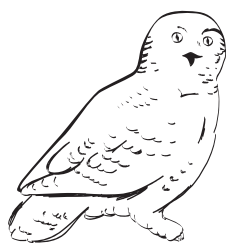


# EPI



# NORTH

The Northwest Territories Epidemiology Newsletter

Winter 2001

Vol 13, Issue 1

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## Social Epidemiology

... states of health do not exist in a vacuum apart from people. People form societies and any study of the attributes of people is also a study of the manifestations of the form, the structure and the processes of social forces (Susser, 1973).<sup>1</sup>

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Epidemiology is primarily concerned with the distribution of disease in human populations. Its beginnings go back to the 19th Century when epidemiology emerged as a way to identify the causes of human disease. As the basic science of public health, epidemiology focuses on groups, not individuals, and its primary role is to identify risk factors on a given disease. In the last couple of decades, however, the emphasis has been shifting as calls for an integration of social factors have become more audible. This development is borne out of a recognition that although epidemiology is adept at uncovering the roadmap to disease, it is not always capable of providing the answers as to *why* disease occurs in the first place, or why certain people, and not others, get sick. More importantly, perhaps, its analytic framework is not conducive to identifying and sorting through relevant social conditions which predispose one to disease.

The notion that social conditions have an impact on health and well-being is not new. What is *new* is the emergence of *social epidemiology*; a marriage of sorts between the clinical and the sociological approaches to understanding determinants of health. Whereas epidemiologists are happy to identify the pathways of communicable diseases, social epidemiologists are interested in "the social distribution and social determinants of states of health".<sup>2</sup> Two examples will help to illustrate this point.

First, Emile Durkheim, a noted French sociologist, conducted a study of suicide in 19th Century France in which he proposed that *social milieu* is critically important in an appraisal of health and well-being.<sup>3</sup> Durkheim questioned the assumption that suicide is a highly individualized and personal event. Despite this commonly held belief, he demonstrated that the suicide statistics revealed *a patterned regularity* over time. Thus, even though the individuals changed, the rate of suicide was fairly constant. If suicide were a deeply personal event, then what could account for the patterned rate of suicide? Durkheim's work showed that health and well-being were not to be understood only at the individual level, but that systemic factors are also at play. His study illustrated that suicide was linked to collective social forces. In other words, suicide was a function of dynamics (degree of social integration and social cohesion), which were independent of the individual.

Within this perspective, intervention must necessarily take place at the systemic level otherwise new individuals entering an "at risk" social environment will experience the same rate of illness if nothing has been done to influence those forces which caused the condition in the first place. Clearly, this approach has implications not only for identifying risk factors and disease pathways, it is also relevant to health promotion and disease prevention insofar as community-level intervention requires new thinking on disease etiology.

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## FEATURE ARTICLE

## Smoking in the NWT: Focus on Youth

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Tobacco is the only consumer product that when used as intended causes disease, disability and death. Diseases such as lung cancer, chronic bronchitis, coronary heart disease and emphysema have all been clearly associated with regular tobacco use. However, despite the well-known harmful health effects associated with tobacco use, a large number of people in the Territories smoke. The majority of smokers begin smoking before the age of 18.\* Once tobacco becomes part of a daily routine, physical addiction is usually close behind. Adolescents are faced with the same difficulties in quitting as are adult smokers. With an acquired dependence on cigarettes and a physical addiction to nicotine, they often continue to smoke well into adulthood.

The decision to start smoking is often the result of a complex set of personal and social factors. Adolescence is typically a time of significant physical and psychological changes, and social relationships take on new emotional dimensions. In light of such pressures, some adolescents, especially those lacking personal skills to resist, may see smoking as a way to deal with the transition into adulthood. Within this context, smoking can be seen as a means to acquiring more independence and maturity, becoming part of a social group, or assuming a particular image.

Aside from personal factors, there are a number of predisposing and influencing factors that are largely social in nature. *Predisposing* factors are those which make smoking initiation more likely to occur. For example, we could think of family income, parents' education, cultural background, and academic performance as factors which leave youth more or less vulnerable to smoking uptake and help to identify who is at greater risk.\*\* *Influencing* factors are those which encourage experimentation with smoking. A significant influencing factor for youth is the presence of smokers within the immediate (parents, grandparents, siblings, etc.) and extended social environments (peers, role models).<sup>1</sup> Other influencing factors would include the cost and accessibility of cigarettes.

It is important to gain insight into some of the social factors that influence adolescents to take up smoking. This article provides a description of youth smoking behavior in the Northwest Territories. The relationship between youth and adult smoking prevalence in three types of communities will be briefly examined. The evidence clearly suggests that youth are more likely to smoke if they (i) live in an environment where smoking rates are high among adults and if (ii) tobacco products are easily accessible.

### Data Sources

The principal source of data for this article was the 1999 Northwest Territories school tobacco survey. Questionnaires were mailed to a total of 46 schools (any school that had grades 4 up to 12). A total of 38 schools responded for a school response rate of 83%. Out of a target population of approximately 5,750 students aged 10 to 19, a total of 3,246 students participated in the survey representing a student response rate of 56.5%. The aggregate characteristics of the sample approximate the population characteristics for a number of key variables including sex, ethnicity and region of residence. The survey results were weighted to represent the total student population whose characteristics were obtained from administrative records. Adult smoking rates were obtained from the 1999 NWT Labour Force Survey conducted in every community in the Territories. Information was obtained for a total of 6,410 persons. The survey results were weighted to reflect total population estimates.

### Smoking Prevalence

The extent of the smoking problem among NWT youth is highlighted when smoking prevalence is compared with national figures. Territorial youth 12 - 17 years of age are more than twice as likely to be a current smoker (daily and occasional smokers) than are youth in Canada (34% compared to 16%). The contrast between the NWT and national smoking prevalence is striking when comparing 12 - 14 year olds. NWT youth in this age group are three times more likely to be a current smoker than are their counterparts in Canada (22% compared to 8%). Nearly half (48%) of youth 15 - 17 years of age in the Territories are current smokers compared with one quarter (25%) of Canadians in this age group.

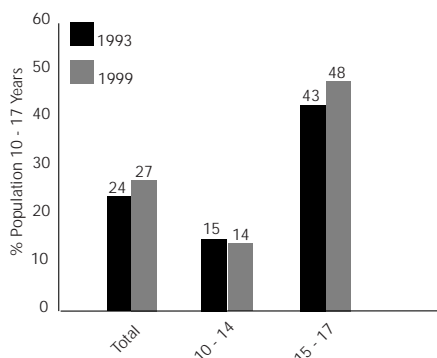
\* According to the 1996 Northwest Territories Alcohol and Drug Survey, approximately 80% of current and former adult smokers started smoking before the age of 18. (Data provided by the NWT Bureau of Statistics.)

\*\* For example, young people from families with lower socio-economic status are at increased risk of initiating smoking.



Evidence suggests that the youth smoking problem is, indeed, getting worse. Figure 1 shows that the smoking rate among youth 10 - 17 years of age increased from 24% in 1993 to 27% in 1999. The increase occurred among youth who indicated they smoke on a daily basis (13% in 1993 to 19% in 1999). The proportion of youth who has never smoked decreased from 48% in 1993 to 42% in 1999. This general pattern was observed for both males and females, but there were differences between age and ethnic groups. The prevalence of current smokers remained fairly constant for 10 - 14 year olds, but increased for 15 - 17 year olds. Moreover, the increase in smoking rates was due to an increase in the prevalence among Aboriginal youth, from 30% in 1993 to 38% in 1999.

