



ENORTH

The Northwest Territories Epidemiology Newsletter

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Respiratory Syncytial Virus Bronchiolitis in Infants from Three Kitikmeot Communities

Dr. Michael Young MD, FRCP(C), Pediatrician, Stanton Territorial Health Authority

Respiratory illnesses are a significant cause of morbidity and mortality worldwide. Respiratory syncytial virus (RSV) is the leading viral pathogen in all geographic areas. It has long been the impression of healthcare workers in the North that Aboriginal infants are affected more severely than those from other populations,^{1,2} though this is not well documented in the medical literature. This article reviews some of the basic features of bronchiolitis, RSV infection in particular, and looks at the experience of the 2001 birth cohort from three communities in the Kitikmeot region of Nunavut with respect to respiratory illnesses.

Epidemiology. RSV is a respiratory virus that causes infection in all ages in all areas of the world.³ In colder climates the infection occurs in two to five month outbreaks, usually between November and April, though often longer in the North. Spread of the virus occurs through large droplets (coughing or sneezing) and secretions, usually by direct contact with the patient. The virus in secretions remains viable for several hours on surfaces,³ making the disease easily transmitted in the home or health care setting.

A number of prospective population studies, have shown that 50% to 70% of infants will acquire the infection during the first year of life, with almost all being infected by age two. Repeat infections are common with up to 80% being re-infected each year.³ In this way, older siblings serve as a source of infection to young infants, the group most severely affected by the virus.

Clinical Manifestations. The most common manifestation of RSV infection in infants is a clinical syndrome called bronchiolitis. After an incubation period of two to five days, the infant will develop nasal congestion and a low grade fever, followed by cough, respiratory difficulty and poor feeding. Pathology studies have found necrosis of airway epithelial cells and increased mucous production, resulting in blockage of the smaller airways of the lung.³ Clinically, this results in over-inflation of the lung with decreased efficiency and increased effort or work of breathing. Often the result is rapid respirations, wheezing and cough, decreased oxygen levels, and poor feeding with resultant dehydration. Children older than three and adults of all ages generally develop a *common cold* when infected with RSV.³ Other viruses such as influenza, parainfluenza and adenovirus can also cause bronchiolitis, though RSV is the predominant pathogen in most outbreaks.⁴

Cohort studies from non-northern populations have found that in any given year, between 1% and 3% of infants will require admission to hospital due to bronchiolitis.^{3,5} The main reasons for admission to hospital are oxygen requirement and poor feeding.³ Many infants admitted to hospital for bronchiolitis have one or more risk factors for severe respiratory disease. A Canadian tertiary care study identified these as: cardiac disease, chronic lung disease, immunocompromise or other chronic diseases, prematurity (gestation less than 37 weeks) and age less than six weeks.⁶

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HOW TO REACH EPINORTH

Letters to the editor and articles are welcome but may be edited for space, style and clarity. Please contact the Managing Editor for article guidelines. All submissions must be sent electronically.

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Editor's Notes

Martha Lamon, Managing Editor, EpiNorth, Department of Health and Social Services

This issue of *EpiNorth* features a variety of articles on children from both health and social perspectives. Dr. Michael Young, a pediatrician from the Stanton Territorial Health Authority, reports on a study on respiratory syncytial virus (RSV) among infants from three communities in Nunavut. Northern infants suffer from bronchiolitis to a much greater extent than their southern counterparts and RSV is the pathogen responsible for much of this morbidity. Dr. Young came to Yellowknife in July 2002 after finishing his pediatrics residency at Dalhousie University in Halifax. He has also worked in the Baffin and Kivalliq regions of Nunavut and spent two years as a general practitioner in Kenya.

Trish Fitzpatrick, regional nutritionist with the Yellowknife Health and Social Services Board, and Elsie DeRoose, nutritionist with the Department of Health and Social Services, provide us with an article highlighting the negative effect skipping breakfast or being generally undernourished has on school performance. This is the second of two articles they have written on nutrition and children. The first, focusing on inactivity and overweight among children, appeared in the Fall 2002 issue of *EpiNorth*.

Andrea Wilhelm, a medical student from McMaster University, did a practicum with the Department of Health and Social Services in the fall of 2002. In her article, which stems from research she did during her practicum, she presents a scan of best practices on congenital anomalies surveillance systems and makes a compelling argument for setting up such a system in the NWT. The department is considering implementing a congenital anomalies surveillance system and her work

represents the first step in this process. Next steps will include public consultation on setting up a system and on what model would best work in the NWT.

