, statistics and other data that we use professionally and personally. Many of us rely on the Internet as a key source of information. The article takes a broad look at the challenges and opportunities concerning the use and application of the Internet for healthcare practitioners in the north.

Each of you are encouraged to respond to topics that appear in *EpiNorth* or to write about your experiences and/or insights regarding general healthcare issues. Sharing your thoughts, ideas, comments and concerns prompts others to consider new perspectives and expand their horizons. In this way, we can all participate in informing and educating one another and everyone benefits.

Helping to keep you informed in order to live healthy and happy lives.

Overview – Injury in the Northwest Territories

Continued from page 1

Information regarding risk factors and other events that led to the injury was not available in the data collection systems examined (i.e., deaths and hospitalizations). A number of possible injury risk factors were identified using available coroners' reports, survey results, traffic collision reports and literature reviews. Intoxication was identified as one of the most important risk factors for a large number of different types of injury in the territory. Failure to engage in injury-preventing behaviours such as wearing a seatbelt when in a motor vehicle, wearing a PFD when in a boat and wearing a helmet when riding a snowmobile or ATV were also identified as risk factors.

It is important to point out that mortality and hospitalizations represents the tip of the injury iceberg. For every NWT resident who dies or is hospitalized due to injury, many more are seen at a community health centre, hospital emergency room or physician's office.

The first step in reducing injuries in the Northwest Territories is to improve awareness and understanding of injuries as a major public health and safety issue that are both predictable and preventable rather than unfortunate accidents that occur by chance. Local governments, public health officials, healthcare providers, law enforcement and fire services personnel, transportation officials, community groups and schools all have a part to play in reducing the high levels of injury mortality and morbidity in the Northwest Territories.

Coalitions and partnerships need to be encouraged and supported. The more widespread and coordinated the efforts, the more likely we are to see a reduction in injury. Leadership and coordination is required to bring together diverse groups to focus on integrated community-level interventions that consider multiple risk factors within the context of people's lives and use multiple strategies in comprehensive approaches to injury prevention and control.

Further details identifying trends in injury rates, types of injuries, similarities and difference between the sexes, age groups, ethnic groups and communities of residence and risk factors, as well as injury prevention, will be addressed in Volume 16, Issue 4 of *EpiNorth* which will be published in December 2004.

Key Findings

Magnitude of the Problem

- Between 1990 and 1999, injuries accounted for 23% of all deaths among NWT residents, about the same proportion as deaths due to cancer and cardiovascular diseases such as heart attacks and strokes.
- Injury was the leading cause of premature death accounting for 30% of all deaths among residents less than 74 years of age, followed by cancer at 24%. More NWT residents between one and 44 years of age died as a result of injury than from all other causes combined.
- When hospitalizations due to pregnancy and childbirth are excluded, injury was the third leading reason for all hospitalizations among NWT residents between fiscal years 1995/96 and 1999/2000. It was the second leading cause of hospitalization for those between one and 44 years of age.
- After differences in the age distribution of the two populations were taken into account, NWT residents were 2.3 times more likely to die because of an injury than were Canadians as a whole.
- The injury hospitalization rate for NWT residents was 2.2 times higher than the age-adjusted Canadian rate.

Trend in Injury Rates

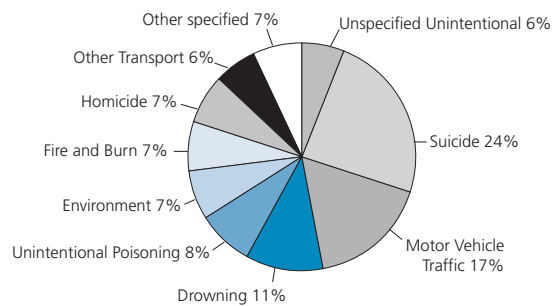
- While there appeared to be a slight decline in the overall injury mortality rate in the NWT during most of the 1990's, the decrease was not statistically significant.

- There was no significant change in the hospitalization rate for all injuries between fiscal years 1995/96 and 1999/2000.

Leading Causes of Injury

- The term “injury” encompasses many types of injuries (e.g. head injuries, fractures, burns), any of which arise from a wide range of external causes or mechanisms. Suicide was the leading cause of injury mortality in the NWT accounting for 24% of deaths.
- Motor vehicle traffic crashes involving automobiles, trucks and motorcycles known or assumed to be traveling on public roads or highways accounted for 17% of all injury-related deaths.
- Injuries associated with other means of transportation including snowmobiles, other off-road motor vehicles not in traffic, and aircraft accounted for 6% of deaths.