**Figure 1**  
**CURRENT YOUTH SMOKERS BY AGE,**  
**NWT 1993 & 1999**



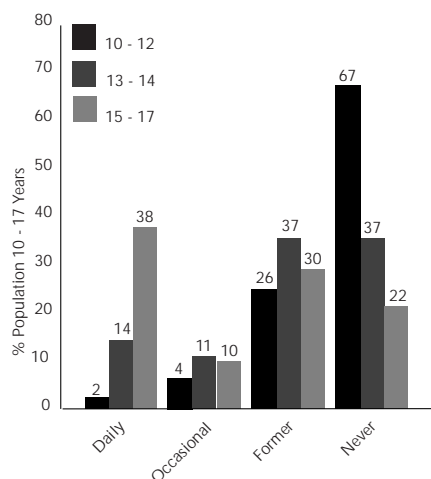
Sources: 1993 & 1999 NWT School Tobacco Surveys

### Youth Smoking Status

Smoking initiation normally progresses through five stages: forming attitudes and beliefs about smoking; trying for the first few times; experimenting with smoking on a repeated but irregular basis; regularly smoking at least weekly, in a variety of situations; becoming addicted. This process generally takes two to three years, but it can occur much faster.<sup>2</sup> Additionally, smoking uptake does not always follow a sequential pattern of initiation followed by a gradual increase in the frequency of smoking. Rather, smoking is often an irregular activity undertaken in various social settings. Youth may start and stop several times before becoming regular, daily smokers. Therefore, occasional and former smokers are important groups to consider when looking at smoking status because these

categories include those who are experimenting with smoking. Research findings suggest that even trying cigarettes is dangerous. 'Experimenters' are more likely to become smokers at a later date than those who have never smoked.<sup>3</sup> Figure 2 shows that about 26% of 10 - 12 year olds and 37% of 13 - 14 year olds indicated they had smoked at one time. This high percentage suggests that a large number of individuals are experimenting with cigarettes at a young age.

**Figure 2**  
**SMOKING STATUS BY AGE, NWT 1999**



Source: 1999 NWT School Tobacco Survey

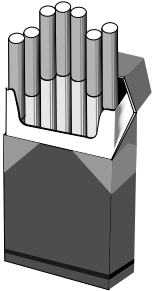
However, not all teens who experiment with cigarettes become addicted smokers. It may take some time for occasional smokers to reach a serious level of nicotine dependence. While some former smokers may never smoke again, others will continue to experiment and become addicted. Adolescents who smoke every day are more likely to be addicted to nicotine and, therefore, more likely to experience this addiction in much the same way as do adult smokers. The progression to smoking addiction becomes apparent when the percentage of current smokers who smoke daily is observed: 32% for 10 - 12 year olds; 56% for 13 - 14 year olds; 79% for 15 - 17 year olds. Clearly this increasing pattern of regular smoking reveals a shift from experimentation in early adolescence to regular smoking by mid adolescence. This suggests that this group would likely benefit from cessation rather than prevention messages.

Figure 2 also shows that only 22% of adolescents 15 - 17 years of age indicated they had never smoked. Therefore, the likelihood of moving into adulthood as a non-smoker in the Northwest Territories is low. As well, the risk of smoking initiation climbs sharply from ages 12 - 15 making this period of adolescence critical in the adoption of smoking. About 6% of youth 10 - 12 years old are already current smokers.

However, that figure more than quadruples to 26% by 13 - 14 years of age. By the time youth reach 15 - 17 years of age nearly half (48%) are current smokers. This pattern of youth smoking behavior strongly suggests that 11 - 12 year olds are experimenting with smoking and 13 - 14 year olds are making the *choice* to continue.

### Influencing Social Factors

The social environment in which youth live influences their smoking behavior. They are more likely to smoke if a large number of friends smoke. It is significant that the first attempts typically occur with peers. Subsequently, a peer group provides expectations, reinforcement and cues for further experimentation.\* Youth are also more likely to start smoking if parents and/or siblings also smoke.<sup>†</sup>

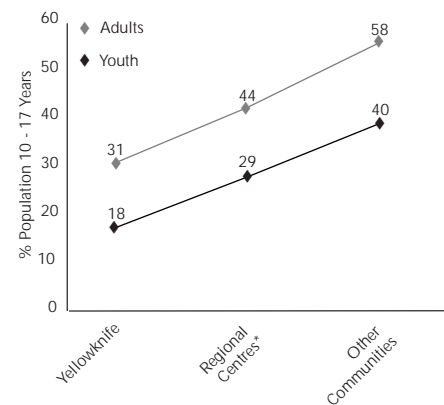


Youth who live in communities where smoking is a common and socially acceptable practice are more likely to smoke at a young age. Figure 3 shows that there is a strong positive correlation ( $r = 0.99$ ,  $P < 0.05$ ) between adult and youth smoking. Where adult smoking rates are high, the rates among youth are also high. In Yellowknife, for example, the adult smoking rate is estimated to be 31% and the youth smoking rate is about 18%. In the regional centers of Hay River, Fort Smith and Inuvik, the adult smoking rate is 44% and the youth rate is 29%. The similar pattern is observed in the smaller communities where the adult smoking rate is 58% and the youth smoking rate is 40%. If a large number of people in a community smoke, this may create the perception among youth that smoking is a normal, even desirable, activity. These social factors point to the need for prevention programs that attempt to *denormalize* smoking in communities where it has become a taken-for-granted behavior.

\* The 1994 Canadian Youth Smoking Survey asked adolescents why they started smoking. Having friends who smoke and curiosity were given as major reasons. However, once youth moved from experimenting to becoming regular smokers, their reasons for smoking changed. They indicated that they continued to smoke because they were addicted, or it helped them cope with stress.

Figure 3

### CURRENT SMOKERS, YOUTH & ADULTS BY COMMUNITY TYPE, NWT 1999



Sources: 1999 NWT School Tobacco Survey & 1999 NWT Labour Force Survey

\* Regional Centres include Fort Smith, Hay River and Inuvik

### Designing Prevention

The high youth smoking rate in the Northwest Territories is a major cause for concern and holds significant long-term public health implications. Preventing the onset of adolescent smoking is critical to reducing the overall prevalence of smoking and should be included as a component in any smoking prevention strategy.

There are a number of very good reasons to prevent smoking uptake among youth. People who do not start smoking before 18 years of age are less likely to become smokers later in life. Moreover, the probability of quitting is closely associated with the age of initiation. Those who begin smoking at an early age are less likely to quit later in adulthood.<sup>5</sup> The earlier youth become addicted, the greater the chance of experiencing both immediate and long-term health impacts. Young smokers are less likely to be physically fit than non-smokers, and are more affected by respiratory tract infections. Finally, some research suggests that tobacco use is often a predictor for other risky behaviors and can act as a 'gateway' drug. Adolescent smokers are more likely to experiment with alcohol, drugs and other addictive behaviors such as gambling.

Designing effective interventions specifically for adolescents requires careful consideration. The social, economic, and behavioural influences that promote tobacco use and facilitate youth access, as well as the barriers that actively discourage youth from initiating smoking, must be clearly identified and understood. A consistent and unambiguous message needs to be conveyed about tobacco use, including its addictive nature and harmful health effects.

Anti-smoking campaigns are needed to encourage changes in attitudes that regard smoking as normal behavior. Denormalization attempts to characterize smoking as a socially unacceptable and undesirable behavior. This strategy also works to build public support for increased tobacco control measures and to heighten public awareness of tobacco industry practices. The strategy goes beyond the individual and makes tobacco a *community* issue. For example, it would make it easier to implement regulations banning smoking

in public places where youth commonly gather. This would send a message that smoking is not 'okay', and has the added benefit of reducing exposure to environmental tobacco smoke.

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*Social Epidemiology...continued from page 1*

Second, coronary heart disease has been one of the best financed, most systematically studied, health concerns in North America. A large number of risk factors have been identified. However, there appears to be consensus on only three: cigarette smoking, high blood pressure and high serum cholesterol. A significant number of additional risk factors have also been proposed, yet not everyone agrees about their relative importance or role: obesity, diabetes, physical inactivity, lipid and clotting factors, stress, and hormones. Yet, when all these risk factors are collectively considered they only account for about 40% of the coronary heart disease.<sup>2</sup> Somehow, we have missed something along the way which would help to account for the remaining 60%. Still, the record on identifying coronary heart disease risk factors is admittedly one of the best.

These examples teach us that social experiences, as the direct causes of disease and disability, need to be incorporated into an epidemiological framework which is more pliable than a strict biological approach. This would entail the inclusion of social context (eg., culture, environment, government policy, etc.) and social indicators (eg., socio-economic status, educational attainment, social networks, work demands, etc.) into our analytic models, our research agendas, our health promotion and disease prevention programs and our treatment activities. Such an approach would require thinking which goes beyond biology, allowing for behavioural and environmental considerations.

Social epidemiology points us in a direction which calls for more socially grounded approaches to understanding social determinants of health and disease – a goal very much at the heart of the public health agenda. Attempts to move from conceptualization to measurement of social variables, from evidence-based decision-making to program delivery and evaluation make the need for systematic analysis of the social environment imperative if what is at stake are sound policy decisions responsive to the needs of constituents.

