

ENORTH

The Northwest Territories Epidemiology Newsletter

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Action on Tobacco: The Territorial Strategy for Tobacco Control

In May of 2001, the Department of Health & Social Services released *Smoke Alarm: A Summary Report on Smoking in the Northwest Territories*.

This report drew together statistics from a variety of surveys and sources to provide an in-depth look at tobacco use in the NWT. The report confirmed that NWT tobacco use is considerably higher than the Canadian average and highlighted use patterns among youth that raised serious alarm. It concluded that smoking is one of our major public health issues and needs to be addressed now with a comprehensive and integrated strategy.

The Territorial Strategy for Tobacco Control

Action on Tobacco is the government's response to the issues raised in *Smoke Alarm*. An interdepartmental working group, consisting of representatives from the Departments of Health and Social Services; Municipal and Community Affairs; Education, Culture and Employment and the Workers' Compensation Board developed the strategy. The draft document was then circulated to a broader range of stakeholders for consultation. After some additional revisions, the strategy received final cabinet approval in March of 2002.

The long-term goals of the strategy are:

- **Prevention** – ensure that those who don't smoke, never start;
- **Protection** – protect people, especially children, from environmental tobacco smoke;
- **Cessation** – help and support people who want to stop smoking; and
- **Denormalization** – change attitudes towards smoking so it is regarded as an unhealthy and undesirable behaviour.

Experience from tobacco control efforts elsewhere in Canada and the U.S. have shown that success is dependent on partnerships from various sectors and that efforts need to be directed to a variety of areas. These include: policy, legislation, health education, enforcement, research, cessation supports and programs, media counter-marketing programs and community capacity building. For example, health education and promotion must accompany legislation if new legislative measures are to be accepted by the community. Research will provide valuable information to develop effective health education and promotion measures and will also help to monitor the success of the strategy. Research can also support capacity building at the community level. Capacity building will, in turn, support the implementation of new programs and services.

Action on Tobacco provides direction for an approach that crosses departments, disciplines and organizations. It is clear that no one department or organization can, on its own, undertake all of these activities. To prevent, reduce and control tobacco use in the NWT effectively, joint effort and action is required by all members of society.

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HOW TO REACH EPINORTH

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Editorial: Health Promotion – An Upstream Approach

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There's continuing debate on the sustainability of the health system, be it during hearings of the Romanow Commission,

discussions in the Legislative Assembly, as part of the Social Agenda or the reorganization of Health and Social Services. Concerns about sustainability lead to ongoing questions of resource allocations to ensure that they are being applied where they are most effective. Although each individual bears responsibility for his/her own health, there remains an important role to be played by health promotion to support northerners in making healthy living the norm and to live healthy, productive lives.

This issue of *EpiNorth* is largely focused on the many aspects of health promotion and making a case for prevention through other arms of population health: disease prevention, health protection and health surveillance. This is very timely, considering that part of the debate over sustainability must include the importance of *preventative* measures in the allocation of our scarce resources.

Health promotion can be described in different ways, such as by the old adage *an ounce of prevention is worth a pound of cure*, or the more traditional definition: helping people increase control over, and improve, their health.

Health promotion can also be described as the *upstream* approach to health. Whereas *downstream* interventions focus on restoring health once it's been compromised, *upstream* interventions by population health promotion maintain health status by anticipating and avoiding threats to health. Health promotion moves beyond maintaining health to actually improving health status and creating health gains.¹

This upstream approach forms the basis of our Health Promotion Strategy previously described in *EpiNorth*.^{2,3} Currently, the major areas of

focus are: *Tobacco Harm Reduction and Cessation, Active Living, Healthy Pregnancies, and Injury Prevention*. In the Department of Health & Social Services (DHSS), the Health Promotion Team works with many others in these efforts, including other government departments, Health and Social Service Authorities, NGOs, communities and individuals.

Most articles in this issue are either directly or indirectly linked to the Health Promotion Strategy. Since our strategy is based on the *Ottawa Charter for Health Promotion*,¹ our focus is primarily on *upstream* approaches to our major priority areas through: community development, research and knowledge, healthy public policy, reorienting services, communication strategies, working together, and training and skill development. These seven branches form a comprehensive health promotion strategy.

Our strategy also focuses on vulnerable populations such as children and young mothers. Not surprisingly, vulnerable groups in our society use the vast majority of health care resources. We must try to catch and prevent issues before they are costly to treat. We can prevent: children starting to smoke; prenatal women having unhealthy birth outcomes due to poor nutrition and alcohol use; diabetes, heart disease and cancer through active living; and injuries by wearing life-vests and not drinking and driving. We must also address root causes of why healthy ways of life are not the norm in our society.

Health promotion also needs to focus attention on demonstrating effectiveness. We are asking the same questions as our southern counterparts:¹

- What outcomes can we expect in health status through what we do?
- What indicators/methods can we use to assess whether or not our outcomes are achieved?
- What is the best mix of *upstream/downstream* interventions?
- Where should we continue, or change, our focus?

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Fall Immunization Reminder

Sitting here in 25 degree weather, it is hard to believe that fall is just around the corner. Late summer/early fall is the time to prepare for all seasonal vaccine programs. Of particular importance are the requirements for the influenza vaccine program. The influenza vaccine changes every year to reflect the current and projected circulating strains of influenza virus. The World Health Organization (WHO) recommended the following strains for the influenza vaccine for the upcoming season:

- H1N1, A/New Caledonia/20/99
- H3N2, A/Panama/2007/99
(an A/Moscow/10/99-like virus)
- B/Hong Kong/330/2001-like virus strain

The influenza vaccine is to be given in late October or early November because the seroprotective levels are highest during the first four to five months post immunization. This is especially true in the elderly. Giving the vaccine later in the fall affords protection throughout the typical flu season, which is usually December to April in the Northwest Territories (NWT). Last winter (2001/02) in the NWT the flu season did not start until March. There were 12 cases of influenza A reported, and since the isolates were not cultured, the serotypes are unknown.

Long-term care facilities (LTCF) reported 100% vaccine coverage of residents and 77% coverage of staff. This is the highest influenza vaccine coverage for this population to date in the NWT. The LTCF did not report any influenza outbreak activity, and no deaths were reported as a result of flu this past year in the NWT. Close to 10,000 doses of flu vaccine were given in the NWT during the 2001/02 flu season.

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

- Adults aged 65 or 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); and
- Persons at high risk of influenza complications who have trips planned to destinations where influenza is likely to be circulating.

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

- Health care workers and care givers who may transmit the virus to those at risk; (Health care workers often have low coverage rates and unimmunized health care workers are the leading cause of institutional outbreaks.)
- People who provide essential services to their community (e.g. firefighters, law enforcers, ambulance drivers, etc); and
- Household contacts of high-risk individuals (including children of parents who either cannot be vaccinated or may not respond to vaccinations).

Members of the general public (including children) should be provided access to the influenza vaccine once an appropriate supply is obtained for the high priority groups.

The influenza vaccine is a split-virus (chemically disrupted) preparation. The vaccine does not contain live virus. This type of vaccine causes

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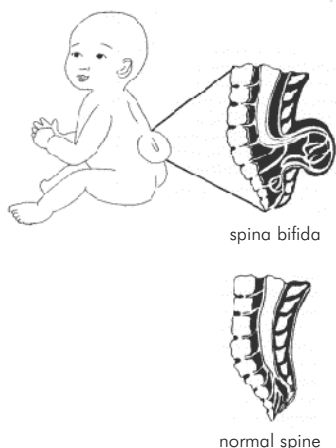
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Folic Acid: The Healthy Baby Vitamin

There is now considerable evidence that the risk of congenital abnormalities (birth defects) can be substantially decreased through the consistent and correct consumption of the B vitamin folic acid (folacin, folate).¹ Adequate folic acid is a significant contributor to the normal development of the fetus's nervous system and can help to prevent a common type of congenital abnormality – neural tube defects.