Dana Heide, Director of Child and Family Services for the NWT, provides us with an overview of the *Child and Family Services Act*. The *Act*, was proclaimed in October 2002 and has undergone significant revision over the last several years to ensure that it is consistent with the needs and philosophy of Northerners. The *Child and Family Services Standards and Procedures Manual* and the *Child Abuse Protocol* are being revised to ensure they are consistent with the *Act* and handbooks are being developed to help social workers in their practice. Although this article is not epidemiological in nature it is included in *EpiNorth* so that readers, some of whom may work with children, can become more familiar with it.

Sandy Little, Mental Health Consultant with the Department of Health and Social Services, demonstrates her passion and concern for suicide prevention in her article *Choosing Life*. This article describes one piece of the suicide picture in the NWT – youth. She presents up-to-date information on the issue of youth suicide and provides concrete strategies for dealing with this challenge in the NWT. This is a follow up to her article *Suicide in the NWT: A Recent Analysis* that appeared in the Spring 2002 issue of *EpiNorth*.

Jennifer Carey, Evaluation Specialist with the Department and a regular contributor to the *Health.online* section of *EpiNorth*, leads readers to some useful websites on Fetal Alcohol Spectrum Disorder.

Read in good health!

Nutrition and School Performance

Trish Fitzpatrick, Regional Nutritionist, Yellowknife Health and Social Services Authority
 Elsie DeRoose, Team Leader, Health Promotion, Department of Health and Social Services

Past issues of *EpiNorth* have presented information on children's nutrition, food security and the growing trend in childhood overweight and inactivity.^{1,2} This article details the effects of poor nutrition on children's school performance and highlights the findings of a recent NWT survey³ on food security and nutrition education at the school level.

It is well established that children's nutrition and food security status fundamentally impact on growth and development. Ample evidence demonstrates that nutrition, particularly from a morning meal, affects one's ability to function at school, especially in the areas of cognition, memory retention and behaviour.^{4,5,6,7} Poor nutrition, or malnutrition, may have a lasting effect on learning and education, and ultimately on well-being, employability and quality of life.⁶

Unfortunately, too many children go to school having had no food or a less than adequate breakfast to start the day.² In the NWT, teachers reported that up to 33% of children go to school hungry.³ In response to this problem many schools have developed programs that offer children something to eat.⁶ In the NWT, approximately 71% of schools have some type of food program in place. Of these, 44.2% of schools offer a snack program and 34.6% offer a breakfast program.

School-Based Nutrition Programs

Many industrialized countries have nationally funded school nutrition programs.⁷ In the United States and Great Britain, national school nutrition programs are well-established services.⁸ The American program has been in operation since 1966 and has generated many studies on nutrition and school performance.⁵

Canada does not have a nationally funded school nutrition program. In this country, school-based food and nutrition programs are funded by a variety of sources, including provincial funding in some jurisdictions. Schools in the NWT

operate their programs on donations, sponsorships, federal funds (Brighter Futures) or Breakfast for Learning funding.³

Breakfast for Learning, a branch of the Canadian Living Foundation, has been in operation since 1992 and is an independent organization dedicated solely to funding child nutrition programs in Canada. Breakfast for Learning is taking the lead in advocating for a universal school nutrition program, developing resources to help program co-ordinators, and researching the issues of child hunger and the importance of school feeding initiatives. Breakfast for Learning has funded 32 programs in the NWT since 1992.⁹

Why a Nutritious Breakfast is Important to Academic Performance

Since the landmark studies by Daum and Tuttle in the 1950s,^{10,11} breakfast has been identified as key to the cognitive performance of school-aged children.⁶ Although most schools nationwide, including those in the NWT,³ primarily offer snack programs, and secondarily breakfast and lunch programs, most research on school-based nutrition initiatives has focused on assessing the impact of breakfast programs on students' scholastic performance.^{4,6} While there is consensus amongst educators and researchers about the importance of the morning meal to optimal cognitive functioning and scholastic achievement, what is still being sought is a definitive, scientific conclusion that unequivocally supports this relationship.^{4,5,6}

What *is* confirmed is the connection between breakfast and the brain. This link is found most directly in the recent research of Politt et al., who repeatedly identified that children who miss breakfast are compromised with regards to mathematics and reading ability, late morning problem-solving tasks, and poor behaviour.⁵ Although more research exploring the link between breakfast consumption and improved cognitive functioning is needed, researchers and educators agree that breakfast is both important



and necessary for the learning ability of children.⁶ These benefits have been identified by short-term studies (missing breakfast once) and long-term studies (missing breakfast consistently).⁴