Figure 2
Leading Causes of Injury Mortality,
NWT 1990-1999 (n=331)

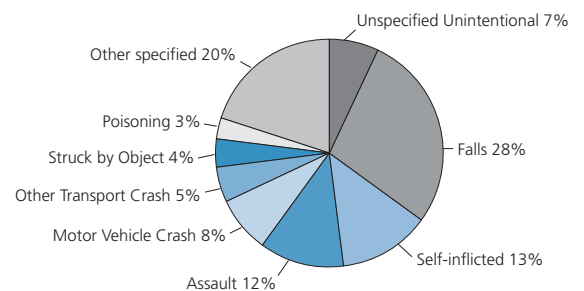


Source: NWT Vital Statistics

- Combining other transportation and motor vehicle traffic crashes means that vehicle-related incidents accounted for 23% of all injury deaths in the NWT during the study period.
- Drowning was another important causes of injury mortality accounting for 11% of deaths.
- Unintentional falls were the main cause of injury-related hospitalization accounting for 28% of all cases.

- Self-inflicted injury was the second leading cause of injury-related hospitalization (13%) followed closely by injuries sustained from interpersonal violence (12%).
- Motor vehicle traffic crashes accounted for 8% and crashes of off-road vehicles such as snowmobiles and all-terrain vehicles accounted for another 5% of injury-related hospitalizations.

Figure 3
Leading Causes of Injury Hospitalization,
NWT 1995/96-1999/2000 (n=3,220)



Source: CIHI Discharge Abstract Database

At-Risk Groups

- Injuries in the NWT tend to cluster among different groups of people determined by age, sex, ethnicity and community of residence.
- In general, over half of injury deaths and hospitalizations occur among individuals between 15 and 44 years of age. However, injuries remain a significant cause of death throughout life.
- Seniors had the highest injury-related mortality and hospitalization rates. The high rate is due to the number of deaths and hospitalizations relative to the small number of people in this age category. Moreover, when injuries do occur in this group, their consequences and potential complications are often more severe.
- Children less than 15 years of age had the lowest risk of injury death or hospitalization. The risk of injury death and hospitalization jumped dramatically for youth and young

adults. People between 15 and 24 years of age had the second highest injury mortality rate and the third highest injury-related hospitalization rate.

- Males accounted for 78% of all injury deaths and 60% of all injury-related hospitalizations. The injury mortality rate for males was over three times higher than the rate for females and men were 1.4 times more likely than women to be hospitalized due to an injury.
- The injury mortality and hospitalization rates among Inuit and Dene were over two times higher than the rates for other NWT residents.
- Individuals living in one of the smaller communities in the NWT or in one of the regional centres of Hay River, Fort Smith or Inuvik were more likely to die or be hospitalized due to an injury than were residents of Yellowknife.

Risk Factors

- Some groups have greater risk of injury due to more frequent exposure to certain environments, equipment, or activities. For example, males and residents of smaller communities are more likely to operate a boat or snowmobile because of traditional lifestyles or recreation. Their greater exposure explains in part their higher rates of injury from boat and snowmobile-related activities. However, a number of personal, behavioural and environmental risk factors may also be at play.
- Intoxication is perhaps one of the most important behavioural risk factors for injury in the NWT. A review of Northwest Territories Coroners' Reports for the years 1999 to 2001 found that alcohol was a contributing factor in 44% of all unintentional injury deaths and 39% of all suicides investigated. A recent survey found that regular heavy drinking, a pattern that tends to put people at higher risk of injury, was more prevalent among males and residents of smaller communities.
- The benefits of seatbelt use in reducing the severity of injury resulting from a motor vehicle traffic crash is well established. However, results from the 1999 Safety and Injury Survey show that 62% of NWT residents 15 years of age and older said they always use a seatbelt when riding in a car or truck. This proportion dropped to 51% for residents of the smaller communities in the territory.
- Failure to wear a personal flotation device (PFD) while in a boat is one of the most significant risk factors for drowning. According to the 1999 Safety and Injury Survey, only 53% of residents of the smaller communities in the NWT indicated they always wore a PFD when in a boat.
- Injury risk factors not only include more immediate personal health practices such as heavy alcohol consumption, but also include more indirect or underlying determinants such as socio-economic status, quality of the physical environment, education levels and self-esteem, all of which impact a person's life experience and personal choices, and eventually on their risk of injury. Results from the 2001 Census show that residents who live in smaller NWT communities tend to have lower incomes, lower levels of education and experience, and more unemployment than residents of larger centres.

The Unique Challenges of Caring for Northern Patients with Cardiovascular Disease

Dr. Amy Hendricks, Internal Medicine Specialist, Stanton Territorial Health Authority

Felix Cordis, a 64-year-old patient from Fort Faraway, NWT, arrives at his local health centre complaining of chest pain and shortness of breath which began while he was shoveling his skidoo out of a snow bank. He is seen by a nurse who performs an electrocardiogram (ECG) as part of an initial assessment. The ECG reveals an acute myocardial infarction, and after discussion with the physician on call at Stanton Territorial Hospital, the patient is transported by medevac to the emergency room in Yellowknife. He receives thrombolysis and is admitted to the intensive care unit where treatment also includes aspirin, beta blockers, a lipid-lowering medication and an ACE-inhibitor.