What Are Neural Tube Defects and How Are They Caused?

Neural tube defects (NTDs) occur when the neural tube (the embryonic structure that grows into the brain and spine and the protective coverings for these organs) fails to close properly during the first four weeks of pregnancy.¹ The type of NTD that develops correlates with the exact place of the defect along the neural tube.



Source: CDG, Preventing Neural Tube Birth Defects: A Prevention Model and Resource Guide

The most common NTDs are anencephaly and spina bifida.¹ Babies with anencephaly do not develop a brain and are stillborn or die shortly after birth.² Spina bifida is caused by the failure of the fetus's spine to close properly during the first month of pregnancy.³ Infants born with spina bifida sometimes have an open lesion on their spine where extensive damage to the nerves and spinal cord has occurred. Although the spinal opening can be surgically repaired shortly after birth, the nerve damage is permanent, resulting in varying degrees of paralysis of the lower limbs. Even when there is no lesion present, there may be improperly formed or missing vertebrae with accompanying nerve damage. In addition to physical and mobility difficulties, some individuals have some degree of learning disability.² With appropriate medical treatment, babies born with spina bifida can survive into adulthood; however, the lifetime implications of this condition for those living with multiple impairments can be painful and costly.

How Folic Acid Helps Prevent NTDs

Although the etiology of NTDs is not completely understood, a significant decrease of up to 70% in the incidence of NTDs is reported when the recommended nutrient

intake (RNI) of 0.4 mg of folic acid is taken prior to and throughout the first few weeks of pregnancy.¹ Women who could become pregnant should take 0.4 mg of folic acid every day and should eat foods high in folate.

Folic acid is a common B vitamin essential for the functioning of the human body. An increase of this vitamin is needed during periods of rapid growth, such as pregnancy and fetal development. Folic acid can be found naturally occurring as folacin or folate in dark green vegetables (broccoli, spinach, peas and brussel sprouts), corn, dried peas, beans, lentils, oranges and orange juice.¹ It can also be found in multi-vitamins and fortified breakfast cereals. Only folic acid supplementation *in combination* with a healthy diet has been proven to reduce NTD risk.⁴ See *Table 1* for a list of food sources of folate.

Table 1 – Food Sources of Folate

Excellent Sources 55 µg or more	Good Sources 33 µg or more	Fair Sources 11 µg or more
Soy/beans	Cooked broccoli	Cooked carrots
Chickpeas	Green peas	Cabbage
Kidney Beans	Corn	Cooked green beans
Lentils	Avocado	Strawberries
Sunflower Seeds	Roasted peanuts	Banana
Cooked spinach	Wheat germ	Breakfast cereals
Romaine Lettuce	Raspberries and blackberries	Whole wheat or white bread
Orange juice	Oranges	Cashews
Pineapple juice	Honeydew	Milk and eggs

Source: Health Canada (1999). Nutrition for a Healthy Pregnancy: National Guidelines for the Childbearing Years.

In addition to substantially reducing the incidence of NTDs, adequate folic acid intake may also prevent the occurrence of other types of congenital abnormalities, such as certain heart defects and limb malformations. However, the research supporting these findings is not as compelling as the evidence linking folic acid with NTD prevention.¹

Folic Acid Use by Pregnant Women in the Northwest Territories

Territorial statistics on the prevalence of congenital deformities in the NWT do not currently exist. Nevertheless, the results from the *2000 Canadian Community Health Survey* do

give us an indication of the prevalence of folic acid supplementation during a pregnancy in the NWT over the past five years. In the Northwest Territories, 59.4% of the women surveyed did not take a vitamin supplement containing folic acid before their last pregnancy.⁵ This statistic is especially troublesome because nutrition surveys conducted in isolated northern communities have shown that consumption of folate-rich foods is much lower here than the recommended levels for Canada.⁶ Additionally, tobacco, alcohol and drug consumers and adolescents (birth mothers 15 to 19 years old) are also shown to be at a higher risk for low folate status. This impacts the NWT because of our high smoking, alcohol consumption, and teen birth rates.⁷

The NWT may also be at an increased risk for NTDs because of slightly higher levels of obesity than the national average,⁸ a condition that increases a woman's risk of having a baby with an NTD.⁹ Maternal diabetes is also a risk factor for an NTD-affected pregnancy, and is another increasing concern in the NWT.¹

Recommendations for Northern Health Professionals

For a safe and healthy pregnancy, all NWT health professionals should be strongly advising women who could become pregnant or are already pregnant to select foods rich in naturally-occurring folate and take a daily supplement containing 0.4 mg of folic acid. This practice will reduce the risk of a pregnancy affected by an NTD. Most over-the-counter multivitamins and mineral complexes and all of the prenatal supplements available in the NWT contain at least this amount of folic acid.¹⁰ Women who have had a prior pregnancy affected by a NTD, who have a family history of NTDs, who have diabetes, or who are taking anticonvulsant drugs may be the exceptions to this recommendation. They should be advised to consult their health care provider who will prescribe a daily amount of folic acid specific to their situation.¹¹

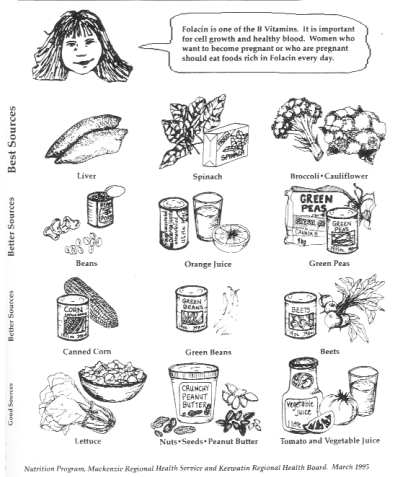
An additional caution to health professionals: it is important to note that women should not take more than the daily dose of a multivitamin-multimineral supplement advised on the product label. Taking excessive amounts of some nutrients, including vitamin A as retinol, may be harmful, especially if the embryo is in the early stages of development.¹

For more information on this important prenatal issue, or to receive a copy of the recently-released Health Canada resource package on folic acid and preconception health, please contact Health Promotion, Department of Health and Social Services or your regional nutritionist/dietician. Additional information is also available on the following Health Canada website: www.hc-sc.gc.ca/english/folicacid and on the Canadian Task Force on Preventative Health Care website: www.ctfphc.org.

REFERENCES

- 1 Van Allen M.I., C. McCourt, and N.S. Lee. *Preconception Health: Folic Acid for the Primary Prevention of Neural Tube Defects. A Resource for Health Professionals*. Ottawa: Public Works and Government Services Canada, 2002.
- 2 Little, J. and J.M. Elwood. "Epidemiology of Neural Tube Defects" in M. Kiely, ed. *Reproductive and Perinatal Epidemiology*. Boca Raton: CRC Press, 1991.
- 3 National Institute of Neurological Disorders and Stroke. 2001. *Spina Bifida Information Page*. http://www.ninds.nih.gov/health_and_medical/disorders/spina_bifida.htm
- 4 Centers for Disease Control and Prevention. 1992. Recommendations for the Use of Folic Acid to Reduce the Number of Cases of Spina Bifida and Other Neural Tube Defects. *Morbidity and Mortality Weekly Report 41*, 1-7. <http://www.cdc.gov/mmwr/preview/mmwrhtml/00019479.htm>
- 5 Statistics Canada. 2001. *Canadian Community Health Survey: Cycle 1.1*. Data available from Planning, Accountability and Reporting Division, Department of Health and Social Services.
- 6 Lawn, J. *An Update on Nutrition Surveys in Isolated Northern Communities*. Ottawa: Indian and Northern Affairs Canada, 2002.
- 7 Department of Health and Social Services. *The NWT Health Status Report 1999*. Yellowknife: Artisan Press, 1999.
- 8 Health Canada. 1999. Physical Activity of Canadians. 2.4 Profile of the Provinces. *National Population Health Survey Highlights, 2*. http://www.hc-sc.gc.ca/hpb/lcdc/bc/nphs/physical/pdf/nphs_pae.pdf
- 9 Koren, G. July, 2001. Maternal Obesity and Risk of Neural Tube Defects. *Canadian Family Physician 47*: 353-1512.
- 10 Fitzpatrick, Trish. Personal communication. June 25, 2002.
- 11 Beaulieu, M. and B.L. Began. March, 1998. Primary and Secondary Prevention of Neural Tube Defects. *Canadian Task Force on Preventative Health Care*. <http://www.ctfphc.org>