The results of a just-published American study, *Diet, Breakfast and Academic Performance in Children*, concluded that participation in breakfast programs improved daily nutrient intake and this improvement was associated with significant increases in scholastic performance.¹² Children at nutritional risk, that is, those who received less than 50% of the recommended dietary allowances (RDA) prior to the introduction of a universal breakfast program, had significantly poorer grades than children not at nutritional risk. Improvements in math grades were seen in the breakfast program participants but not in those who remained at nutritional risk.¹²

In Canada, no formal assessment has been conducted to indicate the food and nutritional needs of students. Nevertheless, the *National Child Hunger Survey* in 1997 reported that Canadians believe that approximately 42% of children are not having adequate breakfasts before going to school.^{4,6,7} This is mirrored by research from Toronto Public Health, Scarborough Office, that found 7 to 10% of elementary school students eat no breakfast and 40% eat an inadequate breakfast.⁵ NWT statistics indicate 33% of children come to school hungry and 29.6% skip breakfast or lunch.³ As well, the NWT *Youth in Transition Study* of May 2002 reported that significant numbers of youth, particularly Dene and Inuit, are often missing two food groups from their diets, milk and milk products and fruits and vegetables.¹³

What is a Healthy Breakfast?

Clearly, breakfast is the most important meal of the day. A summary of school and community nutrition programs completed by the Breakfast For Learning group indicates that poor eating habits are a growing concern across the country.⁵

There are three components to a healthy breakfast:

1. Foods are eaten from at least three of the four food groups,

2. Foods are well balanced to sustain a child's energy throughout the morning, and

3. Foods offer at least 25% of the day's calories and essential nutrients.²

Nutrients of particular importance to scholastic achievement and development are carbohydrates, protein, iron and calcium.⁵ Carbohydrates, the main fuel for the body, break down to glucose that supplies energy to the brain. Diets deficient in protein and iron are highly correlated with poor intellectual development in children.⁷ Iron, an essential nutrient in cognitive development and learning ability, and calcium essential for the development of healthy teeth and bones, when missed at breakfast, are not readily obtained in subsequent meals and snacks throughout the day.⁵

Eating breakfast satisfies hunger and helps to maintain a steady blood sugar level. This is key to remaining energetic and able to concentrate. It is also a sign that one's diet is good overall.⁵ Therefore, missing the morning meal is indicative of a larger, unhealthy eating pattern.

Behavioural and Psychosocial Benefits of School Nutrition Programs

A balanced breakfast offers many other benefits to school-aged children and subsequently to teachers, the classroom environment, and the school.

- Teachers, parents and students state that, with breakfast, there are fewer classroom disruptions and discipline referrals, and there is improved attendance and class participation.^{4,6}
- A 1996 evaluation of the British Columbia School Meal Program concluded from interviews with parents, teachers and administrators that students who eat a nutritious meal concentrate better, attend school more regularly, are less aggressive, and show improved behaviour overall.²
- Hungry children are more likely to have low energy, be late or absent, be more apathetic, disinterested, irritable or hyperactive, have more trouble concentrating, and have lower self-esteem or poorer social skills than their peers.⁵

“When a child’s stomach is empty, everything else is secondary. Before developing a thirst for knowledge and a hunger for learning, one must satisfy the body’s thirst and hunger. This is a challenge faced by our society.”

Romeo LeBlanc,
former Governor
General of Canada.

- The American study, *Diet, Breakfast and Academic Performance in Children*, found that participation in a breakfast program improved students' psychosocial functioning and attendance.⁸
- In the NWT, the *Healthy Living School Project, Phase III* survey respondents indicated that with food programs there was a 35% increase in students' ability to learn and concentrate on their schoolwork and a 17.5% improvement in overall school performance.³

Why do Children go to School Hungry?

There are two main barriers to children accessing a meal before school starts:

1. Poverty. The increased incidence of child poverty in Canada from 1989-1997 is a key factor contributing to the development of school feeding programs.⁵ One in five children still live in poverty. From 1989 to 1997, the rate of children living in poverty increased from 15% to 20%. That means that the number of poor children in Canada increased from 936,000 to 1,397,000.⁶ Children living in poverty are particularly vulnerable to arriving at school hungry or undernourished.

2. Changing Lifestyles. There is also strong evidence that Canadian children from all income brackets go to school without having had a morning meal.^{3,5} These days, many adult caregivers/parents work outside the home. This gives the family less time to prepare and share breakfast together, or, if parents leave home before their children do, to assure that a breakfast is eaten.⁵

Other reasons given for breakfast being skipped are: extra-curricular activities before school, norms created by parents and caregivers who do not eat breakfast, long bus rides, no time in the morning, not hungry before school, and desire to lose weight.²

Social and Economic Costs and Benefits

Socio-economic status, education level, and healthy child development are just three of the twelve determinants of health that could be addressed by giving more attention to the proper growth and development of children in their

formative years. The costs in interventions that would improve nutritional health would be modest compared to health related costs associated with poor nutrition or lack of learning potential and future contributions to society.