Felix initially does well, but on his third day in hospital he develops further chest pain. His ECG suggests recurrent ischemia and his attending physician requests transfer to Edmonton for urgent coronary angiography. Felix is medevaced to an urban coronary care unit. Cardiac catheterization performed soon after his arrival in Edmonton reveals a 99% stenosis of his left anterior descending coronary artery (LAD). The blocked artery is opened and stented with resolution of his chest pain and good perfusion demonstrated after the stent is placed. Some of his other coronary arteries are partially blocked (20-30%) but they are not considered responsible for his heart attack. He remains in Edmonton for a couple of days before being discharged home on several medications and instructions to have a stress test performed in six weeks.

Six weeks later, Felix arrives in Yellowknife for his stress test under the care of an internal medicine specialist. He has had no further chest pain and is feeling quite energetic. He walks on a treadmill for ten minutes during his stress test and has no chest pain or concerning ECG changes during the test. The internist reassures him that he does not

require further cardiac procedures at this time. He should continue his medications, have his cholesterol level checked and report to the health centre immediately if he has recurrent chest pain.

“Why do I have to keep taking all these pills?” asks Felix. “My heart attack was treated and I feel fine now.”

Although Felix and his community are imaginary, this case demonstrates some of the unique challenges of caring for northern patients with cardiovascular disease. This scenario provides the opportunity to review some principles of identifying and treating cardiovascular disease with an emphasis on how this care is currently provided in the Northwest Territories.

Heart disease is the most common cause of adult death in North America and hundreds of patients in the NWT are evaluated each year for the possibility of coronary artery disease. However, many patients with significant heart disease do not have any abnormalities of their coronary arteries. Abnormal heart valves, uncontrolled hypertension, excessive alcohol consumption, arrhythmias and (in rare cases) viral infection are some of the non-ischemic conditions that can lead to heart failure. Nevertheless, a major goal of cardiovascular care is the prevention of ischemic events such as myocardial infarction, unstable coronary syndromes and stroke.

Both primary prevention (i.e., the prevention of a first event in a healthy patient) and secondary prevention (e.g., the prevention of a second heart attack) follow similar principles. Many patients, like Felix, think of a heart attack as an acute problem requiring short-term management. However, coronary artery disease, which may manifest as myocardial infarction,

angina, sudden death, or heart failure, is a chronic and often diffuse condition. In Felix's case, a heart attack resulted from complete occlusion of one coronary artery with plaque and thrombus. His other coronary arteries however, are also compromised by atherosclerosis and he is at increased risk of atherosclerotic disease in other vascular beds (stroke, peripheral vascular disease, and renal artery stenosis).^{1,2}

Several modifiable factors influence the rate at which atherosclerosis develops. Many clinical trials have demonstrated that smoking cessation and aggressive control of blood pressure and cholesterol levels significantly reduce the risk of a first or subsequent heart attack.

- Benefits of aspirin: A meta-analysis of randomized clinical trial showed that among 135,000 patients with cardiovascular disease, aspirin reduced the risk of myocardial infarction, stroke and vascular death by 22%.³
- Benefits of smoking cessation: An analysis of 12,603 smokers with coronary artery disease demonstrated that those who stopped smoking reduced their risk of death by 36%.⁴
- Benefits of lipid-lowering agents: The "4S" study evaluated 4,444 patients with ischemic heart disease and demonstrated that simvastatin, a cholesterol lowering agent, reduced mortality, major coronary events and stroke risk by 33%.⁵
- Benefits of an ACE-inhibitor: In patients with vascular diseases or diabetes, treatment with an ACE-inhibitor reduces risk of MI, stroke or cardiovascular death by 22%, independent of other therapies including aspirin, beta blockers and lipid-lowering drugs.⁶
- Benefits of beta blockers: Beta blockers are recommended long-term therapy in most patients with myocardial infarction. In high-risk patients, beta blockers reduced mortality by up to 40% within the first 33 months post-MI.⁷

Felix's medications include a beta blocker, aspirin, a lipid-lowering agent and an ACE-inhibitor. His internist encourages him to continue taking his medications and discuss any side effects with the nurse at the Fort Faraway Health Centre. The nurse, in turn, will fax blood test results and clinical assessments to the internist so that Felix's medications can be adjusted to reach target blood pressure and cholesterol levels. He is also seen by the family physician who serves the community with regular visits.

NWT patients with coronary artery disease have access to medical therapy and clinical follow-up through their community health centres. Exercise stress testing using a treadmill and continuous ECG monitoring is performed by internal medicine specialists in Yellowknife. During travel clinics to Inuvik and Hay River, the internist may also perform stress tests for patients served by these centres which have recently acquired treadmill testing capacity.