Good Sources of Folicin



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Another Case for Prevention: Circulatory Diseases, Respiratory Diseases and Injury & Poisoning

The recently-released *NWT Health Services Report 2000* is intended to "...inform the public, health practitioners and decision makers about the challenges that await the health system, and provide a baseline against which we can compare future trends."¹ The *NWT Health Services Report 2000* has two major themes. First, the NWT population is aging, driving up the demand for health services, and second, a significant proportion of health care resources are being consumed by conditions that are largely preventable. The former theme was the subject of *Our Aging Society – Future Health Service Implications* (see *EpiNorth* 13:2). The latter is the subject of this article.

Reasons for hospitalization, medical travel, and emergency, health centre and physician visits are usually categorized in the *International Classification of Diseases (9th Revision)*. When a medical condition is known or suspected, the *International Classification of Diseases* groups these reasons into 17 broad classifications. Within each of these classifications there can be up to several hundred particular diseases or conditions, each represented by a four or five digit code. Nevertheless, these codes only label the medical condition, not necessarily the underlying cause.

When a patient receives a service, their lifestyle history is not always known.² Nonetheless, almost all classifications contain some conditions that are more or less preventable through lifestyle modification and environmental improvements. Three classifications containing a significant amount of potentially-preventable conditions are diseases of the respiratory system, diseases of the circulatory system, and injury and poisoning.³ Every year, these three conditions consume a large proportion of health care resources in the Northwest Territories.

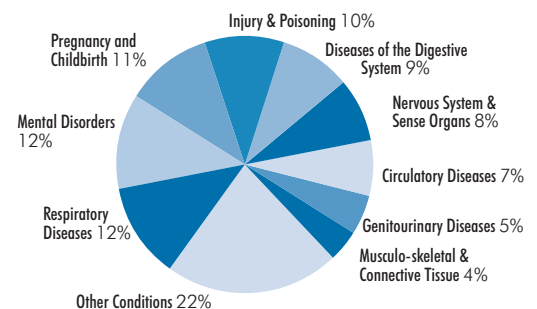
In the five-year period, 1994 to 1998, reviewed by The *NWT Health Services Report 2000*, respiratory diseases were the number one

consumer of the aggregate of the following health care system resources:

- hospitals
- physicians
- health centres and public health units
- medical travel

Injury and poisonings were fourth and diseases of the circulatory system were seventh. On an average annual basis, these three conditions together accounted for almost 30% of all health care resources reviewed (see *Figure 1*⁴).

Figure 1
Health Services – Proportion of Costs by Cause Annual Average 1994/95 to 1998/99



Source: Department of Health and Social Services

The Need for Prevention

While hereditary factors can play a part in all diseases, lifestyle choices and environmental conditions can influence the chances of being afflicted by a respiratory or circulatory disease.⁵ Given the prominence of injuries and poisonings, and given they are in theory 100% preventable, there is significant room for injury reduction in the NWT.⁶

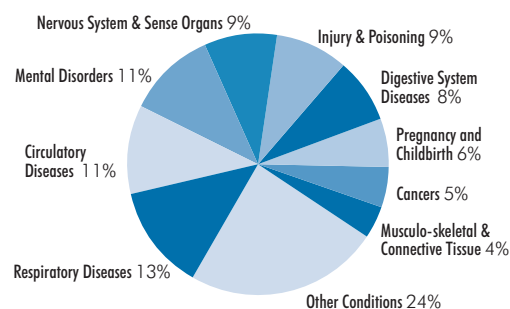
People who smoke, or are exposed to tobacco smoke, increase their risk of suffering from diseases of the respiratory and circulatory systems as well as many other conditions.⁷ People who consume excessive amounts of alcohol, who have unhealthy diets (high in fat and low in fiber), and/or lead sedentary lifestyles run an increased risk of circulatory

"Every year, diseases of the respiratory system, diseases of the circulatory system, and injury and poisoning consume a large proportion of health care resources in the Northwest Territories."

disease, among other conditions.⁸ People operating machinery or vehicles without the proper safety equipment, safety precautions, and/or are under the influence of alcohol or drugs, run a greater risk of injury.

In contrast, people engaging in more healthy behaviours reduce their risk of circulatory and respiratory diseases as well as their risk of injury. Also, people who are in good physical condition generally experience shorter recovery times when injured or ill. Relative to non-smokers, people who smoke are likely to suffer longer, and with greater severity, from the effects of the common cold or flu.

Figure 2
Health Services Cost Projections – Proportions by Cause 2020/21



Source: Department of Health and Social Services

The Cost of Not Preventing

If nothing changes in the collective behaviour of NWT residents, the proportion of the total health care resources required to deal with these conditions is predicted to increase to over 32% by 2020 (see *Figure 2*). While such an increase in the proportion of resources deployed may not seem like much, by 2020, the total amount of resources for all disease classifications will have grown by over 140%. Also by 2020, partially because of our aging population, circulatory diseases will have moved from seventh to second place in terms of the amount of health care resources consumed.

These cost projections are based on historical patterns of health care use by sex and age across the Northwest Territories. Population

projections are then used to account for not only increases in the population, as a whole, but also to account for increases in high users of health care, such as seniors. Together with population projections, an annual inflation rate of 1.5% per year is factored as a conservative estimate of future cost increases in the area of human and physical resources employed to deliver health care in the NWT.

We can control neither inflation nor the aging of NWT residents. However, there are still great strides to be made in improving our individual and collective health and well-being. It is important that health promotion efforts continue in the areas of tobacco cessation, healthy eating habits, active living, and injury prevention or the costs of these largely preventable conditions will continue to grow.

REFERENCES

- 1 Department of Health and Social Services. *The NWT Health Services Report 2000*. Yellowknife: Artisan Press, 2001.
- 2 Patient history is captured on patient records in health facilities and not in electronic databases.
- 3 Some other primarily preventable conditions include certain cancers (e.g. lung), certain mental disorders (alcohol and drug psychoses and dependency), and diseases of digestive system, such as alcoholic gastritis and alcoholic cirrhosis of the liver.
- 4 *Figures 1 and 2* place symptoms, signs and ill-defined conditions within Other Conditions. Both charts are taken from: Department of Health and Social Services. *The NWT Health Services Report 2000*. Yellowknife: Artisan Press, 2001. p. 46 and p. 48.
- 5 Department of Health and Social Services. *The NWT Health Services Report 2000*. Yellowknife: Artisan Press, 2001. p. 4 and p. 49.
- 6 The Research and Analysis Unit of the NWT Department of Health and Social Services is currently working on a study on injury, morbidity and mortality in the NWT.
- 7 For a larger and more precise list of conditions where smoking and tobacco smoke is a factor see: Department of Health and Social Services. *The Facts About Smoking in the Northwest Territories*. Yellowknife: 2001. p. 1-2 and p. 71-78.
- 8 High blood pressure and type II diabetes (adult onset) are also major risk factors for circulatory diseases. Both can be caused, in part, by poor diet, excessive use of alcohol and/or sedentary lifestyle. For a more detailed list of risk factors for circulatory diseases see: Heart and Stroke Foundation. *The Changing Face of Heart Disease and Stroke in Canada 2000*. Ottawa: 1999. ch. 1.