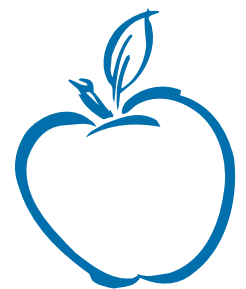
In the NWT, timely direction on where to focus efforts in improving school nutrition programs is being given by the *Healthy Living School Project, Phase III*.³ This project is a collaborative effort of the Northern Nutrition Association and the Canadian Public Health Association (Northwest Territories/Nunavut Branch), and funded through Health Canada and the NWT Department of Health and Social Services. A total of 46 out of a possible 52 schools, representing 32 communities in the NWT, were surveyed on school nutrition programs and food security. The top five suggestions from survey respondents that could form the basis for further development of school-based nutrition programs in the NWT include:³

- offer parents nutrition education,
- increase funding to school nutrition programs,
- teach children about nutrition,
- update curricula and resources, and
- involve the community in programs.

These responses indicate that the family and community must create and maintain worthwhile programs, that funding for nutrition programs is an issue and that it is not enough to simply feed children. Nutrition education backed by strong curricula and appropriate resources are also necessary.

Next Steps

Although it is the parent's primary role and responsibility to feed their child and be the guardians of their healthy growth and development, it is also apparent that lack of money and time prevent many parents from doing so. Our challenge is to help children in the NWT going to school, or being at school, undernourished and unable to learn. Many studies have indicated that not only a child's education but also their social learning and interaction can be greatly compromised when they have not had a balanced meal to start the day.



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Supporting Children Through Supporting Families

Dana Heide, Director of Child and Family Services for the NWT, Department of Health and Social Services

Many jurisdictions in Canada and around the world acknowledge the concept of a child-friendly, family-focused, community-collaborative philosophy of ensuring the safety and health of children. The Government of the Northwest Territories has actually enshrined this philosophy in legislation, the *Child and Family Services Act*.¹

The *Act* begins by defining the rights of a child and the role of the family when a family is experiencing difficulties or is unable to care for a child. It recognizes the family is the basic unit of society and that its well-being should be supported and promoted through:

- services provided to children whenever possible within the context of the family,
- being entitled to be informed of their rights, and
- being entitled to participate in decisions affecting those rights.

Children are entitled to:

- protection from actual abuse, harm and neglect and the threat thereof,
- information about their rights and involvement in decisions affecting their lives,
- having decisions made with their best interests first and foremost,
- services provided wherever possible in the context of the family,
- having their cultural values and practices respected,
- a community that takes an active role in supporting and promoting their best interests, and
- having decisions made and matters involving their lives resolved quickly.

This notion of *entitlement* is particularly important. Children and their families *are entitled* to support services whether they are for the family, the child or to address any of the array of needs a child or family may have.

This is far different from the previous NWT legislation or other legislative frameworks across Canada that often require a finding that the child is in need of protection before the provision of services to the family is possible. This distinction in use of terms is fundamental and highlights the importance NWT society has placed on children and the family.

The *Act* goes further and defines how the above rights and entitlements will be ensured through the practice and administration of the *Act and Regulations*.

Voluntary Support Services Agreements.

When a child is in need of services, a voluntary agreement between the Director of Child and Family Services (or his agent in the field – a social worker) may be made to provide services the child may need or to promote stability in the family. This agreement may be with the family or with the child depending on the age of the child.

A Family and Child Plan of Care Agreement.

A child in need of protection is not automatically a ward of the state. A family working with a social worker and the child may choose an alternative to the formal court route and collaboratively develop a *Plan of Care Agreement*. This is an agreement developed by the parents, the social worker and other concerned parties that defines services that will be provided and actions that will be taken by all persons involved in the child's life.

For instance, a family may attend parenting courses while the child remains in the home. The parents may receive regular visits from a social worker or other person who can offer ongoing support to the family. The successful result is the child remains in the family and the family can provide a loving and caring environment for the child if supported to do so. This minimally intrusive method is gaining great favour with northern families and communities.

Currently, the *Plan of Care Agreement* is the most widely practiced method of ensuring child safety in the NWT today. The plan of care can be used in conjunction with children being placed in kinship care or foster care while the parents access services or a combination of services that help them provide for the best interests of the child.