If a patient requires coronary angiography, travel to Edmonton becomes necessary. Angiography is an invasive test which allows imaging of actual coronary artery anatomy. Although it carries a small risk of arrhythmia, myocardial infarction, or a reaction to the contrast agent, angiography is the test of choice for patients suspected of having severe coronary artery disease and patients with disabling angina on maximal medical therapy. Many patients with significant blockages in their coronary arteries undergo balloon angioplasty and stenting of one or more stenoses during the same procedure. Some patients are referred for bypass surgery if their coronary artery disease, as demonstrated by angiography, is severe enough to require surgery. The population of the NWT (and Nunavut) is too small to warrant angiography services since the quality and safety of the procedure depend on a large number of procedures being performed on a regular basis. Cardiac surgery is usually available in the same facility to deal with complications such as coronary artery dissection.

Other kinds of cardiac tests indirectly provide information about the presence and severity of coronary artery disease. Patients with positive or inconclusive treadmill tests are sometimes referred to Edmonton for either stress echocardiography or myocardial perfusion imaging. These tests are noninvasive and are used to rule out severe coronary artery disease without subjecting patients to the risk of angiography. Stress echocardiography uses a comparison of ultrasound images of the heart muscle before and after exercise. Myocardial perfusion imaging compares blood flow to the heart muscle before and after exercise. Both tests can be performed with medication-induced stress to increase the heart rate in patients unable to exercise due to arthritis, paralysis or other disability. The principle of both tests is the same: an area of muscle that is supplied by a nearly-blocked artery will have relatively normal motion and blood flow at rest, but will develop abnormal motion (on echocardiography) due to decreased perfusion (on MPI) with exercise or pharmacologic stress. Like angiography, these tests require expertise and resources not currently available in the north and do not entail the same risks for the patient. Patients with significantly abnormal stress echocardiography or MPI are generally referred for coronary angiography and revascularization by either angioplasty or bypass surgery.

Achieving optimal cardiovascular health outcomes for northern patients ultimately depends on a combination of lifestyle modification (smoking cessation, weight control and exercise), medical treatment of blood pressure and cholesterol to recommended targets (generally 130/85 and LDL \leq 2.6 respectively) and revascularization of specific patients judged to be at high risk of cardiovascular death based on symptoms, stress testing and risk profile. The largest proportion of medical attention and expense, in Felix's case, was focused on dealing with an acute problem – his heart attack. However, his long-term health

ultimately depends on lifestyle and risk factor modifications that occur at the individual and community level. As atherosclerosis is viewed increasingly as a chronic disease requiring lifelong treatment, patients and their primary care providers can take measures to decrease the chance that intensive cardiac care or invasive procedures will be required in the future.

A great deal of cardiovascular care is delivered at the community level with patients being referred to regional centres for stress testing or to Edmonton for more specialized cardiology care. Areas for development in the future might include a more extensive cardiac rehabilitation program for patients interested in pursuing exercise as part of their cardiac care program.

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Summary of Preparation for 2004-2005 Influenza Season

Wanda White, Communicable Disease Specialist, Department of Health and Social Services

Community and public health nurses must start early to plan for seasonal immunization programs. Late summer/early fall is the time to order and prepare for school and community immunization programs, such as Hepatitis B, Adacel, Pneumococcal and Influenza.

Of particular importance are the requirements for the influenza vaccine program due to the fact that the influenza vaccine content changes every year to reflect the current and projected circulating strains of influenza virus. The World Health Organization (WHO) and National Advisory Committee on Immunization (NACI) have recommended the following strains be included in the influenza vaccine for the 2004-2005 season:

- A/New Caledonia/20/99 (N1H1)-like;
- A/Fujian411/2002(H3N2)-like; and
- B/Shanghai/361/2002-like viral antigens.

The influenza vaccine should be given in late October or early November to achieve peak seroprotective levels during the traditional periods of high influenza activity which usually last from mid-December to April. For a list of the vaccines that should be offered free of charge, please see Box 1. The following immunization programs are also routinely offered in the fall:

- Pneumococcal (for all those age 65 and over and those with chronic health conditions such as diabetes, asthma, cardiac and immunosuppressed conditions);
- Hepatitis B (Grade IV Program);
- Grade IX Adacel Program (tetanus, diphtheria, and acellular pertussis boosters); and
- Synagis (RSV Immunoglobulin Prophylaxis) for children born less than 32 weeks gestation who have severe cardiac disease and/or with bronchial pulmonary dysplasia.

Last year (2003/04) the influenza season came early and a new strain of A/Fujian influenza was

circulating. However, the vaccine program could not be started until mid-October due to the lateness of the vaccine shipment.