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# Smoking from a Health Promotion Perspective

Health promotion, as a strategy to increase personal ownership of one's own health, is an internationally recognized approach to preventing illness, reducing harm and empowering individuals. Its contributions to public health have been significant in areas such as public policy aimed at improving health, clinical interventions aimed at preventing disease, and education aimed at increasing individuals' capacity to take greater 'information-based' responsibility for their health status. Broadly speaking, health promotion can be seen as multi-disciplinary and diverse in its approaches to intervention and methods of evaluation. It tends to rely on a socio-ecological approach to health which takes into account socio-cultural processes and the context of health outcomes.

Perhaps one of the more noteworthy contributions on the part of health promoters has been in changing the approach to dealing with tobacco as a public health issue. The emphasis on smoking during the post-war years represents a shift on the part of health policy makers toward an increased prominence on personal or individual lifestyle choices. The traditional model of intervention has been behavior modification and health education campaigns – both fundamental tenets of health promotion.

## The Northern socio-cultural context

For approximately 200 years, only moderate amounts of tobacco were smoked by Aboriginals. Although tobacco occupied a legitimate cultural and spiritual place, not much is known about how this relationship contributes to addictive patterns of tobacco use by contemporary First Peoples. In what is typically referred to as the "pre-contact" era, tobacco was regarded as a sacred medicine plant and used for religious or cultural ceremonies. The "post-contact" era was marked by the arrival of European traders and whalers who introduced new types of tobacco (*nicotiana tobacum*).

Placing tobacco use within a socio-cultural context gives us an opportunity to identify the meanings Aboriginal peoples have given to tobacco as well as to understand how economics have influenced the shift of tobacco use from the

sacred ceremonial realm to more of a recreational pattern of consumption. For instance, fierce competition between traders such as Hudson's Bay Company and the Northwest Company became so intense that tobacco, regarded as a highly valuable commodity by Aboriginal peoples, was used by traders as an incentive for trade. As such, tobacco became part of the economic context insofar as it facilitated trade.

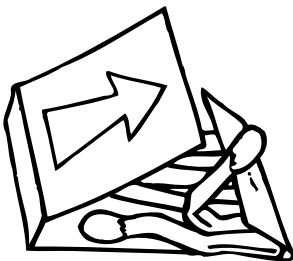
## Smoking and gender

In Canada, the post-war years have witnessed an exponential increase of female smokers. This trend has been no less dramatic in the NWT, where nearly half the women between the ages of 15 and 44 are current smokers.<sup>1</sup> Moreover, adolescent females, 13 to 17 years of age, are more likely to be current smokers than are males of the same age group.<sup>2</sup> An estimated 53% of females between 15 and 17 years of age smoke compared with 44% of males of the same age group. The socio-psychological dynamics which drive these trends are complex, including a misguided perception that smoking is glamorous and will help to maintain a desirable body weight.

Women have only recently begun to exhibit the physiological signs of tobacco addiction. Since 1993, lung cancer exceeds breast cancer as the leading cause of cancer deaths in Canadian women. Research suggests that for the same amount of smoking women may be more susceptible than men to the development of lung cancer.

## The role of tobacco advertising

A now extensive body of literature leaves no doubt as to the powerful influence tobacco advertising has played in its dual strategy of recruiting new smokers all the while maintaining current smokers hooked. Images like the 'Marlboro Man' or 'Joe Camel', enjoy wide-spread recognition or appeal and serve as a reminder of the effectiveness of well-researched marketing strategies. Familiar slogans like, "you've come a long way, baby" have been specifically targeted toward women and have proven successful, appealing to a sense of female independence, social power and liberation from the drudgery of domestic work. Men have not been exempt from marketing schemes which offer images of heightened "maleness", the adventure of the new



<sup>1</sup> Labour Force Survey, 1999.

<sup>2</sup> The School Tobacco Use Survey.

frontier, and enviable physical strength – that’s what the Marlboro man was all about, afterall.

For a long time, advertisers have understood that identifying the social and psychological needs, interests and concerns of target audiences would allow them to position their tobacco products in terms which distinct demographic groups will find meaningful and appealing. Overall, however, the effect of tobacco advertisers has been to promote greater social acceptability of smoking, all the while downplaying and distorting the real health risks associated with smoking and camouflaging the highly addictive nature of nicotine.

### Promoting ‘health significant’ choices

Studies have shown that education is strongly correlated with smoking behavior. Generally, we find lower levels of smoking rates among individuals with higher levels of educational achievement. This information provides valuable insight to health promotion experts, particularly in identifying intervention strategies appropriate to different strata of a population. Individuals with high literacy levels are more likely to respond to written information such as can be found in an anti-smoking pamphlet. Individuals with less than a grade nine education might respond to a more tailored program which breaks down the problems associated with smoking in ways which are meaningful. Thus, the implementation of a health promotion message must be designed with the needs and social characteristics of the target population in mind. Generally, community-based, population-level, anti-smoking campaigns have a much greater potential for affecting/modifying behaviour among a larger number of people, though such interventions are usually less intensive than programs targeting individuals.

Although health promotion places the onus of health in the individual domain, stressing personal responsibility, it recognizes that lasting behaviour change at the individual level requires interventions that target the individual, the individual’s environment, social relationships and communities, and governmental policies which help to maximize a healthy context. More and more, health promotion practitioners have revised their thinking to include socio-cultural factors in, for example, intervention programs aimed at helping individuals quit smoking or educational programs aimed at preventing adolescents from smoking uptake.

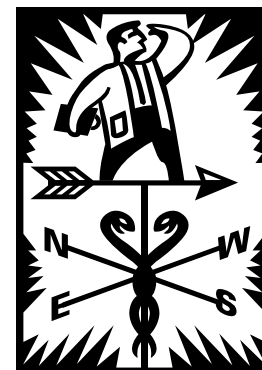
Fundamental to this way of thinking is a need to understand the context out of which at-risk behaviours are generated and sustained. Maternal smoking in the NWT is a good example of a public health problem requiring intervention which takes into account social context. Sixty-nine per cent of territory women indicated they smoked while pregnant – twenty percentage points above the national average. Only 31% indicated cessation during pregnancy – twenty percentage points below the national average. It would appear then that smoking cessation during pregnancy remains an elusive public health goal.

Some research suggests that lower-income women are more likely to smoke during pregnancy, and may not consider smoking cessation a priority in light of other difficult life circumstances, eg., poverty, unemployment, inadequate housing, and social isolation. By developing a smoking intervention program that addresses the larger social context of low-income pregnant women’s lives, we could hypothesize that intervention would result in greater cessation rates, healthier babies and greater reduction of household levels of environmental tobacco smoke.

Indeed, health promotion occupies a uniquely difficult, yet rewarding, position of applying what we know about the mechanisms which trigger smoking behaviour to potentially successful intervention programs. In so doing, this helps to bridge the gap between research and application. As well, the dissemination of health promotion research to various professionals working within the public health field (policy makers, educators, medical practitioners, etc.) helps to close the gap between research policy and practice.

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# Hepatitis B in the Northwest Territories: Evaluation of a Catch-up Program

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Canada's Northwest Territories (NWT), like Alaska and many other northern regions, has a high rate of endemic hepatitis B. This was determined by Larke *et al* (1987), in a comprehensive sero-epidemiological study of a representative sample (n=14,198) which counted 30% of the population of the NWT. In 1984 there were 10 cases of hepatitis B per 100,000 in the NWT, which was above the national rate of hepatitis B (8 cases /100,000). Over time, the rate of hepatitis B has decreased in the NWT. This has been attributed to the implementation of first, an immunization program in communities where Larke had found the presence of serological markers in greater than 10% of the population, followed by universal immunization of all infants and grade four students which began in 1996. Now the five-year average incidence rate of hepatitis B in the NWT is less than the national average (5.62 vs 10.3 cases per 100,000; 1990-1994).