Community Collaboration and Caring for Children and Families. In response to the community's desire to play an active role in the care of children, the GNWT legislated a role and structure for community involvement in making decisions to support families. The *Plan of Care Agreement* may be made in collaboration with just the family or it can involve a member of a Community Child and Family Services Committee. A Community Child and Family Services Committee represents a commitment by the community to support children and families by being involved in problem solving and support. The community can make an agreement with the Minister of Health and Social Services to form a Community Child and Family Services Committee and appoint committee members who will be involved in collaborating and planning every plan of care developed in that

community. A Child and Family Services Committee ensures the community's standards, wishes and cultural norms are represented when a plan is being formulated to care for children and support families.

Apprehension. The NWT legislation provides every opportunity for the immediate family, extended family and the community to be involved in providing care for children. But ultimately, if children are still not safe, their best interests will come first. This can mean that, as a last resort, the child will be apprehended. An order will then be sought through the formal court process to ensure a review of the best interest of the child and that everyone is treated fairly.

There are times when children are the victims of neglect, abuse or harm in the very place where they should be the safest. The *Child and Family Services Act* balances the rights of children to be safe with the rights of the parents to care for their children. There are times when the rights of children to live safely and to be cared for cannot be ensured in the family or the community. It is at this time that the balance of doubt must be settled in the favour of the child.

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Respiratory Syncytial Virus...continued from page 1

Currently there is no specific treatment for RSV or other viral causes of bronchiolitis. Investigators have looked at using antibiotics, bronchodilators such as salbutamol (Ventolin[®]) and racemic epinephrine, and systemic or inhaled steroids. None of these has a dramatic effect on the course of the illness.⁷ Hospitalization usually involves maintenance of adequate oxygenation, hydration and nutrition, and careful monitoring for deterioration requiring intensive care management.

Northern Perspective. Health care workers in the North have long observed that infants suffer significant morbidity from respiratory illnesses at levels well above those seen in more southern populations.^{1,2} A number of studies have verified this phenomenon, though none from the Northwest Territories or Kitikmeot region of

Nunavut. Banerji et al. published a small study from the Baffin region which showed that nearly half of the study infants less than six months of age required hospital admission for acute respiratory disease, and 12% required intensive care management with intubation and ventilation.¹ In this group of infants, RSV was one of many viral pathogens identified.¹ The RSV Alaska Study Group has published a number of papers documenting a similar trend in its Aboriginal population, with hospital admission rates for RSV of up to 25%.⁵ The Northern Medical Unit from the University of Manitoba has made similar observations in the Kivalliq region of Nunavut.⁸

In this review of the 2001 birth cohort from three communities of the Kitikmeot region of Nunavut the objectives were to identify: 1) the number of

Severe Acute Respiratory Syndrome (SARS)

Health Canada has posted information about Severe Acute Respiratory Syndrome on its website. For the latest information about the SARS outbreak, visit these websites:

- general information www.hc-sc.gc.ca/english/protection/warnings/sars/index.html
- information for health professionals www.hc-sc.gc.ca/pphb-dgspsp/sars-sras/prof_e.html
- travel health advisories www.hc-sc.gc.ca/pphb-dgspsp/tmp-pmv/pub_e.html

Health Canada has also set up a toll-free telephone line to answer general questions. The number is 1-800-454-8302.

For more information on SARS in the NWT please visit the *What's New* section of the Department of Health and Social Services' website (www.hlthss.gov.nt.ca) or contact your local health care provider.

infants requiring emergency medical evacuation for hospital care in Yellowknife, and 2) whether these infants had any of the previously identified risk factors. Specific diagnoses and identification of pathogens was not part of this review. Of a total of 96 infants born during 2001 from these three communities, 39 (41%) required medical evacuation on at least one occasion and 16 (17%) required more than one emergency transfer. Three infants (3%) required admission to the pediatric intensive care unit in Edmonton. Of the infants requiring emergency transfer, only seven (17%) had an identifiable risk factor. The risk factor in three cases was a gestational age of less than 37 weeks, though none was less than 35 weeks. In four cases it was age less than six weeks.