Reports of severe illness and incidences of influenza increased in 2003/2004. In the NWT, four deaths associated with influenza were reported in the elderly, while no deaths were reported in the immunized population. Last year's influenza vaccine only provided partial protection against A/Fujian influenza, but this year's vaccine contains that particular strain. Each year the strains of influenza contained in the vaccine change to combat the influenza that is circulating. Some years there are changes in the existing strains or a new strain occurs, so the vaccine does not provide full protection for the upcoming season. Good immunization coverage will give the best protection available to prevent severe disease from influenza. Even if it does not provide full protection, as in last year's vaccine, it will provide partial protection to the point that if the strains are a good match, greater than 70% of the population will be afforded protection from influenza.

Elderly and immunocompromised individuals will achieve less protection from a vaccine since the ability to mount an effective immune response is diminished. Therefore, it is imperative that a second line of defense be established by ensuring that care providers are also protected from influenza. In 2003/2004, long-term care facilities (LTCF) reported 100% vaccine coverage for their residents, and there was an increase in staff vaccine coverage from 52% to 66%. This still leaves room for improvement, not only for LTCF staff, but all patient-care staff. Patient-care staff can pose a risk to the residents since immunocompromised people cannot fully protect themselves and will require the added protection from staff. It is extremely important that all patient-care staff be immunized against influenza to protect the health and lives of the residents they are caring for.



Box 1: Influenza vaccines that should be offered free of charge

The NWT Advisory Committee on Immunization recommends that the influenza vaccine should be offered free of charge to the following risk groups:

- Adults age 65 and older;
- Adults and children with chronic cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma) severe enough to require medical follow-up or hospital care;
- Adults and children with chronic conditions such as diabetes or other metabolic diseases, cancer, immunodeficiency (including HIV infection), renal disease, immunosuppression, anemia, and hemoglobinopathy;
- Persons of any age who are residents of nursing homes or other chronic care facilities;
- Children and adolescents (aged six months to 18 years) with conditions treated for long periods with acetylsalicylic acid (ASA therapy may increase the incidence of Reyes Syndrome after influenza);
- Persons at high risk of influenza complications who have trips planned to destinations where influenza is likely to be circulating;

- Healthy children age 6-23 months as they have increased risk for influenza-associated hospitalization compared to healthy older children and young adults. NACI and NWT Immunization Advisory Committee recommend their inclusion among recommended recipients of influenza vaccine;
- People that provide regular childcare to children age 0-23 months, whether in or out of the home.

The influenza vaccine should also be actively promoted and offered free of charge to:

- HCWs and caregivers who may transmit the virus to those at risk (Note: Healthcare workers often have low coverage rates and unimmunized healthcare workers are the leading cause of institutional outbreaks.);
- Staff who provide home care for persons in high-risk groups;
- People who provide essential services to their community (e.g. law enforcement officers, ambulance drivers, firefighters, etc.); and
- Household contacts of high-risk individuals (including children of parents who either cannot be vaccinated or may not respond to vaccinations).

Studies have demonstrated that healthcare workers (HCWs) who are ill with influenza frequently continue to work, thereby potentially transmitting the virus to both patients and co-workers. In a British study, 59% of HCWs with serologic evidence of recent influenza infection could not recall having influenza, suggesting that many HCWs experience subclinical infection.¹ These individuals continued to work, potentially transmitting infection to their patients. In addition, absenteeism of HCWs who are sick with influenza results in excess economic costs and, in some cases, potential endangerment of healthcare delivery due to scarcity of replacement workers.

NACI considers the provision of influenza vaccination for HCWs involved in direct patient

care to be an essential component of the standard of care. HCWs involved in direct patient care should consider it their responsibility to provide the highest standard of care, which includes undergoing annual influenza vaccination.

To reduce the morbidity and mortality associated with influenza and the impact of illness in our communities, immunization programs should focus on individuals at high risk for influenza-related complications, those capable of transmitting influenza to individuals at high risk for complications and who provide essential community services. However, significant morbidity and societal costs are also associated with seasonal inter-pandemic influenza illness and its complications occurring in healthy children

and adults. For this reason, healthy adults and children should also be encouraged to receive the vaccine once immunization of higher-risk groups has been completed.

Every year it takes time and attention to detail in order to prepare for seasonal immunization programs. The NWT's immunization programs do not vary greatly from year to year, but there are always some changes, such as the inclusion of 6-23 month-olds and their care providers for influenza vaccination. It is important that the nurse-in-charge assess the population that will require these vaccines and order the required doses from his/her regional pharmacist. The upcoming fall immunization programs will run more efficiently as a result of early planning and preparation.

The protocol for administration of Synagis, and educational materials for parents and healthcare

workers were distributed to all health centres in September 2003. This information is available from the Office of the Chief Medical Health Officer at the Department of Health and Social Services (867 920-8646).

Current influenza vaccines licensed in Canada are immunogenic, safe and associated with minimal side effects. Members of the general public (including children) should be provided access to the influenza vaccine once high priority groups have been covered. If you have any questions about vaccines or the NWT immunization programs, do not hesitate to contact the Communicable Disease Specialist at 920-8646.