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“Potential daily arsenic exposures to Yellowknife residents were found to be high when compared to other parts of Canada. This is mostly due to the naturally high background levels of arsenic in the Yellowknife area from the presence of gold and other mineral deposits.”

Arsenic in Yellowknife

Introduction

Arsenic is a naturally-occurring element. Elevated levels of arsenic can be found in bedrock, especially in gold deposits and in the soil overlying such deposits. Extensive gold deposits are found in the Yellowknife Greenstone Belt – the geological formation made up of volcanic and mineral deposits upon which the City of Yellowknife is built.

Giant Mine and Con Mine tapped gold deposits in the Greenstone Belt to become, at one time, two of the most significant gold producers in Canada. Con Mine began operating in 1938, followed by Giant Mine a decade later. Both mines used ore roasting to remove impurities before extracting the gold. Ore roasting releases inorganic arsenic into the atmosphere. The process was stopped altogether at Con Mine in 1970, and at Giant Mine in 1999.

In 1998, the Yellowknife Arsenic Soil Remediation Committee (YASRC) was established to assess and provide recommendations for the management of the arsenic in soils resulting from the mining operations in and around Yellowknife. YASRC is a multi-stakeholder group with representatives from federal and territorial government departments and agencies, the City of Yellowknife, and Aboriginal, mining, and environmental organizations. In 2001, YASRC commissioned *Risklogic Scientific Services Inc.* of Ottawa to investigate the potential risks associated with the presence of arsenic within the City of Yellowknife. *Risklogic* was not commissioned to review and assess arsenic contamination levels on properties owned by the Giant and Con Mines. This article outlines some of the results of that investigation.

Risklogic compiled data from previous studies and YASRC also collected additional samples to further quantify the arsenic in soil in the Yellowknife area. From this data, the levels of arsenic in soil in Yellowknife were determined. Possible exposure routes and potential health effects were also explained. The Yellowknife data was then compared to the natural background levels of arsenic found in soils

around Yellowknife, particularly associated with the Greenstone Belt. By comparing the two sets of numbers, and following methods described by the Canadian Council of Ministers of Environment (CCME), remediation levels have been recommended for specific areas within Yellowknife.

This information has now been turned over to the appropriate regulatory agencies. Those agencies will now consider the reports and recommendations from *Risklogic Scientific Services Inc.* as they formulate plans for the remediation of contaminated areas in and around Yellowknife.

Arsenic Exposure

Residents of Yellowknife may be exposed to arsenic in a variety of ways: unintentionally ingesting soil and dust, eating vegetables from backyard gardens, eating locally-hunted game, inhaling dust from unpaved roads, or absorbing arsenic from water or sediment while swimming or wading. Additionally, arsenic is a natural element, present in all soils and found in minute amounts in virtually all foods. This exposure exists for all Canadians, regardless of where they live.

Potential daily arsenic exposures to Yellowknife residents were found to be high when compared to other parts of Canada. This is mostly due to the naturally high background levels of arsenic in the Yellowknife area from the presence of gold and other mineral deposits.

Within the general boundaries of the City of Yellowknife and in areas that are, or could be, routinely visited by residents (residential areas, commercial areas, undeveloped land open to public access) the arsenic level in the soil ranged between a low of 3.5 ppm to a high of 1,570 ppm, with an average of 122 ppm. Nevertheless, an area near Con Mine, which includes a residential trailer court, was found to have soil arsenic levels between 4 ppm and 4950 ppm, with an average of 404 ppm. The level of arsenic immediately surrounding the trailers is at the same average level as found in the city; however, an unfenced area near the

trailer courts, that could be used by children playing or people walking dogs, etc., has higher arsenic levels, likely because of the release of mine tailings onto the ground.

Two methods of ingestion that presented no increased exposure in the Yellowknife area are drinking tap water and eating locally-caught fish. Levels of arsenic in drinking water and fish were no greater in Yellowknife than elsewhere in Canada.

Estimated Risks of Cancer

Health Canada has determined that arsenic is a substance that can cause cancer in humans. Studies of a population in Taiwan that has high levels of arsenic in its drinking water show increased rates of a form of skin cancer. Health Canada has also concluded, based on epidemiological studies in workers, that the inhalation of arsenic can lead to lung cancer.

Based on this information, the risk that Yellowknifers face of developing these cancers due to exposure to arsenic in soils, sediments, and locally-grown foods was estimated. For the purposes of this risk assessment, 100% of ingested arsenic, regardless of source (soil, sediment, game or produce), was assumed to be absorbed. The rate of such absorption is certainly less than 100%, but there were no reliable data from Yellowknife to refine this assumption.

Skin Cancer. The potential skin cancer risks for residents of Yellowknife were estimated for ingesting arsenic (in soil, backyard vegetables and local game) as well as for absorbing arsenic through the skin (from wading, swimming and from dust and dirt that contacts the skin). This cancer risk was estimated to be about nine in 10,000 residents of Yellowknife who are exposed for a 70-year lifetime. Again, this risk is primarily associated with the high natural levels of arsenic in Yellowknife area soils. This risk is similar to the estimated cancer risk experienced by all Canadians as a result of the intake of arsenic with the typical Canadian diet. It is also the same level of risk associated with the current Canadian drinking water quality standard for arsenic.

Lung Cancer. Potential lung cancer risks were also estimated due to inhalation of arsenic with suspended dust. For Yellowknife residents, the estimated cancer risks were about one in one million persons exposed. Health Canada considers estimated cancer risks of 10 in one million or less to be *essentially negligible*.

Cancer risk estimation is very conservative, assuming that there is some risk of cancer at any level of exposure other than zero. This conservative approach is thought to over-predict the actual number of cancers that would actually occur, but is used to ensure that, if any remediation is conducted, the remediation objectives are based on the safest, most conservative levels.

Health Effects Other Than Cancer

Arsenic can also cause health effects other than cancer. The effect that appears to occur at the lowest chronic (lifetime) exposure levels is keratosis, or thickening and darkening of the skin. This effect was observed in the Taiwanese population with arsenic-contaminated drinking water. For this reason, the non-cancer health effects of arsenic were also considered in the Yellowknife study.

Health Canada has not established a tolerable daily intake (TDI) for the non-cancer effects of arsenic. The U.S. Environmental Protection Agency (EPA) has established a TDI of 0.3 µg/kg/day. This tolerable daily intake does not distinguish between health and disease. Rather, it is a conservative benchmark that is considered to be free of health effects of any kind in the vast majority of the population.

Risklogic assessed the risk of exposure for toddlers as being the greatest, since they are known to ingest more soil than adults, and because their intake of air and food is greater when considered on a per body weight basis. Toddlers living in the Con Mine trailer courts were estimated to have an exposure almost seven times greater than the tolerable daily intake for inorganic arsenic as set by the U.S. EPA. Toddlers for the greater Yellowknife area were estimated to have an arsenic intake about

Did you know?

- Levels of arsenic in Yellowknife's drinking water are extremely low (< 0.001 mg/L) well below the guideline set by Health Canada of 0.025mg/L.
- Berries and garden vegetables around the Yellowknife area have been sampled, tested for arsenic levels and found to be safe to eat.
- There is arsenic in cigarette smoke, so people who smoke will have a slightly higher risk of arsenic exposure than non-smokers.

four times greater than the U.S. EPA tolerable daily intake. Again, this exposure is higher than elsewhere in southern Canada, but is predominantly due to the high natural arsenic levels from the mineral deposits of the Yellowknife Greenstone Belt.