Implications. Infants from northern communities suffer disproportionately from the effects of viral respiratory illnesses compared to their southern counterparts. There appears to be an innate predisposition to severe viral respiratory disease in northern Aboriginal infants.¹ The reasons for this have never been explained though a number of factors have been found to be associated with increased severity. The groups from Alaska and Baffin found that household crowding and prematurity are associated with more severe disease, whereas breastfeeding was protective.^{1,9} Exposure to cigarette smoke, passive and in utero, has also been identified as a risk factor for more severe respiratory illness.¹ In studies of hospital outbreaks, frequent hand washing was shown to prevent nosocomial spread of RSV.³

Palivizumab (Synagis[®]) is a manufactured, humanized monoclonal antibody against RSV which provides passive immunization. Studies have shown that it offers some protection against RSV with decreased hospital admission in high risk premature infants, mainly those of less than 32 weeks gestation or with chronic lung disease of prematurity.¹⁰ The medication is given by monthly intramuscular injections during the RSV season at a cost of close to \$10 000 per patient per year.¹¹ Synagis[®] offers no protection against other respiratory pathogens. RSV vaccines providing active immunization in the fashion of

current routine childhood immunizations have not been successfully developed despite years of active research.¹²

Interventions. Decreased smoking, hand washing and breastfeeding would appear to be reasonable targets for public health and education campaigns regarding RSV. Palivizumab (Synagis[®]) is extensively used in much of Canada and will soon be offered to eligible premature infants in the Northwest Territories and the Kitikmeot region of Nunavut. Further research is needed to identify other areas where preventative measures can have a role.

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Choosing Life: New Directions In Youth Suicide Prevention

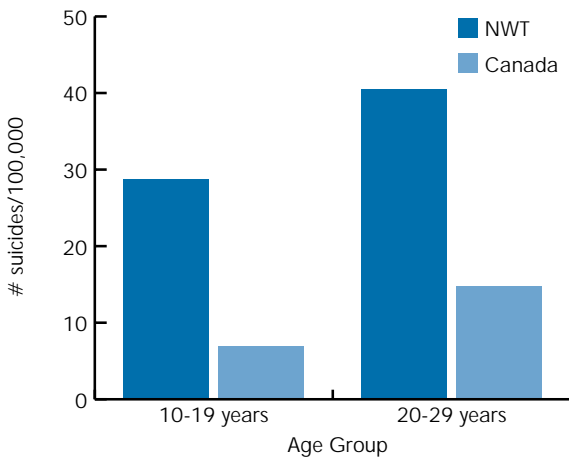
Sandy Little, Mental Health Consultant, Department of Health and Social Services

Tragedy. A sudden call to the health centre or RCMP. A teenager has died by suicide. The emotions swirl around family and peers and quickly stir the entire community. Feelings of shock, horror, grief, rage and blame complicate the recovery process. When a youth dies by suicide, family, friends and caregivers mourn not only the tragic loss of life but also their own inability to protect a young person from such despair.

What Does Youth Suicide Look Like in the NWT?

Youth age 12 to 19 and young adults age 20 to 29 years accounted for 24 of the total of 52 suicides (or 46%) in the NWT from 1998 to 2002. In the NWT, children as young as nine years of age have been found to have lethal suicide plans, but assessment and intervention by skilled caregivers has stopped many suicide attempts.

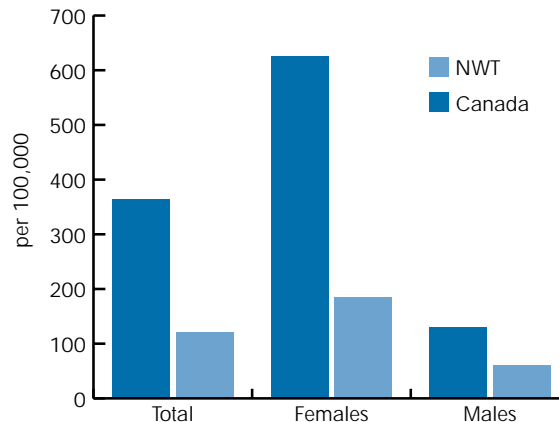
Age-Specific Suicide Rates: 1998-2002



Sources: Department of Health and Social Services and Statistics Canada

The NWT youth suicide rate was 28.8/100,000 as compared to the Canadian youth rate of 6.94/100,000. The NWT young adult suicide rate was 40/100,000 versus 14.78/100,000 for a similar Canadian age group.

Hospitalizations Due to Self-Inflicted Injury For 10 to 19 Year Olds: NWT 1995-1999 & Canada 1996



Sources: Department of Health and Social Services and Statistics Canada

NWT youth aged 10 to 19 years have significantly higher rates of hospitalization due to self-inflicted injury (most of these are considered to be suicide attempts) than their Canadian counterparts. The NWT hospitalization rate for 10 to 19 year olds was three times the Canadian rate (363.8 per 100,000 vs. 120.7 per 100,000). Females accounted for 71% of NWT hospitalizations due to self-inflicted injury among the 10 to 29 year age group. Poisoning (primarily drug overdose) was the most common method of self-inflicted injury (85% for 10 to 19 year old youth, both male and female), followed by cutting or piercing (7% for 10 to 19 year olds versus 16% for 20-29 year olds).