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Breastfeeding Conference – Event Summary

Alana Kronstal, Health Promotion Intern, Breastfeeding Conference Organizing Committee
Department of Health and Social Services

As noted in *Epinorth*, Volume 16, Issue 1, Dr. Jack Newman, an internationally renowned Canadian breastfeeding specialist, spoke to healthcare professionals in Yellowknife and Inuvik during a two-day conference in each location. Dr. Newman also participated in a number of other activities that provided information about and promoted breastfeeding.

The health professionals' conference, entitled "Practical Breastfeeding: Applying Knowledge to Clinical Practice," provided basic breastfeeding knowledge to healthcare professionals and lay persons involved in supporting breastfeeding parents.

Dr. Newman's presentation answered common questions, addressed difficult breastfeeding situations and offered possible remedies and approaches to solve problems.

In addition to the two conferences, Dr. Newman was kept busy with evening presentations to

interested community members in Yellowknife and Inuvik. While in Yellowknife he also spoke at the "Hands on Health" territorial workshop for Early Childhood Workers and Canada Prenatal Nutrition Coordinators. In addition, Dr. Newman was interviewed on CBC North radio and met with Michael Miltenberger, Minister of Health and Social Services.

Feedback from health professionals who attended the conferences was very positive and indicated that Dr. Newman's presentations greatly increased their awareness and understanding of common breastfeeding issues. There was a lot of information to take in during a short period of time, so conference participants were given comprehensive resource binders for future reference. Each health centre and public library in the NWT was also sent a copy of Dr. Newman's help guide, *Jack Newman's Guide to Breastfeeding*, which offers breastfeeding information to professionals and mothers.

Medicine in the North: An East Coast Medical Student's Perspective

Robyn MacQuarrie, Dalhousie University Medical Student

Like many people who have never been to the north, I had a very "Hollywood" image of what life "north of 60°" would be like. I found the land, the people and the sense of community overwhelming. The best part of life in the north for me during my six weeks in Yellowknife as a medical student was the opportunity to shadow physicians during their visits to the communities.

As the wheels touched down on the gravel runway in Wha Ti, NWT, I knew the clinic I was visiting with Dr. McAuley was going to be different from any other I had ever visited in Canada. We followed the pilot/baggage handler/flight attendant off the plane and collected our overnight bags. We were greeted by the local tourism students/taxi drivers/delivery boys, who took us to the Wha Ti B& B, the only rental accommodation in town. Then I walked down the dusty road to the health centre, a large, square, brown "government building" where I met Elaine James who has been the Nurse in Charge (NIC) in Wha Ti for the past two years.

What does being an NIC mean? Elaine, a registered nurse with advanced nursing skills, is in charge of: emergency healthcare, dispensing drugs, organizing well-woman, well-man and well-baby clinics, deciding who gets to see the doctor during the monthly visit, determining who can't wait and should be medevaced to Yellowknife (or Edmonton), and coordinating dental clinics. That describes about 1/10th of her actual job description, which literally spans 18 pages. She is on call all the time and actually lives in an apartment above the clinic so she is close by in case of emergency. The life of a medical practitioner in the north, particularly the far north, is quite different from that in the south. House calls are not legends from times of old. In fact, as Elaine demonstrated equipment around the facility, she frequently referred to a "portable" this or "chargeable" that which she takes into the community when someone is too sick to make

the trip to the clinic. Elaine's responsibilities don't stop at the clinic. The breadth of issues a medical practitioner must concern him/herself with is tremendous – whether it's ensuring a patient has regular water delivery or a clean house before he/she comes home or making sure supplies are well stocked before the break up of the ice road – if a job has to get done, it gets done. There are no alternatives. Many communities are more accessible in the middle of winter when the lakes freeze and become ice roads. More supplies can be brought in on trucks than on the small planes that arrive daily.

In addition to providing emergency health care, Elaine is also the community health nurse, pharmacist, lab technician and administrator. She is responsible for health awareness promotions and provides up-to-date information on a variety of topics including dental hygiene, helmet safety and hand-washing and puts up posters advertising the signs and symptoms of TB, which remains a serious health concern in northern communities. She also prepares and dispenses day-of-the-week pill packs to ensure her patients receive their appropriate medication, makes sure that all medications on the NWT Pharmacy Formulary are in stock and that prescriptions are refilled by visiting doctors. Preliminary blood work is often run right in the centre to determine the severity of a patient's illness and whether or not medevac is required. NICs are also responsible for the financial management of their centres and try to keep costs at a minimum so the best equipment possible can be purchased. Elaine's position is one of the many challenging and incredibly rewarding positions available in northern healthcare.

While Elaine runs the health centre on a daily basis, a doctor flies in once a month to visit patients. The teamwork displayed on a clinic day could be used as a demonstration for inter-professional workshops. On clinic day the NIC and the visiting doctor share a variety of roles as

healthcare providers. They must work efficiently together as doctor and nurse to manage not only emergency situations but the long-term care of patients, without the luxuries of physiotherapy, occupational and massage therapies or similar services readily available in the south.