Deriving the Remediation Objectives

The national soil quality guideline derived for arsenic by the CCME is 12 ppm. It is based on an assumed background (natural) arsenic concentration of 10 ppm. However, the CCME recognizes that inorganic elements, such as arsenic, vary widely in natural concentration from one region to another. Also, the CCME recognizes that the frequency, duration and intensity of use of a particular contaminated site or area may be very different from the assumed 24 hours per day, 365 days per year used to derive the national guideline.

Naturally-occurring levels of arsenic in soil in the Yellowknife area are much higher than in southern Canada. Therefore, a guideline based on a natural background level of 10 ppm is not applicable to the situation in Yellowknife.

Risklogic derived site-specific human health-based soil quality remediation objectives for soil-borne and sediment-borne inorganic arsenic for the Yellowknife area. This was done by following methods prescribed by CCME to account for local natural background and the other site-specific factors and considerations.

Residential Areas. Generally, arsenic levels within the City of Yellowknife were within levels that occur naturally. However, some areas of Yellowknife are known to be contaminated with mine tailings, mine waste rock, and other industrial debris.

The arsenic remediation objective for residential properties was proposed to be 160 ppm. This was established as the average background level of 150 ppm + 10 ppm. This level represents an incremental (additional

above natural background) skin cancer risk of one in 100,000 persons.^a

Proposed Boat Launch Area. A public boat launch is being developed on the former Giant Mine property. Besides the proposed launching and trailering of boats, the area is currently used for recreational fishing, wading and swimming. *Risklogic* assumed that a dedicated fisher or wader/swimmer might spend two hours per day, seven days per week throughout July and August at or near this location.

From this information, a remedial objective for soil of 220 ppm was proposed. This is based on adding an additional 70 ppm to the average natural background concentration of 150 ppm. It represents an added risk that is considered negligible by Health Canada standards.

With regard to sediments near the proposed boat launch, a sediment remediation objective of 150 ppm was proposed. This is based on the estimation that exposure to levels above this during wading and swimming represents an added risk that is above the level considered negligible by Health Canada standards.

Mining Properties (Industrial Lands). The remediation objective for industrial lands assumed that the site is not intended for public use, with access limited to site workers. Given that these lands are located directly above gold deposits, containing a high concentration of arsenic, a slightly higher natural level, or background concentration, of 300 ppm was considered appropriate.

The remediation objective proposed for these lands was 340 ppm, based on adding 40 ppm to the background concentration. This level represents an added risk that is considered negligible by Health Canada standards. The assumption used in calculating the risk to site workers was that there would be direct contact with the soil for five months of the year (the snow-free period) and was based on a workday of 10 hours per day, five days per week.

^a The proposed level for residential properties was based on the fact that yard soil is accessible for only five months per year, due to climatic factors such as snow and ice cover.

The Next Step

The information provided in these reports prepared by *Risklogic* for the YASRC have now been turned over to the appropriate regulatory agencies including the Mackenzie Valley Land and Water Board (MVLWB) and GNWT. It is up to these regulatory agencies to review these reports and set the final course for remediation. These reports present recommendations for remediation target levels, and not specific remediation activities or management options.

To reduce potential risks to Yellowknife residents, *Risklogic* advised that risk management should focus on preventing possible exposures such as by restricting public access to or covering up significantly impacted areas. They also

recommended that data on the bioavailability of arsenic from soils and sediments, soon to be released by the Environmental Science Group at the Royal Military College (Kingston, ON) be considered.

REFERENCES

- 1 Richardson, M. *Assessment of Ecologic Risks Posed by Arsenic Contamination in Yellowknife, NWT*. Ottawa: Risklogic Scientific Services Inc., 2002.
- 2 Richardson, M. *Determining Natural (Background) Arsenic Soil Concentrations in Yellowknife NWT, and Deriving Site-Specific Remediation Objectives for Yellowknife, the Con Mine Site and the Giant Mine Site*. Ottawa: Risklogic Scientific Services Inc., 2002.
- 3 Richardson, M. *Assessment of Human Health Risks Posed by Arsenic Contamination in Yellowknife, NWT*. Ottawa: Risklogic Scientific Services Inc., 2002.

Immunization Reminder...continued from page 3

very few side effects. People who get this vaccine report no more symptoms, such as fever, than those receiving a placebo. Annual influenza vaccine programs are not associated with long-term health problems and have great short-term rewards. Health care workers should use every opportunity to give the vaccine to individuals at risk. Vaccination for flu should continue into December and later, even after influenza activity has been reported and for as long as the vaccine is available.

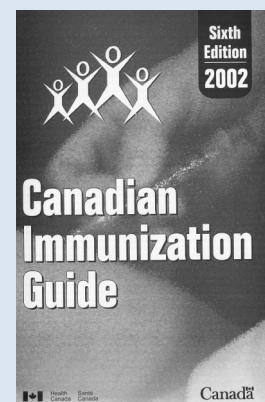
As noted above, influenza vaccination is a very important seasonal program. The following immunization programs are also routinely offered in the fall:

- pneumococcal,
- hepatitis B, and
- grade nine tetanus, diphtheria and acellular pertussis.

It is time for the nurse-in-charge to assess the population that will require these vaccines and

order the required doses from his/her regional pharmacist. The upcoming fall immunization programs should run smoothly, as a result of early preparation and attention to these very important vaccine programs.

The sixth edition of *Canadian Immunization Guide* (2002) is now available. The Office of the Chief Medical Health Officer will be distributing the guide to all Health Units and Authorities in July 2002. All recommendations by the National Advisory Committee on Immunization (NACI) on the use of vaccines in Canada are contained in the *Canadian Immunization Guide*. The recommendations in the sixth guide (2002) will supersede the recommendations in the fifth *Canadian Immunization Guide* (1998). If you have any questions or need clarification do not hesitate to contact the Office of the Chief Medical Officer and speak with the Communicable Disease Specialists (867) 920-8646.



Skills Enhancement for
Health Surveillance
Program
Centre for Surveillance
Coordination
Health Canada

Good Decisions – and the Evidence to Prove it: An Epidemiological Approach to Public Health

We are faced with many decisions in our busy lives both personally and professionally. Some decisions come easily. Others are complicated and require more time and thought. Good public health decisions hinge on many factors – experience, knowledge of the community, timing, values and leadership style. These all have a part to play in the process, but to make evidence-based decisions in public health, epidemiology is essential to the process. It allows public health practitioners to make better decisions around programs, policies, planning and surveillance by carefully analysing accurate data and using proven research findings.

A Flexible, Self-Paced Learning Opportunity

You can join other public health practitioners across Canada and learn more about epidemiology through Health Canada's *Skills Enhancement for Health Surveillance* on-line training program. It offers front-line public health practitioners, managers, and decision makers the opportunity to increase their skills in epidemiology, surveillance and information management. Decision making will be more informed and communities will be better served. There are opportunities for both professional growth and individual learning that will lead to more knowledge, confidence and skills in the workplace. Because the learning occurs on-line, it can be done anytime, anywhere. It is accessible across the country, self-paced, self-directed, and cost-effective.

A public health professional in the area of communicable diseases applauded the direct relevance of the course content around outbreak management, but also outlined other, secondary benefits. "My skills in computers were also upgraded by necessity in the course and that has been a great boon for me in this position."

The series of modules includes *Basic Epidemiological Concepts*, *Measurement of Health Status* and *Descriptive Epidemiological Methods*.