Figure 1

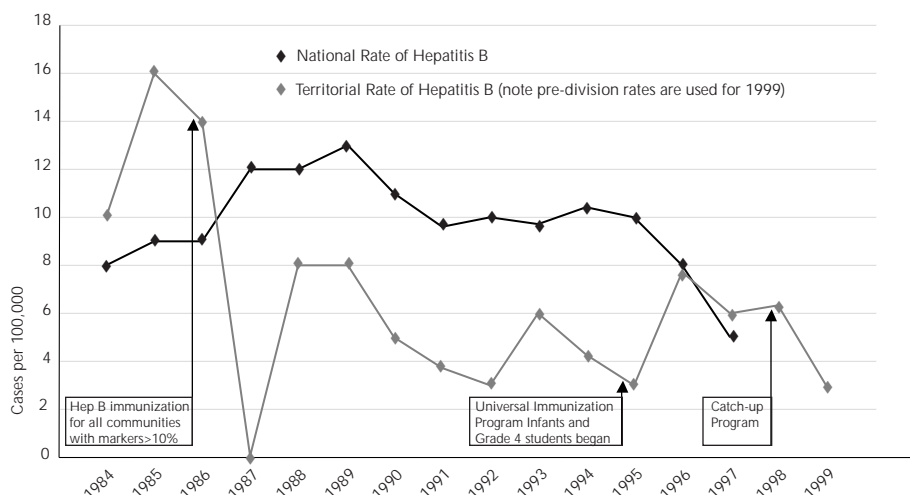
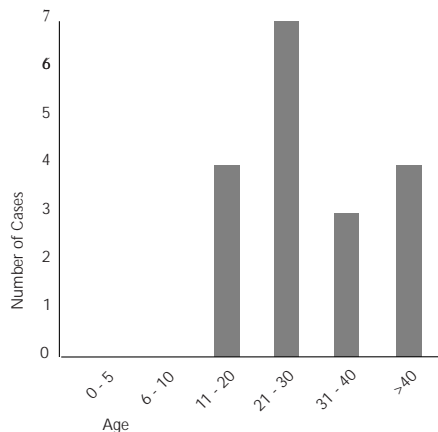


Figure 2  
 ACUTE HEPATITIS B CASES, NWT 1990-1999



Although the incidence of hepatitis B infection was lowered in the NWT, new cases of acute hepatitis B continue to be seen in the adolescent/young adult population (see Figure 2).

## Background

There were eighteen cases (ten males and eight females) of acute hepatitis B in the NWT from 1990 to 1999. Most of these cases were seen in adolescents and young adults. These are the individuals who are most likely to sexually transmit hepatitis B. Unfortunately, individuals from this group are also at higher risk for becoming chronic hepatitis B carriers, as the probability of becoming a chronic carrier is inversely related to age.



Due to the high likelihood of becoming chronic carriers and the prevalence of sexual transmission, it is therefore appropriate to target adolescents and young adults for hepatitis B control. If adolescents and young adults are protected against hepatitis B, then decreased transmission and decreased future cases of HBV infection should be observed. In addition to the universal infant and grade four hepatitis B vaccination program, the NWT Advisory Committee on Immunization recommended a catch-up program for all high school students. This catch-up program was implemented in a two-phase approach initiated in 1998. It is this catch-up program that is being evaluated.

**Methods**

**Participants**

Participants were NWT school students, from 29 communities, who were enrolled in grades 8 - 12 in the 1998/99 school year ( $M_{age} = 16.02$  years; 51.8% male, 48.2% female). Students who participated in phase one of the catch-up initiative were in grades 11 and 12 in the 1998/99 school year. Participants in the second phase were in grades 9, 10 and 11 in the 1999/2000 school year (grades 8-10 from the 1998/99 school year). Participants either gave consent for vaccination themselves, or their parents provided consent on their behalf.

**Procedure**

The hepatitis B vaccination series consists of three shots. Students received three injections at intervals of 0, 1, and 6 months over the course of either the 1998/99 or 1999/2000 school year. The vaccine was injected intra-muscularly by either a public or community health nurse. Prior to series commencement students and parents were educated about hepatitis B and the hepatitis B vaccine. Information materials included pamphlets and presentations by the nurses.

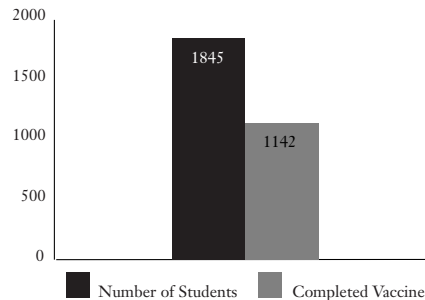
**Materials**

One syringe was used per injection. A 0.5 mL of Recombivax vaccine was given per injection, with a total of 1.5 mL being given to all subjects who completed the series.

**Results**

Out of the 1845 adolescents eligible for immunization, 1142 completed the three dose series for a completion rate of 62% full coverage.

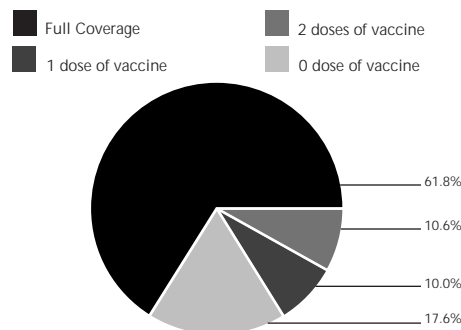
**Figure 3**  
HEPATITIS B CATCH-UP PROGRAM, NWT  
1998 - 2000



Seventeen percent of the population received two doses, and ten percent got one dose. Only 10.6% didn't receive any doses. Many of the health centres are now following up with those who did not get vaccinated. Yellowknife Public Health, in particular, is reaching a cohort of approximately two hundred adolescents in grade ten who did not get vaccinated in 1999/2000. This public health unit had to defer immunizing them until the 2000/01 school year, since they were already getting a Td booster and mantoux test in 1999/2000. This represented approximately 10 percent of the original target group.



**Figure 4**  
HEPATITIS B CATCH-UP PROGRAM,  
VACCINES GIVEN



## Discussion

### *Factors Affecting Coverage Rates*

#### *Local & Regional Limitations*

- high staff turnover
- increased workload
- late start of hepatitis B program in 1998 - did not allow completion due to early closure of schools in some regions for hunting
- high rates of attrition in high school population
- children & parents were both asked for informed consent, but either could refuse
- difficulty in keeping all new staff up-to-date on catch-up program
- many demands at local/regional level, program given a low priority

#### *Departmental Limitations*

- delay in funding 1998/99
- challenge of communicating with a diverse population spread over a large geographical area
- difficulty verifying coverage rates electronically due to changes in health information system
- information on coverage rates tied to invoicing

#### *Implications*

- coverage data was reported by community/region; it provided nurse managers with a mechanism to identify deficiencies
- communities are still working to increase coverage rates in the target population
- the catch-up program increased awareness of hepatitis B, and has contributed to efforts with prevention and control (communities are aware of the hepatitis B carriers and are also immunizing household and sexual contacts)



## Conclusion

- Sixty-three percent coverage equates to preventing one case of Hepatitis B per year, or half of the acute disease seen in the NWT
- One case of fulminate hepatitis B cost the health care system over 100,000 dollars this past year and resulted in permanent liver damage to a young adult
- The NWT Catch-up Program cost was \$157,475.25 for vaccine, not including administrative costs

The advantages in respect to benefit-costs are clear and the positive effect on human health is evident.

The NWT's documentation on transmission of acute hepatitis B and the sexually transmitted disease rate identified the adolescent sub-group as being at risk. The proactive efforts of the department, boards, and communities have contributed to the protection of these young adults with their continued work to achieve good immunization coverage for this disease.

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# A Different Perspective on Some Health Indicators

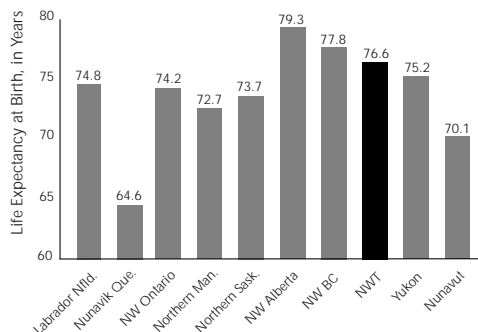
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In the contemporary model of population health, social, economic and environmental factors are seen to play an important role in determining the health and well being of the population. Indeed, these 'non-medical' determinants of health are arguably as important to the health of the population as are the more traditional determinants such as the availability and quality of health services and individual, family and community health practices.

In many respects the social, economic and environmental conditions in the NWT are quite different from what they are in the southern provinces. Little wonder then that comparisons between the NWT and other provinces on a variety of population health measures often show significant differences. Take life expectancy, for example. In the recent *Statistical Report on the Health of Canadians*<sup>1</sup> the NWT (combined with Nunavut) was identified as having the shortest life expectancy at birth (72.7 years) compared to all other provinces. As another example, the NWT was identified in the *Second Report on the Health of Canadians*<sup>2</sup> as having an age-standardized suicide rate of 23 per 100,000 population, compared to 13 per 100,000 for Canada overall.