Healthcare providers in the north are relatively transient so there is a push for the doctor to tie up all the loose ends, such as booking specialist appointments right away or calling specialist offices to have reports faxed immediately so that follow-up can be managed and issues addressed during the visit. Doctors from larger centres, like Yellowknife or Inuvik, fly in to communities on a regular basis providing some form of consistency but doctors go on vacation and return south so this is not always possible. Locum doctors often provide interim care and therefore, each doctor is faced with the challenge of trying to decipher the notes left behind by many different practitioners.

The sense of ownership in these clinics is endorsed, recognized and promoted. The Minister's 2002 Action Plan, released by the Department of Health and Social Services, proposed a healthcare system renewal that recognizes the input of the people as an integral component of healthcare development. This plan focuses on seven principles as the foundation for community involvement in healthcare: personal responsibility, basic needs, sustainability, continuum of care, universality, prevention-oriented systems, and people-oriented systems. This action plan is designed to suit the needs of northerners receiving healthcare. According to the 2001 census, approximately 46% of the NWT population reports Aboriginal identity. This is particularly true in the smaller communities which are almost exclusively First Nations. Recognizing cultural and religious beliefs and traditional medicine as major components of healthcare is an important aspect of providing care to this population. Approaching it with interest, acceptance and open-mindedness is likely to enrich the relationship between the healthcare provider and patient.

Access to medical care is another challenge that must be met by northern healthcare providers. Although patients requiring immediate consults are often medevaced to Yellowknife or Edmonton, specialists do visit communities. Yellowknife has a complement of specialists based at the Stanton Territorial Hospital – pediatricians, ophthalmologist, orthopods, obstetricians, gynecologists, general internists, anesthesiologists, general surgeons and psychiatrists – but specialists in other fields also visit regularly. Waiting lists to see specialists are often much shorter in the north than in the south but access to more expensive diagnostic tools is not always available so patients may be sent south, usually to Edmonton, for further care.

Although these may seem to be off-putting realities associated with practicing medicine in the north, many of the difficult aspects of northern medicine are what make it appealing to those who practice here. Doctors describe a sense of closeness with their patients, a true sense of community, and satisfaction at being able to follow their patients into wellness and back into the community as positive aspects of northern healthcare. Although the logistics of providing good care to patients are somewhat more complicated, many doctors here derive a sense of fulfillment in ensuring that specialist appointments, follow-up and home care are all secured for their patients.

As I conclude, I am trying to ascertain what my exact purpose in writing this was, and whether or not it's been accomplished. I guess what I was most trying to do is debunk some of the dreary assumptions people may have of the north, and highlight the exciting adventures, both medically and personally, to be had in a place so few Canadians have the luxury of seeing. Perhaps the best evidence I can provide is that I can't wait to come back for an elective....in the winter... to meet the true challenge of the north. I hope that I have at least piqued your interest in doing the same.

HEALTH .online Healthcare and the Internet

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Electronic health communications, including telephones, television, computers, Internet access, teleconferencing, videoconferencing and digital imaging has dramatically impacted the way healthcare and services are provided, particularly in the north. It connects healthcare professionals from remote areas to those in more urban centres and provides access to information resources and support services. By bringing healthcare providers together, technology facilitates education and training opportunities, allows consultation with and access to specialists, enables an integrated and multidisciplinary approach to patient care and supports improved healthcare management and service delivery.

There is a wealth of information out there in cyberspace. Searching for information on the 'net has become commonplace for many of us in the north, but access remains an issue for a few communities and practitioners. Almost 100% of the health and social services workers including physicians, nurses, mental health workers, community health representatives and others in the department are connected to the Internet. The majority of the communities in the NWT have access to the Internet either at home or at a public institution. Approximately half are served by satellite connections and the rest through fibre optic cables, copper cable or digital microwave technologies. A variety of government and private initiatives are underway to expand access to the remaining communities and as

wireless technology improves and low-orbit satellite systems are developed, providing this service will be easier and more cost-effective.

It seems almost every government agency, corporation, governing body, association and not-for-profit organization has a website. With all the information out there, how is one to know whether or not the information is accurate, current, relevant and credible. The Canadian Health Network, www.canadianhealthnetwork.com¹, Healthnet Canada, www.healthnet.ca, and Health Canada, www.hc-sc.gc.ca, are all free, searchable sites that provide reliable information for professionals and the general public.