Participants so far have praised the relevance of the course content and the flexibility of learning on-line. One public health practitioner who completed the course commented on the excellent public health overview it offered, making it applicable to her job on a daily basis. She encourages all new staff members at her health unit to review the course material. Other participants revealed they are now better able to analyse data and focus their decision making on target populations.

Additional modules focusing on surveillance and information management are in the works and will be ready later this year. These will complement the epidemiology module and strengthen the capacity to help public health practitioners make better decisions.

What is Epidemiology?

Epidemiology is not only used to explore the causes and patterns of communicable diseases, it is also an important tool in other aspects of public health. We use epidemiological concepts to understand issues including injuries, behaviours such as smoking and physical activity, chronic diseases such as diabetes, and environmental concerns.

Because its scope is broad, so too is its application. Now all public health practitioners who make decisions and recommendations about programs and spending in public health can benefit from training in epidemiology. It helps public health practitioners make better decisions about the types of public health programs, policies, planning and surveillance initiatives we need in our communities.

How is Epidemiology used in Public Health?

Epidemiology helps us to understand better the complex web of interdependent factors that determine our health. It is used to monitor health trends, identify outbreaks and threats, and provide information to make evidence-



based decisions. Program and policy development, health service planning, and evaluation are informed by epidemiology. It is also an empowering tool for public health providers and governments as they take action to protect and promote the health of their communities.

A Little Epidemiology goes a Long Way

Epidemiology used to be the highly specialized domain of a small number of experts and these specialists are still essential. However, public health practice improves most when all professional staff members have training in the core competencies in epidemiology. This means having staff members who understand basic research methods and how surveillance improves community health. It also means that data is better understood, program evaluations are carried out, and health information is organized and presented better. Population health status and the determinants of health and illness are also more efficiently assessed and understood.

How Managers and Decision Makers Can Help

For public health staff members to benefit from the training available through the *Skills Enhancement for Health Surveillance* on-line training program, managers and decision makers have to be on board. There must be support for using an evidence-based decision-making approach and a commitment to making sure staff members have the necessary training. This means encouraging staff to participate in continuing education and training opportunities such as those offered by the *Skills Enhancement* initiative. To facilitate further an epidemiological approach, professional networking and development should be encouraged and specialists in the area should be recruited.

Information technology requirements also need to be met to enhance the use of epidemiology. Staff need access to computers, appropriate software, and good Internet connections. Local, provincial and national data must be available, timely, and reliable.

And the benefits go both ways. Public health organizations that place a priority on better decision making will attract and retain skilled staff. Organizations that offer professional development opportunities are seen as *employers of choice*, committed to improving and investing in their employees. In a larger context, the public health field will become more progressive and its managers and decision makers will be recognized as forward-thinking professionals.

The following case study on adolescent suicide prevention illustrates how using an epidemiological approach can lead to better decisions in developing an appropriate prevention strategy.

Evidence-Based Decision Making in Action: A Case Study in Adolescent Suicide Prevention

The people in your community are mourning the loss of three adolescents who committed suicide over the last three months. You are asked to join a committee looking at implementing a suicide prevention program in the school.

Scenario A

You know from reviewing *Toward A Healthy Future: Second Report on the Health of Canadians* that Canada has a consistently higher rate of youth suicides than other countries and that the greatest increase in suicide rates has been among the 15 to 19 age group.¹ For Canadians aged 15 to 29, suicide is the second leading cause of death.²

The committee is considering the use of a specific high school curriculum suicide prevention program found by one of the teachers. You see that the curriculum is designed to change knowledge, awareness and attitudes about suicide.

Decision: You agree that the use of this curriculum is a good initial strategy. The school prepares to start the program in six weeks.

But is this the best decision? Let's apply some basic epidemiological principles to take a closer look...

Centre for Surveillance Coordination

The *Skills Enhancement for Health Surveillance* initiative is part of Health Canada's Centre for Surveillance Coordination. The Centre's mandate is to collaborate with public health stakeholders on the development, maintenance and use of health surveillance information, tools and skills that strengthen Canada's capacity for timely and informed decision making.

One of the Centre's activities is the *Network for Health Surveillance in Canada*. The *Network* is a partnership involving local, provincial, territorial and national governments, nongovernmental organizations and universities. The *Network* is building the relationships, standards and system tools so that public health decision makers can access, via the Internet, the information they need to meet public health needs more effectively.

For more information about the Centre, the *Network* and the *Skills Enhancement Program*, please visit <http://www.healthsurv.net>.

Scenario B

In this variation of the same scenario, you use your training in epidemiology to gather information about other programs and their effectiveness, and to review additional data about suicide rates.

A closer look shows that there are limitations to the use of these data due to under-reporting and changes in reporting between years and between countries.³ From a national perspective, the steady but slow increase in suicide rates in recent years has been almost entirely among men, although women attempt (but do not complete) suicide more often. Suicide rates in Aboriginal communities are estimated to be two to seven times higher than in the population at large. People who have substance abuse problems are more at risk, as are people who are depressed.⁴ Depression is highest in the 15 to 24 year old age group.⁵

You locate a systematic review of a variety of curriculum school-based suicide prevention programs that used epidemiological principles to evaluate each program.⁶ You find that the program under consideration may increase suicide-related knowledge, but it may also have harmful effects. In fact, the evaluation showed that the program appears to increase the proportion of young men who feel that suicide is a reasonable solution to problems.

Other concerns are expressed about curriculum programs in general. The review stresses the need to make programs culturally sensitive and to consider tailoring programs differently for young men and young women. It suggests the use of a comprehensive multi-strategy for suicide prevention.

Decision: After you present this detailed analysis, the committee recommends the

development of a comprehensive, multi-strategy suicide prevention program. A curriculum component that is sensitive to culture and gender may be one part.

If you are interested in participating in Health Canada's Skills Enhancement for Health Surveillance on-line training program or would like more information, please contact health_surveillance@hc-sc.gc.ca. Or visit www.healthsurv.net/skills to get an overview of the program.

A paper outlining the importance and use of epidemiology and health surveillance in public health practice and decision making in the community is available. A PowerPoint presentation designed for public health staff and decision makers based on this paper can also be obtained.

Acknowledgements: The Alder Group and Larry W. Chambers, Anne Ehrlich, and Louise Picard of the Ontario Public Health Research, Education and Development Program and the Association of Public Health Epidemiologists in Ontario are thanked for their contribution to this article.

REFERENCES

- 1 Federal, Provincial and Territorial Advisory Committee on Population Health. *Statistical Report on the Health of Canadians*. Ottawa: Statistics Canada, 1999.
- 2 Health Canada. *Suicide in Canada, Update of the Report of the Task Force on Suicide in Canada*. Ottawa: Minister of Public Works and Government Services, 1994.
- 3 Federal, Provincial and Territorial Advisory Committee on Population Health. *Toward a Healthy Future*. Ottawa, 1999.
- 4 Canadian Centre on Substance Abuse Addiction Research Foundation of Ontario. *Canadian Profile, Alcohol, Tobacco and Other Drugs*. Ottawa, 1997.
- 5 Statistics Canada. 1999. Psychological health-depression. *Health Reports* 11(3): 63-76.
- 6 www.eagle.ca/PHB/phred/index.htm

Action on Tobacco...continued from page 1

Action on Tobacco Goals

The territorial strategy is organized into three main goals, each with its own specific actions. Denormalization, the attempt to change community attitudes towards tobacco use underlies all three of the goal areas. A summary of the action plan follows with target dates for completion where applicable.