A better way of developing a comparative picture of population health in the NWT would be to compare it to regions of Canada that more closely approximate its social, economic and environmental conditions. Statistics Canada has recently made this possible.<sup>3</sup> As the following charts show, the NWT takes on a different perspective when it is compared to other northern regions of Canada.<sup>4</sup>

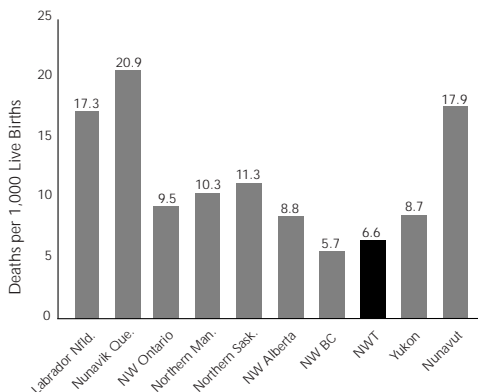
**Figure 1**  
**LIFE EXPECTANCY,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**



Source: H&SS, Research & Analysis, based on Statistics Canada data.

Life expectancy is considered to be a very good indicator of population health. Compared to the northern portions of the provinces, the NWT has the third-highest life expectancy, at 76.6 years. This is 12 years more than the region with the lowest life expectancy – Nunavik at 64.6 years.

**Figure 2**  
**INFANT MORTALITY,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**



Source: H&SS, Research & Analysis, based on Statistics Canada data.

Infant mortality is another good measure of population health that is often used for comparison purposes. When contrasted to other northern regions of Canada, the NWT has the second-lowest infant mortality rate. At 6.6 infant deaths per 1,000 births, the NWT infant mortality rate is some 3 times lower than that for Nunavik.

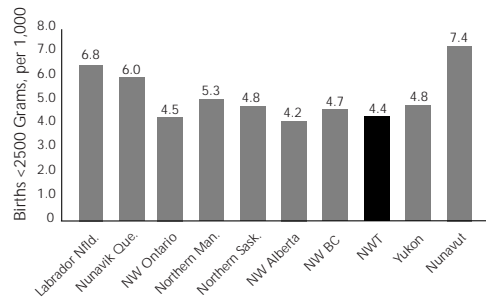
<sup>1</sup> Health Canada, 1999, p.324

<sup>2</sup> Health Canada, 1999, p.24

<sup>3</sup> See *The Daily*, Statistics Canada, December 20, 2000 (<http://www.statcan.ca>)

<sup>4</sup> All charts adapted from Statistics Canada, <http://www.statcan.ca:80/english/freepub/82-221-XIE/toc.htm>

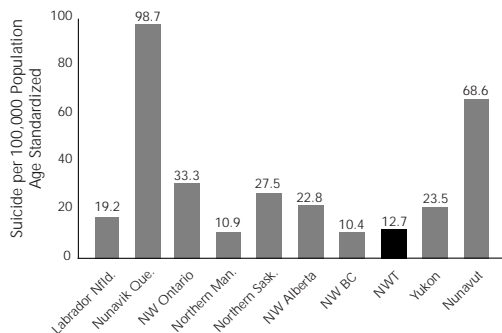
**Figure 3**  
**LOW BIRTH WEIGHT,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**



Source: H&SS, Research & Analysis, based on Statistics Canada data.

Low birth weight (under 2500 grams) is associated with multiple health and developmental risks during the neonatal and early childhood periods. Once again, the NWT compares very favourably, having the second-lowest incidence of low birth weight babies.

**Figure 4**  
**SUICIDE RATE,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**

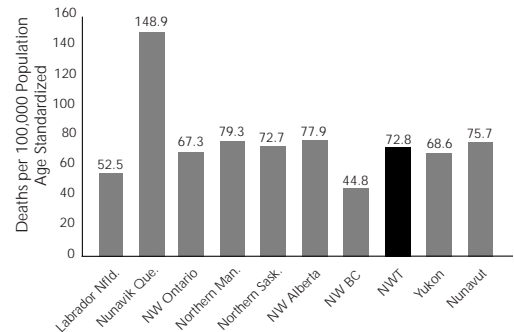


Source: H&SS, Research & Analysis, based on Statistics Canada data.

The suicide rate in the NWT is a source of ongoing concern. Without minimizing the need to sustain an effective suicide prevention program, it is worth noting that the suicide rate in the NWT is among the lowest of all northern regions of Canada.

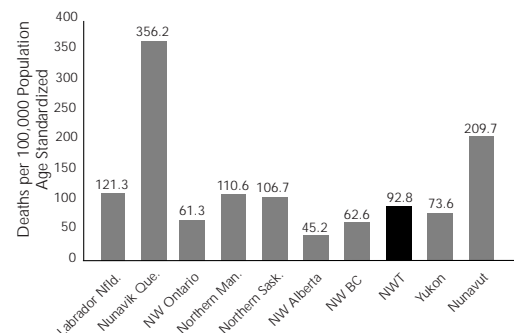
Looking at other causes of mortality, the NWT tends toward a middle position among the northern parts of the country, as the following charts demonstrate.

**Figure 5**  
**INJURY MORTALITY,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**



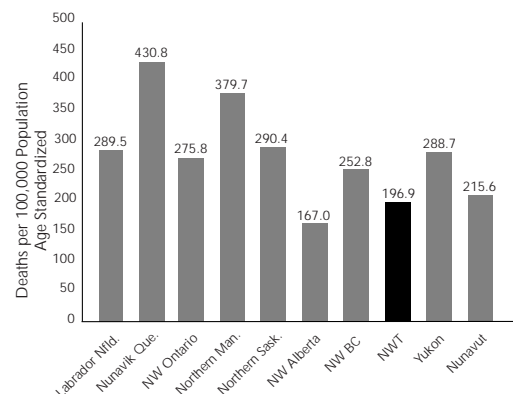
Source: H&SS, Research & Analysis, based on Statistics Canada data.

**Figure 6**  
**RESPIRATORY DISEASE MORTALITY,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**



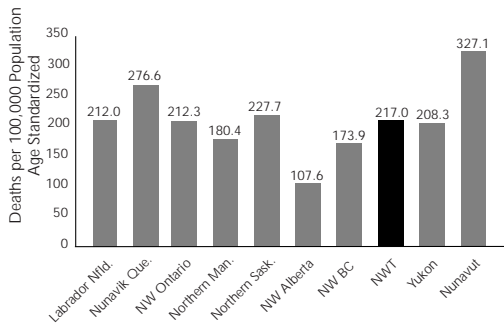
Source: H&SS, Research & Analysis, based on Statistics Canada data.

**Figure 7**  
**CIRCULATORY DISEASE MORTALITY,**  
**NWT AND OTHER NORTHERN REGIONS, 1996**



Source: H&SS, Research & Analysis, based on Statistics Canada data.

**Figure 8**  
**CANCER MORTALITY,**  
**NWT AND OTHER NORTHERN REGIONS**



Source: H&SS, Research & Analysis, based on Statistics Canada data.

Of course, none of these new ways of looking at health indicators for the NWT change the fact that life expectancy in the NWT is shorter than it is in *southern* Ontario, or that the chances of dying as a result of an injury is higher in the NWT than it is in *southern* Alberta. What does become apparent, however, is that in some regions within the provinces population health is equally, if not more challenged, than it is in the NWT.

The conventional way of examining health conditions within Canada, by performing a ‘cross-country check-up’ from East to West, provides only one perspective, and perhaps not the best one. For example, when it becomes evident that life expectancy in the NWT is shorter than it is in Ontario, one is led to ask the question, Why? This leads to a search for other differences between the NWT and Ontario, on variables that may influence life expectancy.

However, when one adopts a different approach, looking instead across the country from North to South, an entirely new perspective emerges. This new axis of analysis reveals that there is greater variability in life expectancy within Ontario (75.9-80.1 years) than there is between Ontario and the NWT (78.6-76.6). This finding suggests that the answer to the question of why there are differences is more likely to be found in regional patterns of variation *within* provincial/territorial jurisdictions than in differences *between* the provinces and territories.