Male youth and young adults represented 20 of 24 suicides between 1998 and 2002. Youth methods of suicide were highly lethal: hanging (11 of 24 suicides) and gunshot (13 of 24 suicides). Although males were more likely than females to chose firearms, almost half the male suicides were completed by hanging. Twenty of the 24 (83%) completed suicides in this time frame were Aboriginal youth and young adults (Aboriginal includes Inuit, Inuvialuit, Dene and Metis).

The graphs and statistics confirm what caregivers report: suicide is a serious and significant issue for youth in the NWT, particularly for Aboriginal youth.

“Twenty of the 24 (83%) completed suicides were Aboriginal youth and young adults.”

What Contributes to the Higher Rates for Aboriginal Youth in the NWT?

In order to understand the outcome of suicide, we must understand the multiple pathways to suicidal behaviour. Many youth are able to cope with high levels of distress and maintain hope for their future. Nevertheless, Aboriginal youth in the NWT are at risk of experiencing a multitude of factors that may increase the likelihood of self-harming behaviours, suicide attempts, and deaths.¹ These include:

- Cultural/historic factors (colonization, residential schools, disruption of Aboriginal culture, family and community);
- social factors (marginalization, cluster effects); and
- family dysfunction and negative life events (experiences of violence, substance abuse, trauma, school problems, social isolation).

Additional risk factors that may be present across all cultural groups include:

- genetic susceptibility (most likely to manifest itself in an individual in times of severe stress or when ill with a major psychiatric disorder); and
- psychiatric disorders (disorders of mood, substance abuse, and/or personality) that are often undiagnosed and untreated.

All of these risk factors are present in the NWT, often in some combination, making Aboriginal youth particularly vulnerable.

Suicide may mean many different things for youth. In the NWT, we do not have a clear picture of which youth suicide attempts and completions are due to depression, impulsive acting out or revenge, a longing to be with lost loved ones, or collective grief or a cluster of experiences.

Patterns over time indicate that some communities may have low or average suicide rates and then experience a *cluster* of suicides over a time span of days, months or a year. In small communities, many people are affected by a suicidal death, a suicide attempt, or sudden trauma. To reduce the risk of imitative suicidal

behaviours among survivors, we need to understand the ways in which trauma can impact peers, families and communities. Suicide in Aboriginal communities must be considered both an individual and a social response. “At the individual level, there is too much focus on individual pathology and blaming the victim. Suicide is embedded in larger structural problems associated with colonization, including racism and bureaucratic control.”¹ The breadth and complexity of factors contributing to suicidal behaviours requires that health, in all its aspects, is attended to at the individual, family and community levels.

Recent Recommendations on Aboriginal Youth Suicide Prevention

The Advisory Group on Suicide Prevention identified four key areas where improvements to suicide prevention for Aboriginal youth in Canada could be made.¹ These include:

- 1) Increasing knowledge about what works in suicide prevention and using research and evaluation to guide our interventions. The Office of the Chief Coroner in the NWT gathers research data on every completed suicide. Conducting the same research into suicide attempts would add to our knowledge base. Understanding what precipitates a suicidal action will help us better target our education and prevention efforts. Many mental health initiatives and suicide prevention activities have not been rigorously evaluated. Using evidence from program evaluation will build and refine our youth programs.
- 2) Developing more effective and integrated health care services. The suicide literature points to: a) the benefits of trained and supported mental health providers, b) the need for both community-owned prevention programs and national mental health strategies, and c) the importance of multidisciplinary teams, integrated case management and wrap-around care for youth.^{1,2,3} The Department of Health and

Social Services' move toward integrated services, mental health reform and primary community care is meant to improve service delivery to high-risk groups. The *Integrated Service Delivery Model* addresses the issue of fragmentation, poorly resourced services and availability of resources to high-risk groups.⁴

- 3) Supporting community-driven approaches. An Aboriginal community's ability to maintain its culture and to control and manage programs and services has been pinpointed by some researchers as having a mitigating influence on suicide rates.⁵ There are several northern versions of community-based programs that assume Aboriginal communities have the capacity to find culturally relevant answers to their problems. The Northwest Territories Suicide Prevention Training (NTSPT) Program trains and supports community members (often informal helpers) in suicide prevention, intervention and community development skills. The Alaska Community-Based Suicide Prevention Program provides grants to communities to design their own wellness and prevention programs. Nunavik sends teams of youth, elders, and social workers to communities to discuss suicide prevention and other wellness issues.