Prevention

1. Develop a tobacco unit for the school health curriculum and provide inservicing to teachers to support the delivery of the unit in NWT schools by January 2004.
2. Develop and deliver media messages aimed at denormalizing tobacco use.
3. Support and implement youth initiatives to reduce youth susceptibility to tobacco.
4. Build and support community capacity to take action on tobacco by:
 - dedicating a percentage of the Health Promotion Fund to be used for tobacco initiatives;
 - providing training, resources and technical expertise; and
 - holding workshops/conferences to promote knowledge development and networking.
5. Prevent youth access to tobacco by working closely with the federal tobacco enforcement officers who monitor federal laws that ban the sale and distribution of tobacco products to minors. Territorial environmental health officers will also become involved by assisting in the education of NWT tobacco retailers.
6. Review options for controlling the sale of tobacco products at the community level by January 2004.

The anticipated outcomes of these prevention actions are:

- an 80% reduction in the sale of tobacco products to minors (under 18 years of age) by 2007.
- a 50% reduction in tobacco use by minors by 2011.

Protection

1. Support community action to reduce exposure of residents to environmental tobacco smoke (ETS) including the establishment of bylaws or policies to restrict smoking in public places.
2. Explore and identify possible options for NWT tobacco legislation and produce a discussion paper by January 2003.
3. Encourage the Workers' Compensation Board to take actions to restrict smoking in the workplace.

The anticipated outcomes of these protection actions are:

- protection from ETS in the workplace and further denormalization of tobacco use.
- A 15% increase in communities passing by-laws or policies to restrict smoking in public places.

Cessation

1. Training for health care and social services providers in cessation counseling by January 2004.
2. Counseling for cessation, including support groups where appropriate, will be available to smokers by January 2005.
3. Nicotine replacement therapies (NRT) and other smoking cessation aids covered by the Extended Health Benefit Program by April 2004.
4. Dissemination of appropriate materials to promote youth cessation efforts.

The anticipated outcomes of these cessation actions are:

- A 20% increase in smokers who want to quit.

Monitoring the Strategy

A strategy needs a strong evaluation component. It is essential that we monitor our efforts to reduce tobacco use by our population. Evaluation and research will provide valuable information on the progress made toward these goals. An evaluation framework has been developed which outlines measures to assess each of the actions in the strategy.



COMING SOON:

An NWT-wide smoking cessation contest with great prizes! Details and Registration forms are available at your local Health Centre.

Surveys are key tools for monitoring the progress of our efforts. The strategy commits the GNWT to repeat its survey of school-aged populations on their knowledge, attitude and behaviour about smoking every three years. This survey has previously been done on a five-year cycle. The GNWT will also continue to monitor the incidence and prevalence of smoking behaviour by analyzing the tobacco components of regularly-repeated surveys such as the *Canadian Community Health Survey*, the *NWT Alcohol and Drug Survey* and the *Labour Force Survey*. In addition, NWT death certificates will be modified to record when tobacco use is identified as a contributor to mortality.

The evaluation framework also emphasizes the importance of program evaluation. This ensures that initiatives at the program level to educate, protect, and to promote cessation and denormalization of tobacco use are assessed for actual outcomes in addition to their more tangible outputs such as numbers of participants or participant satisfaction.

The Challenge Ahead

A strategy can look pretty on paper. The challenge lies in how it is embraced and

implemented by our politicians, government departments, community-level organizations, and groups.

The next step is to broaden the initial tobacco working group to include representation from youth, NGOs (non-government organizations) and Aboriginal groups. This expanded committee will oversee the implementation of the action plan and provide their recommendations to the Chief Medical Health Officer.

Action on Tobacco outlines major steps that need to be taken in the next three to four years. A review of the full document reveals a daunting amount of work that needs to be done. Some of this is already in progress. The school health survey will be implemented this fall. Preliminary work on a legislation discussion paper has begun. As well, a conference for youth and counseling training for health care providers are in the planning stages.

If we are able to accomplish the major steps outlined in the plan we will make a significant impact on the health and well-being of a large proportion of our population. With a concerted effort by governments, communities and families, we can meet this challenge.

One of the action items in *Action on Tobacco* is supporting communities to implement by-laws or policies to restrict smoking in public places. The anticipated outcome is a 15% increase in the number of communities with such policies or by-laws. The Department of Health and Social Services needed a baseline against which to measure success, so a survey was conducted in April 2002 to find out what approaches communities were taking to protect residents from second hand smoke. The following is a brief summary of the information collected.

Which Communities?

- Four communities have passed smoking bylaws. They include Hay River, Fort Liard, Fort Simpson and Yellowknife.
- Ten communities have written policies. Generally, a community council was involved in establishing the policy, but in some cases it was done by administration.
- Informal, sometimes unwritten, agreements within office places or hamlet buildings, exist in 17 communities. These range widely in scope and the extent to which people respect them.

Community size does not necessarily influence whether a community has policies or by-laws. Some of the larger communities have neither, while several smaller communities have written policies that include most community buildings.

Which Buildings?

- Community offices are most likely to be smoke-free. Nineteen of 33 communities provide a smoke-free environment in their band/hamlet or town offices.
- Not all communities have a community hall. Of those that do, 15 are smoke-free and six have some restrictions on smoking.
- All arenas had some smoking restrictions. Eleven have a smoking ban and six have a partial ban on smoking.
- Many communities choose to put a smoking ban in place when a new building is constructed.

Editorial...continued from page 2

Since 1999, our efforts have resulted in increased attention and action on some of the cost-drivers to our system. So far, the Territories now has the comprehensive, long-term *Territorial Strategy for Tobacco Control*, joint activity with Municipal and Community Affairs on a Territorial active living strategy, and partnerships in the area of fetal alcohol spectrum disorder prevention and awareness. We have produced a report on the 85 health promotion projects funded through the Health Promotion Strategy Fund from 1999 to 2002. These activities have been completed at an unprecedented rate in the NWT.

There is still a long way to go. Over the next few years, our team and our partners plan to

continue to work in collaboration to influence policy, planning, programming, training and knowledge, evaluation and advocacy. This will result in health gains for the system such as improved well-being, reduced health care costs, greater sustainability and more support for the *upstream* approach to health.

REFERENCES

- 1 Health Canada. 2002. *Health Policy Research Bulletin*, 1(3). The Ottawa Charter for Health Promotion was created in 1986 in response to growing expectations for a new international public health movement. It provides an ideal vision of how health can be obtained through strategies that promote health.
- 2 Tremblay, Rick. 1999. Healthy Choices: A Health Promotion Strategy. *EpiNorth* 11, 1: 4-5.
- 3 DeRoose, Elsie. 1999/00. Health Promotion Update. *EpiNorth* 12, 1: 8-10.



Health Promotion

We are influenced by it everyday, often taking it for granted. Whether it is one of the smoke-free environment or non-smoking signs posted outside of restaurants or the fluorescent warning labels attached to alcoholic beverages sold at liquor stores, we are impacted by health promotion on a daily basis.

The Internet is no stranger to this influence. A number of excellent, credible websites are available on the Internet that focus on broad and/or specific areas of health promotion.

Health Promotion within the NWT

The Department of Health and Social Services's Health Promotion Strategy is listed on the Departmental website (www.hlthss.gov.nt.ca) under the Publications link, or it can be found directly at: <http://www.hlthss.gov.nt.ca/Content/Publications/HPstrat/toc.htm>. Through this website, you can access the Health Promotion Strategy, the health promotion priorities, as well as the components. Note that an updated Health Promotion Strategy and the Health Promotion Strategy Fund report will be available on the website once these resources are completed in 2002/2003.

Links outside the NWT

For health professionals and related health workers, the following websites outside of the NWT may be of particular interest.