## ***In Brief...***

### **Ageing, Cognitive Function, Social Networks<sup>1</sup>**

In the search for risk factors for cognitive decline, especially those related to the onset of dementias, two social conditions emerge as consistent and powerful determinants of risk. The first is that related to educational attainment. The second, the newer finding, is that related to patterns of social-network structure and social engagement. The report on the Swedish Kungsholmen Project in [the] *Lancet* by Laura Fratiglioni and colleagues which highlights the critical role of social-networks structure in prediction of the onset of dementia, is an excellent illustration of this latter area of research.

Historically, investigations of the role of the social environment in cognitive development and ageing have spanned laboratory and population sciences. Early work on enriched environments,

for instance, showed that increasing social interactions as well as dealing with a complex physical environment led to improved cognition. Meaney and colleagues showed that powerful effects in rodents of interactions between mother and infant in very early life on cognitive decline and hippocampal cell loss in late life. Furthermore, recent work on neuronal recovery indicates that the social environment is again critical. So, there is solid evidence of the biological plausibility that social networks and the engagement entailed in maintaining social ties is health-promoting from the standpoint of cognitive function. There is also a wealth of data supporting the effect that social networks and support have on physiological pathways linked to morbidity and mortality from many causes.

...continued on page 18

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<sup>1</sup> This study, based in Kungsholmen, a district located in Stockholm, Sweden explored whether social networks and different degrees of social connections affect dementia incidence. A cohort of 1203 non-demented persons living at home, all with good cognition, were followed for an average period of 3 years. On the basis of medical and psychological data, 176 patients were diagnosed with dementia according to the criteria listed in the *Diagnostic and Statistical Manual of Mental Disorders (3rd Edition)*. Results of the study were first published in *The Lancet*, Volume 355, April 15, 2000: 1315-1319. Lisa Berkman’s commentary is here reprinted with permission (pp.1291-1292)

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# Adverse Drug & Vaccine Reaction Reporting in the Northwest Territories

What is an adverse drug reaction? An adverse drug reaction is any undesirable effect of a drug product (prescription, non-prescription, herbal, and homeopathic health products) that occurs under normal use conditions of the drug. The same applies to adverse reactions to vaccines.

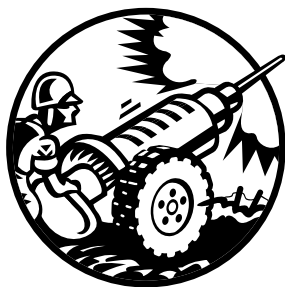
Why do adverse drug and vaccine reactions occur? Aren't drugs and vaccines supposed to be safe before they are made available to the general public? Generally, yes. Clinical trials are designed to assess the safety and effectiveness of drugs. However, it is only after a drug or vaccine has been on the market that some rarer adverse events can be detected since a greater number of people are taking the drug in question.

Adverse reactions from drugs and vaccines are infrequent, but they occur regardless. Reporting adverse events ensures that there is a continuous surveillance feedback about the effects of all agents used in Canada. By monitoring the safety of medicines and vaccines, we are ensuring the agents that we use are safe and reliable enough to continue use. This is especially important for vaccines since reporting adverse events is central to the informed consent process that everyone undertakes before receiving a vaccine.

Monitoring and tracking of these adverse events allows health care providers to evaluate information and therefore make sound health care decisions. This is especially important given the new treatment options and fiscal restraints we face today.

The purpose of the Canadian Adverse Drug Reaction Monitoring Program and the Vaccine Associated Adverse Event Monitoring Program is to detect early trends in suspected adverse reactions occurrences and respond accordingly.

It is important to note that surveillance for adverse reactions to vaccines are reported from those drugs. Surveillance for vaccines occurs through a separate network that is linked to local, provincial, and territorial authorities. As a result, reporting for the two is done using different forms.



Copies of the Adverse Drug Reporting form, *Report of Suspected Adverse Reactions due to Drug Products Marketed in Canada (Vaccines excluded)*, can be found on pages L18-19 of the 2000 CPS.

**The ADR reporting form is posted on the Internet at:**

[www.hc.sc.gc.ca/hpbdgpa/therapeut/zfiles/english/forms/adverse\\_e.pdf](http://www.hc.sc.gc.ca/hpbdgpa/therapeut/zfiles/english/forms/adverse_e.pdf)

**The Canadian Adverse Drug Reaction Newsletter can be found at:**

[www.hc.sc.gc.ca/hpb-dgps/therapeut/htmleng/publicat.html](http://www.hc.sc.gc.ca/hpb-dgps/therapeut/htmleng/publicat.html)

**Completed Adverse Drug Reaction reporting forms from the Northwest Territories are to be returned by phone, fax, or mail to:**

National ADR Unit  
Bureau of Licensed Product Assessment  
Therapeutic Products Programme  
Finance Building  
Tunney's Pasture  
AL 0201C2  
Ottawa, Ontario K1A 1B9  
Verbal Reports: (613) 957-0337  
Fax Reports: (613) 957-0335

**Completed Reports of Vaccine-Associated Adverse Events from the Northwest Territories can be returned by phone, fax, or mail to:**

NWT Health and Social Services  
NWT Health Protection Unit  
Attn: Vaccines and Communicable Diseases  
CS-6  
Yellowknife, NT X1A 2L9  
Verbal Reports: (867) 873-7721  
Fax Reports: (867) 873-0442

Health care providers represent and remain the most reliable source of reporting adverse events. Please make every effort to report suspected adverse drug and vaccine reactions. The success of the program depends on full participation, and the quality and accuracy of the information submitted.

# Children’s Oral Health – Dental Caries

The high prevalence of dental caries in NWT children is a long-standing health concern. In spite of the fact this disease and its potentially serious sequelae are well-known to health care workers, little sustained progress has been made in reducing the burden of dental caries. Since it requires a permanent change in eating and hygiene habits that people often find difficult to maintain, this problem has a widespread reputation for being difficult to address effectively.

Although we have significantly improved the treatment of dental disease in the NWT over the last two decades, there’s been little headway made in prevention. One of the results is our continued reliance on limited resources to treat preventable disease. In addition, the human costs of neglect early in life may be lifelong and more debilitating than many parents or children realize. Despite the challenges, the greatest potential for reducing dental disease, and our resultant dependence on treatment, will come from preventive efforts directed at children’s oral health.

Children are born with the potential to retain caries-free teeth, and in many parts of Canada it’s now common for children to reach adulthood unaffected by dental caries.<sup>1</sup> In North America there has been a well-documented decline in dental caries in children over the last 25 years, attributed mainly to the increased use of topical and systemic fluorides.<sup>2</sup> The most substantial sources of exposure to fluoride have come from the widespread implementation in Canada of community water fluoridation programs and the availability of fluoridated toothpaste that began over 40 years ago.

Exposure to fluoride is only one of many factors affecting risk of dental caries, and the decreased prevalence of caries in children has not extended to everyone. Most of the remaining disease now occurs in a relatively small proportion of children.<sup>3</sup> In the NWT, as in other jurisdictions, one group that bears a disproportionate burden of dental disease is Aboriginal children.

## Morbidity

In 1996/97 the National School of Dental Therapy completed a survey of oral health of Canada’s First Nation and Inuit children aged six and twelve, which included 1066 aboriginal children in the NWT (including Nunavut). Additionally, 342 non-aboriginal children were surveyed, 314 of whom resided in the current NWT.<sup>4</sup> The results of the survey show that dental decay in NWT Aboriginal children is comparable to that of Aboriginal children surveyed nationally, though is significantly worse than that of NWT non-Aboriginal children.

Table 1 has been adapted from the report and presents data on the most commonly cited measure of caries levels: the deft/DMFT index (Decayed, Missing, Filled Teeth); DMFT is specific to permanent teeth, deft is the analogous number for primary teeth.

**Table 1**  
**MEAN deft/DFMT SCORES, BY AGE AND ETHNICITY**

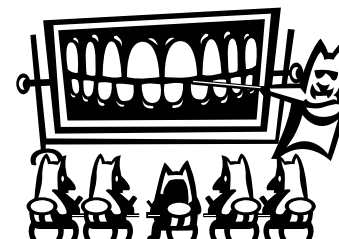
		NWT	SURVEY AVERAGE
Age 6 Primary Teeth	ABORIGINAL	8.4	8.3
	NON-ABORIGINAL	1.6	N/A
Age 6 Permanent Teeth	ABORIGINAL	0.4	0.8
	NON-ABORIGINAL	0.06	N/A
Age 12 Permanent Teeth	ABORIGINAL	3.6	4.4
	NON-ABORIGINAL	1.3	N/A

Source: 1996-1997 Oral Health Survey of First Nation and Inuit Children in Canada.