Since no absolute standards for online health information have been established, a number of rating systems and symbols have been created to identify reliable and credible health resources. The Health on the Net Foundation Code of Conduct (HONcode), MedCIRCLE, URAC (Utilization Review Accreditation Commission) and the International Healthcare Coalition are organizations that exist to evaluate, assess, accredit, annotate and recommend health information on the Internet. Once the information has been reviewed, a trademark or seal may be attached to information to certify that the information has been reviewed and meets certain codes, standards or principles. These are determined by each organization and include criteria such as authority, quality, accountability, professionalism, confidentiality and transparency.



www.hon.ch



www.medcircle.com



www.ihealthcoalition.org

The Canadian Health Network offers the following checklist to help users determine the quality of online information.² When gathering information online, it is important to educate yourself and know what to look for so here are some questions to keep in mind:

Is the resource credible?

- is the author's name or name of the organization responsible for the document clearly stated?
- is the author a professional or accredited authority on the subject? If not, does s/he state his/her perspective on the subject or make it clear s/he is a non-professional?
- is the organization a reputable or recognized one?
- is there contact information provided for the author?

Is the content suitable?

- is the subject matter of interest to you?
- is there enough detail or does the information seem superficial?
- is the content original or are there only links to other sites?

Is the information relevant to you?

- does it match what you are looking for?
- is the information presented within a Canadian context?
- is the information current and can you see when it was last updated?

Is there clear and adequate disclosure?

- is the author's purpose/mandate clear?
- is there potential for bias or conflict of interest?
- are both/all sides of an issue presented or is the bias made clear?
- are commercial links/sponsorships clearly stated?
- are the sponsorships separate from the health information content?

- if the site collects personal information, does it state why it wants it and what will be done with it?
- are the privacy guidelines stated?
- if you have to register to use the site, is the reason clear and is your privacy ensured?

Are there clear caution statements?

- does the site offer a clear statement that the health information provided should not be taken as health advice or as a substitute for visiting a health professional?
- if fees are associated with the use of the resources on the site are they clearly explained?

Is the site user-friendly?

- is the information clearly presented?
- are there too many clicks required to access the information?
- can you contact the author/administrator by email if you have difficulties using the site?

The Internet is a valuable resource and communication tool and has helped to improve healthcare in the north by linking healthcare professionals to each other and making access to information fast and efficient. Further technological advances will ensure better access to information for all citizens of the north.

The 'net is a great place to find ideas, share information, participate in discussions and become better informed. However, users must be judicious in determining the quality, accuracy and reliability of online information. It is important to remember that information found online is simply information and does not replace the knowledge and advice of live healthcare professionals.

REFERENCES

- 1 reviewed in *EpiNorth*, Summer 2003, Vol 15. Issue 3
- 2 Canadian Health Network, www.canadian-health-network.ca/servlet/

NOTIFIABLE diseases

for the Northwest Territories (NWT) April - June 2004^a

		April - June 2004	January - December 2003
		NWT	NWT
<i>Vaccine Preventable Diseases</i>	Hepatitis B	0	0
	Haemophilus Influenzae	0	0
	Influenzae A	0	77
	Influenzae B	0	5
	Pertussis	0	1
	Chicken Pox	2	130
<i>Sexually Transmitted/ Bloodborne Diseases</i>	Chlamydia	179	568
	Gonorrhea	30	209
	Hepatitis C	6	23
	Hepatitis, Other	0	0
	Syphilis	0	0
<i>Diseases by Direct Contact/ Respiratory Route</i>	Invasive Group A Strep	0	5
	Invasive Group B Strep in neonates	0	0
	Invasive Group B Streptococcus	0	0
	Invasive Pneumococcal Disease	5	12
	Legionellosis	0	0
	Listeriosis	0	0
	Meningitis, Other Bacterial	0	0
	Meningitis, Unspecified	1	0
	Meningitis, Viral	0	0
	Meningococcal Infections	1	1
	Respiratory Syncytial Virus	24	35
Tuberculosis	3	12	
<i>Enteric, Food and Waterborne Diseases</i>	Botulism	0	0
	Campylobacteriosis	1	7
	Cryptosporidiosis	0	0
	E.Coli O157:H7	3	1
	Giardiasis	2	5
	Hepatitis A	0	0
	Salmonellosis	1	6
	Shigellosis	0	1
	Tapeworm Infestation	0	0
	Trichinosis	0	0
Yersinia	0	0	
<i>Vectorborne/Other Zoonotic Diseases</i>	Brucellosis	0	0
	Malaria	1	0
	Rabies Exposure	0	2
<i>Antibiotic Resistant Microorganisms</i>	Methicillin-resistant Staph.Aureus	1	4
	Vancomycin-resistant Enterococci	0	2

NWT HIV Infections Reported from 1987 to 2004

Total	Age Group at Diagnosis								Gender		Risk Category					
	0-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	Female	Male	MSM ^b	MSM/ IDU ^c	IDU	Hetero- sexual	Perinatal	Blood Products
25	1	0	0	4	14	5	0	1	3	22	11	1	6	5	1	1

a Statistics are based on currently available data and previous data may be subject to change

b Men who have sex with men

c Injection Drug User