Health Canada's website, entitled Health Canada Health Promotion Online http://www.hc-sc.gc.ca/english/for_you/hpo/index.html provides a great wealth of information, including upcoming health events and conferences as well as, teaching guides for educators, health resources, statistics, and reports. Currently, Health Canada's home page houses direct links to three important health promotion issues:

1. *You and Me, Smokefree* is geared towards providing youth with information on the harmful effects of tobacco,
2. *Hepatitis C – Get the Facts* provides Canadians with information regarding the risk of contracting hepatitis C, and
3. *Aboriginal Diabetes Initiative* provides information on how to prevent diabetes amongst Canada's aboriginal population.

Another site for browsers interested in health promotion is the *Health Promotion Bookmarks/Hot Links* web site found at: <http://www.web.net/~stirling/>. This site provides information on health promotion sites in Ontario, across

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Canada and in other parts of the world. Access is provided to resources such as the *Ottawa Charter for Health Promotion* and the *Health Promotion Research Internet Network*, as well as organizations such as the *World Health Organization* and the *Canadian Health Network*.

Most interesting about this site is the link to the *Community Tool Box*. Maintained by the University of Kansas Work Group on Health Promotion and Community Development, this site provides tools that explain how to complete various tasks necessary to promote community health and development by connecting people, ideas, and resources. Written in a plain language and user-friendly format, the *Community Tool Box* provides 13 tools to aid communities in developing initiatives from the assessment and development stages to the evaluation and social marketing stages.

Other worthwhile health promotion websites are:

- University of Alberta Centre for Health Promotion Studies <http://www.chps.ualberta.ca/research/research.htm>. This site provides information on health promotion studies, databases, and research as well as links to a wide variety of health promotion topics and areas.
- Centre for Health Promotion <http://www.utoronto.ca/chp/>. This website is based at the University of Toronto. Their *What's New* section is updated regularly on such topics

as health promotion summer school and other events, information on their best practices and evaluation unit, working groups, committees, and initiatives, as well as a listing of their health promotion publications. The Ontario Tobacco Research Unit is also one of the more detailed topic areas.

- Prairie Region Health Promotion Research Centre <http://www.usask.ca/healthsci/che/prhprc/>. This centre was established in 1993 at the University of Saskatchewan to support and foster health promotion research across communities and five universities in the provinces of Manitoba and Saskatchewan. The Centre is active in developing communication links between organizations, practitioners, researchers and policy makers and offering training in health promotion practice and research. Their current site provides on-line registration to summer school, a health promotion electronic discussion group, and upcoming events.
- Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services <http://odphp.osophs.dhhs.gov/> provides information on their initiatives, such as the *Closing the Gap Campaign*, the *Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*, and many more publications and initiatives.

For more information on health promotion contact the DHSS Health Promotion Unit at (867) 873-7904.

IN brief...

Smoking Cessation Spells Surgical Success

"An effective smoking intervention program six to eight weeks before surgery reduces postoperative morbidity."

Smokers are more likely than non-smokers to have cardiopulmonary and wound-related complications after surgery. To assess the efficacy of preoperative smoking intervention on postoperative recovery, Ann M Møller and colleagues did a randomized controlled trial in which they equally assigned 120 individuals, admitted to hospital for hip or knee replacement, to either control or smoking intervention groups six to eight weeks before scheduled surgery. The results of

the study indicate that postoperative complications were more than halved by smoking cessation for three weeks before surgery, with the greatest effect on wound-related and cardiovascular complications. On the basis of their results they recommend that individuals stop smoking for at least six weeks before an operation.

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CONFERENCES & workshops

5th Canadian National Immunization Conference

December 1-3, 2002

Victoria Conference Centre

Victoria, British Columbia, Canada

Organized by

Health Canada's Centre for Infectious Disease Prevention and Control and the Canadian Paediatric Society with support from the private sector.

Conference Objectives

To present a forum for information exchange and discussion on the development and implementation of the National Immunization Strategy.

Program will include the following:

- successes and challenges toward developing the National Immunization Strategy
- action required to implement the National Immunization Strategy
- emerging issues and challenges affecting immunization programs regionally, provincially, territorially, nationally and globally

- advocacy for better health through immunization
- current scientific information on vaccines, and research and development

Who should attend?

- Public health physicians and nurses
- Primary care physicians and nurses
- Policy makers
- Health promoters
- Health professionals involved in education and research
- Students
- Industry
- The public
- The media

You can register on-line at

<https://www.gemssecure.com/events/cnic2002e/>

For more information go to: <http://www.hc-sc.gc.ca/pphb-dgspsp/cnic-ccni/index.html>

Sexual Abuse and Sexual Assault Workshop

Mark this very important event on your calendar. The Department of Health and Social Services is sponsoring a Sexual Abuse and Sexual Assault Workshop on November 6, 2002. It will take place in Yellowknife at the Air Tindi Float Base from 8:30 – 17:00 hours. The conference will discuss: 1) the assessment and support required for children during the investigation of suspected sexual abuse; 2) the protocol to be used; and 3) the support needed for sexual assault victims.

The workshop will have such noteworthy speakers as: Dr. Lionel Dibden, Pediatric Sexual Abuse Specialist; Kathleen Soltie, Manager of Sexual Abuse Response Teams of Edmonton (SART); RCMP; Victim Support Workers; Child Protection Workers; and a Crown Prosecutor. It will be a day packed with much information that will be appropriate and useful for all professionals involved with child sexual abuse and sexual assault. For more information contact Wanda White at 873-7721.

*Wanda White,
Communicable Disease
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NOTIFIABLE diseases

for the Northwest Territories (NWT) April 2002 - June 2002^a

		April – June 2002	Cumulative Totals - 2002
		NWT	NWT
<i>Vaccine Preventable Diseases</i>	Hepatitis B	1	1
	Haemophilus Influenzae	0	0
	Influenzae A	8	12
	Influenzae B	0	0
	Pertussis	0	12
<i>Sexually Transmitted/ Bloodborne Diseases</i>	Chlamydia	0	126
	Gonorrhea	0	33
	Hepatitis C	9	21
	Hepatitis, Other	0	0
	Syphilis	0	0
<i>Diseases by Direct Contact/ Respiratory Route</i>	Chicken Pox	1	33
	Invasive Group A Strep	0	0
	Invasive Strep Pneumoniae	2	4
	Legionellosis	0	0
	Meningitis, Pneumococcal	0	0
	Meningitis, Other Bacterial	0	0
	Meningitis, Unspecified	0	1
	Meningitis, Viral	0	0
	Meningococcal Infections	0	0
	Respiratory Syncytial Virus	9	37
Tuberculosis	2	2	
<i>Enteric, Food and Waterborne Diseases</i>	Botulism	0	0
	Campylobacteriosis	2	4
	Cryptosporidiosis	0	0
	E.Coli 0157:H7	0	1
	Giardiasis	1	4
	Hepatitis A	0	0
	Salmonellosis	3	5
	Shigellosis	0	1
	Tapeworm Infestation	0	0
	Trichinosis	0	0
<i>Vectorborne/Other Zoonotic Diseases</i>	Yersinia	0	0
	Brucellosis	0	0
	Malaria	0	0
<i>Antibiotic resistant microorganisms</i>	Rabies Exposure	2	2
	Methicillin-resistant Staph.Aureus	0	1
	Vancomycin-resistant Enterococci	0	0

NWT HIV Infections Reported from 1987 to 2002^b

Total	<i>Age Group at Diagnosis</i>								<i>Gender</i>		<i>Risk Category</i>					
	0-9	10-14	15-19	20-29	30-39	40-49	50-59	60+	Female	Male	MSM ^c	MSM/ IDU ^d	IDU	Hetero- sexual	Perinatal	Blood Products
21	1	0	0	4	11	4	0	1	2	19	11	1	4	3	1	1

a Statistics are based on currently available data and previous data may be subject to change.
 b According to current boundaries
 c Men who have sex with men
 d Injection Drug User