Table 1 shows that the mean number of teeth affected by decay in NWT Aboriginal children is similar to the survey average of Aboriginal children, but is much greater than the NWT non-Aboriginal population. For NWT six-year-olds, decay rates are fivefold greater in Aboriginal children than in non-Aboriginal children; and twelve-year-old Aboriginal children have decay rates three times greater than non-Aboriginal children.

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<sup>1</sup> Ontario Ministry of Health, *Dental Health Indices Survey*, Ministry of Health, 1994.

<sup>2</sup> Caplan, D.J., Weintraub, J.A., “The Oral Health Burden in the United States: A summary of recent epidemiologic studies.” *Journal of Dental Education*, 1993, 57: 853-862.

<sup>3</sup> Leake, James and Woodward, Graham, “Risk Markers for New Dental Decay in Eight-Year-Old North York Children.” *Canadian Journal of Community Dentistry*, September, 1995, 10: 17-13.

<sup>4</sup> Health Canada., 1996 – 1997 *Oral Health Survey of First Nation and Inuit Children in Canada*. (Full report available on the Internet at the following address: <http://www.bc-sc.gc.ca>).

Additionally, approximately 49% of non-Aboriginal children age twelve had a DMFT=0 (no teeth affected by decay), compared with only 14% of Aboriginal children. Although there is a pronounced and significant ethnic difference, it is important to note that there may be factors other than ethnicity contributing to the difference. For instance, the great majority of non-Aboriginal children live in communities with full-time dental clinics, fluoridated water supplies, and year-round community access, while much of the Aboriginal population lives in smaller, more remote communities without those attributes.

### Fluoride

Despite the fact that the survey methodology did not allow for a more complete analysis of factors influencing the results (for instance, an investigation of eating habits and oral hygiene practices were not part of the survey), an examination of exposure to fluoride is interesting. As indicated in Table 2, the non-Aboriginal population is greatly over-represented in communities with fluoridated water supplies, while less than one-quarter of Aboriginal children surveyed had fluoridated drinking water, and approximately one-quarter had no fluoride program at the time of the survey.

**Table 2**  
**COMMUNITY FLUORIDE, BY ETHNICITY**

FLUORIDE PROGRAM	ABORIGINAL	NON-ABORIGINAL
None	23.5%	7.3%
Water	22.6%	86.5%
School	51.9%	5.8%
Both	2.1%	0.3%
(n)	1066	342

Source: 1996-1997 Oral Health Survey of First Nation and Inuit Children in Canada.

Although over 50% of the Aboriginal population reported access to school-based fluoride programs, which can be effective, school programs may not be sustained, children do not have access to these programs until they reach school age, and children are not in school for at least three months per year.

### Early childhood caries (ECC)

Tooth decay in children younger than age six was not assessed in the oral health survey. Unfortunately, we don't have data that bears directly on the breadth of this problem, in part because some disease goes undiagnosed and untreated. However even amongst those children who are treated for ECC, we don't currently have objective methods of determining the type and extent of disease, and the relevance of predisposing factors. Therefore in this discussion, a proxy indicator of the problem is used, and presented in Table 3.

**Table 3**  
**GENERAL ANAESTHESIA FOR DENTAL CARIES, BY ETHNICITY AND AS A PROPORTION OF TOTAL POPULATION AGED 2 - 6.**

Year	Aboriginal	Non-Aboriginal	Total	Proportion of population
1994	181	19	200	4.7%
1995	263	16	279	6.6%
1996	246	12	258	5.9%
1997	234	13	247	5.8%
1998	210	25	235	5.9%
Average	227	17	244	5.8%

Source: Department of Health and Social Services - Medicare database. ICD-521.

Table 3 shows recent annual figures for the number of NWT children (excluding Nunavut) aged 2 - 6 who have received treatment in hospital under general anaesthetic (GA) for dental caries. In any single year reported, the numbers represent unique individuals, however some children undergo oral surgery in hospital more than once, and may be included in more than one year.

Although an average of six percent of the population aged two to six received oral surgery under GA for dental caries annually, the numbers are more meaningful when examined by ethnicity. Assuming that Aboriginal children in this age cohort make up approximately 60% of the total cohort (published estimates are not available) these figures indicate that approximately nine percent of Aboriginal children in the cohort undergo oral surgery under GA annually, compared with one percent of non-Aboriginal children.



These numbers are sobering, and are concordant with the relative difference in decay rates measured amongst surveyed Aboriginal versus non-Aboriginal six-year-olds. In many cases, despite their youth, the children with the worst oral health at age six probably have had a long history of dental caries.

### Strategizing Prevention

It has been suggested that dental health information provided by mainly non-Aboriginal health professionals, especially dentists, does not effectively reach many Aboriginal people.<sup>5</sup> A more fruitful approach that should be considered is the delivery of culturally appropriate information, delivered by trained Aboriginal people within communities. Although this describes part of the work community health representatives (CHR) do in some communities, they have many competing responsibilities. It is time to consider increasing capacity, and/or to provide greater support and direction to existing CHRs.

Other than the *effective* delivery of information on good oral health practices, our best preventive tool is appropriate exposure to fluoride. Although the fluoridation of community water supplies is not usually expensive, the technical feasibility is community specific, depending in part on the type of water supply. Communities without fluoridated water should explore the options to fluoridate their water.

Some regions of Canada have taken other innovative approaches to improving oral health in children. A model that the Department is currently examining is one that has proved successful in Alberta, called **Care for a Smile**. This program is promoted as painless preventive

dental care to children in high-risk communities. It relies on the preventive effects of fluoride, and includes fluoride varnish treatment, dental sealants and medicinal fillings. Dental therapists are often involved and may work in conjunction with CHRs. In the NWT, such a program would require the support of health boards, coordination of efforts on the part of health workers, as well as the temporary redeployment of dental therapists from treatment to preventive activities. It might also require training for CHRs and community health nurses (CHNs). In the interim, some treatment services currently provided to school-aged children by dental therapists would have to be assumed by community dentists.

### Conclusion

- The oral health of many NWT Aboriginal children is very poor in absolute terms and, much worse on average than that of non-Aboriginal children;
- Dental caries is a serious problem for many NWT children early in life, in many cases coincident with the eruption of primary teeth.

If the goal is to give children a healthy start in oral health, program planners and health care workers, especially at the community level, must be made aware of the problems associated with children's dental health and be provided with the appropriate resources with which to act.

*For information on **Care for a Smile**, and how it might be implemented in your community, please contact Lory Haeusler, Dental Programs Consultant at the Department of Health and Social Services, (867) 873-7793.*



<sup>5</sup> Dr. Jim Tennant, past President of the NWT Dental Association, personal communication, 1999.

**EpiNorth** is a publication of the GNWT Department of Health & Social Services. Contributions are welcome and should be sent to Rosa Proietto, Managing Editor, by e-mail or regular post (electronic copy). Inclusion of material in **EpiNorth** does not preclude publication elsewhere. Views expressed are those of the authors and do not necessarily reflect departmental policy.

*In Brief...continued from page 13*

Why are social networks protective? Results from the Kungsholmen Project offer several important insights into the dimensions and the dynamics of social networks that may lead to cognitive declines. The investigators make an important advance by moving beyond simple indicators related only to marital status and living arrangements, as commonly used in geriatric research. Their findings, coupled with the other work in France and the USA focusing specifically on risk of dementia or declines in function, suggest that networks may be protective because of the social engagement and satisfaction they provide. In the Kungsholmen Project, the patterns suggest, for instance, that satisfaction with relationships with children, friends, and relatives is more important than frequency of contact. Particularly alarming is the indication that risks are higher among those having unsatisfactory contact with children than among those having no children at all. Similarly, although the effects of living alone are not always easily disentangled from marital status, Fratiglioni and colleagues' data suggest that it is being single that carries the highest risk. There is no difference in risk, for example, between widowed or divorced people living with others.

Social engagement probably challenges people to communicate effectively and to participate in complex interpersonal exchanges. Such a dynamic environment is likely to engender the mobilisation of cognitive capacities, setting in place a "use it or lose it" phenomenon so important to successful ageing. Social engagement also promotes a commitment to community and family, provides a sense of purpose and fulfillment that rests on the bidirectionality of commitments. This mutuality of commitment moves beyond the unidirectional provision of emotional and instrumental support provided to the older person, which may even, in the extreme, inhibit functioning. Thus, the power of engagement and the deep sense of affiliation and worthiness it provides may be the critical pathway through which social networks influence the onset of dementias or cognitive decline. Being alone is what is risky, not living alone.

Another finding of critical importance is the rise in risk observed with increasing social isolation. This finding from the Kungsholmen Project is in line with virtually all other work on social networks and health in which gradients in risk have been observed. The finding signifies two things. The first is that diversity of relations is critical. Having one strong bond (eg, marriage or only close contacts with children) is not enough.

Risks are lowest among those with strong relationships in several domains. Second, one type of tie may substitute for another. The Swedish study shows that marriage or having children is not necessary for risk to be low. Risk rises substantially only when there are no close ties across several domains. The possibility of substitution of one type of tie for another is reassuring since there are strong cultural variations in the types of ties that people maintain and since older people cannot maintain some kinds of ties (eg, because of loss of a partner through death).

Several issues many noted by the investigators themselves, remain unanswered by the Kungsholmen Project. For instance, the absence of longitudinal data on networks themselves has direct implications for interpretation of the findings since the short (3-year) follow-up period makes it possible that prodromal cognitive decline influences social withdrawal. Even if this were not the case, an important question to be answered is whether intervention in late life will alter onset and progression of disease. Perhaps network assessments predict risk because they represent life-long, cumulative exposures. If so, intervention in late life may not be optimum. Nevertheless, as the science in this area advances, it is likely to reveal that many social policies related to retirement, work-family relations, and housing may profoundly influence the health and functioning of the fastest growing segment of population, the elderly.

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# health .online

## Health and the Internet

Don't let the name of this site fool you. It is not just for health promoters. Health Promotion Online (HPO), working with Health Canada, houses interesting and useful information about a large variety of health issues that could be utilized by health care professionals and lay persons alike.

This bilingual site is user-friendly with a crisp layout and easy-to-follow links. Housing a large database of resources from Health Canada, the site includes weekly articles, health resources organized by topic, a directory of health organizations, calendar of events, discussion groups, and more.

Focusing on the Bureau of Tobacco Control, under "Health Topics", related information can be found from Statistics Canada, Youth Advisory Committee (YAC), etc. The 1999 Canadian Tobacco Use Monitoring Survey (CTUMS),

sponsored by Statistics Canada, is also located under the Tobacco topic. Epidemiologists may find CTUMS of great interest as it contains recent data on tobacco use and related issues from across the country (the three Territories are not included in the survey).

"General Info" yields information on who is smoking and why, what is in a cigarette and the harm it poses to a smoker, the effects of second-hand smoke on children, etc.

HPO is updated on a weekly basis and users are given ample opportunity to provide feedback and ask questions. The user may be overwhelmed though with its seemingly never-ending amount of information. To avoid distraction and wading through unrelated superfluous material, users may search not only by health topic but perform more finite searches within each topic as well.

**Janet Ferguson**  
 Application Trainer  
 Information Systems  
 Department of Health &  
 Social Services

[www.cctc.ca/ncth/](http://www.cctc.ca/ncth/)  
 "This is the home of the National Clearinghouse on Tobacco and Health and it is the jump off point for any resources I need to address tobacco."

[www.cflri.ca/](http://www.cflri.ca/)  
 "This is the Canadian Fitness and Lifestyle Institute which leads me to Active living sources."

Rick Tremblay,  
 Health Promotion Consultant

Canada Health Network.  
 "... they have credible information as a result of a screening process..."

[www.canadian-health-network.ca](http://www.canadian-health-network.ca)

Vicky Lafferty,  
 Planning Advisor

## Conferences Workshops

### Women's Health and Diversity

April 26 - 28, 2001

Radisson Hotel - Montreal, Quebec

This conference focuses on research, processes and experiences in the area of women's health, and on the development of differentiated approaches and strategies for research and action. Presentations and workshops will highlight the exciting work being done across Canada around the following themes:

- Gender as a Health Determinant
- Social and Health Services
- Health Restructuring
- The Environment of Women's Health

Presentations and workshops will focus on providing tools on how to implement research outcomes, interact with decision makers, develop action priorities, build networks and community advocacy; develop empowerment strategies, and train new researchers.

#### **For information on registration contact:**

National Network on Environments and Women's Health & Social Services, York University

Tel: (416) 736-5941  
 Fax: (416) 736-5986  
 Email: [nnewh@yorku.ca](mailto:nnewh@yorku.ca)

Center of Excellence for Women's Health - Consortium Université de Montréal (CESAF)

Tel: (514) 343-6758  
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**Notifiable Diseases by Territory and Region: for the Northwest Territories (NWT) and Nunavut (NU)  
October 2000 - December 2000\***

	October - December 2000		Cumulative Totals - 2000		Regional Cumulative Total - 2000						
	NWT	NU	NWT	NU	Inuvik	Fort Smith	Baffin	Keewatin	Kitikmeot		
<i>Vaccine Preventable Diseases</i>	Hepatitis B	0	0	1	0	0	1	0	0	0	
	Haemophilus Influenzae	0	0	0	1	0	0	0	0	1	
	Influenzae	0	0	0	150	0	0	1	149	0	
	Pertussis	0	0	7	0	5	2	0	0	0	
<i>Sexually Transmitted/ Bloodborne Diseases</i>	Chlamydia	122	181	493	717	183	310	342	260	115	
	Gonorrhoea	32	23	137	96	51	86	65	23	8	
	Hepatitis C	3	0	30	6	8	22	2	3	1	
	Hepatitis, Other	0	0	0	0	0	0	0	0	0	
	Syphilis	0	0	0	0	0	0	0	0	0	
<i>Diseases by Direct Contact/ Respiratory Route</i>	Chicken Pox	80	122	196	256	63	133	72	15	169	
	Group A Strep	1	0	1	1	0	1	0	0	1	
	Invasive Strep Pneumoniae	2	4	8	19	0	8	7	5	7	
	Legionellosis	0	0	0	0	0	0	0	0	0	
	Meningitis, Pneumococcal	0	0	0	0	0	0	0	0	0	
	Meningitis, Other Bacterial	0	0	0	2	0	0	0	0	2	
	Meningitis, Unspecified	0	1	1	2	0	1	0	0	2	
	Meningitis, Viral	0	0	0	0	0	0	0	0	0	
	Meningococcal Infections	0	1	0	1	0	0	0	0	1	
	Respiratory Syncytial Virus	2	0	9	100	2	7	23	57	20	
	Tuberculosis	0	9	10	49	2	8	27	22	0	
	Botulism	0	0	1	0	1	0	0	0	0	
	<i>Enteric, Food and Waterborne Diseases</i>	Campylobacteriosis	3	0	12	0	1	11	0	0	0
		Cryptosporidiosis	0	1	0	1	0	0	0	1	0
E.Coli O157:H7		0	1	6	38	1	5	24	11	3	
Food Poisoning		0	0	0	0	0	0	0	0	0	
Giardiasis		3	0	14	6	2	12	4	2	0	
Hepatitis A		0	0	0	0	0	0	0	0	0	
Salmonellosis		5	1	8	17	5	3	7	8	2	
Shigellosis		0	0	0	0	0	0	0	0	0	
Tapeworm Infestation		0	0	0	2	0	0	2	0	0	
Trichinosis		0	0	0	0	0	0	0	0	0	
Yersinia		0	0	0	1	0	0	1	0	0	
<i>Vectorborne/ Other Zoonotic Diseases</i>		Brucellosis	0	1	0	2	0	0	1	1	0
		Malaria	0	0	0	0	0	0	0	0	0
	Rabies Exposure	1	0	3	2	3	0	1	1	0	
<i>Antibiotic resistant microorganisms</i>	Methicillin-resistant Staph.Aureus	0	0	6	3	2	4	3	0	0	
	Vancomycin-resistant Enterococci	0	0	1	0	0	1	0	0	0	

**HIV Infections Reported in NWT Residents**

	1987	88	89	90	91	92	93	94	95	96	97	98	99	2000
NWT	2	1	1	2	1	8	0	2	0	2	0	1	0	0
Nunavut	0	1	2	1	2	1	3	0	0	0	1	0	0	0

\*Statistics are based on currently available data and previous data may be subject to change.