A challenge exists for counsellors to maintain a balance between sound scientific research (*best practices*) and remaining true to community development principles. The clinician needs to believe and respect that Aboriginal communities have *ways of knowing* how to engage in prevention and generate community solutions.⁶

- 4) Creating strategies for building youth identity, resilience and culture. Involve youth in finding the solutions. At the recent *Workshop on Best Practices in Suicide Prevention and the Evaluation of Suicide Prevention Programs in the Arctic*, youth from Greenland identified the importance of youth participation, valuing youth contributions, and praising youth while they are alive, not waiting until the funeral to

honour a young person. Youth also stated they preferred the focus to be on *choosing life*, rather than *preventing suicide*.

Linda Todd, NTSPT Trainer, facilitated a discussion on suicide at the NWT Youth Council (Fort Simpson, July 2002). NWT youth identified the following potential solutions: offer suicide prevention workshops, be emotionally supportive to peers, watch for signs of depression and treat depression, and have community counsellors in place.

Exciting new research has emerged from Australia.⁷ Tracy Westerman (PhD candidate) is an Aboriginal psychologist who challenges mainstream thinking about western assessment tools and interventions. Westerman's research found that traditional screening methods do not adequately recognize indicators of suicide, depression, anxiety and low self-esteem in Aboriginal youth. Aboriginal youth have different world views and therefore present with mental health problems in different ways. We need to conduct more research to determine to what degree depression versus impulsivity are precipitating factors for suicide in the NWT. Having knowledge about youth triggers will help us to screen more effectively, treat underlying mental health problems, and teach skills more directly.

How to Reach Northern Youth

Allow youth to talk about issues that concern them. Listen, ask questions, and know who you will contact if you are concerned about a youth's safety. Serious and very real subjects such as suicide should not be taboo. Youth say they need elders to talk with them about these matters. Healthy, stable youth can benefit from training and support in order to be a resource to peers.

Prevention (before-the-fact) is key. Every prevention and early intervention program builds mental health for children and youth through strengthening individuals, families and communities. Suicide intervention has typically focused on the individual person, through assessment, intervention, and treatment (i.e. for psychological disorder). Interventions aimed at

"Youth...identified the importance of youth participation, valuing youth contributions, and praising youth while they are alive, not waiting until the funeral to honour a young person."

building healthier communities are seen as preferable and more meaningful for Aboriginal populations. “A suicide prevention strategy with the best chance of making a difference is better conceptualized as a *community wellness* strategy promoting whole person health.”¹

Target multiple risk and protective factors.

Prevention strategies should intervene early in the lives of children and again at key transition points across the lifespan.³ For example, in young children, providing a foundation of safety, love and nurturing is as important as teaching problem-solving skills. For older children, building healthy relationship skills is as critical as screening for depression, treating for substance abuse and reducing access to lethal means (unsecured firearms). Family, school staff, and counsellors need to be knowledgeable about suicide and caregivers must engage in regular self-care and clinical consultation.³ Youth need healthy people around them to model balance and help-seeking behaviour.

Use caution when teaching generic suicide awareness programs. Research has produced mixed results on the efficacy of psycho-educational suicide awareness programs that are usually delivered in schools. While measurable increases in knowledge are demonstrated, there is little evidence that suicidal thoughts or behaviours decrease as a result. On the contrary, some studies have found the content resulted in an increase in expressed hopelessness and maladaptive coping behaviours.⁸ Many programs teach specific suicide awareness and peer intervention skills to youth, but in order to provide safety, the peer counselling program must be able to provide significant follow-up to high-risk youth, as well as debriefing and ongoing supervision to the peer counsellors.^{1,8,9,10}

Two approaches that are supported by research are **educating gatekeepers** and **screening students**.⁷

- Gatekeepers are adults who work with youth (teachers, counsellors) and they can be educated on how to treat suicidal youth

and how to work with groups to promote coping skills.

- Screening programs ask students about symptoms of depression, anxiety, distress, suicidal thoughts, suicide attempts, and/or substance abuse problems. The results enable staff to identify high-risk youth and refer for specialized clinical care. Screening tools must be culturally relevant and quality mental health services must be available.

Provide safety and follow-up (postvention support).

Follow-up for youth who have attempted suicide, their peers and their families, is an area requiring more attention. International research indicates that as many as 50% or more of youth who attempt suicide are not seen by mental health professionals for care and treatment.⁷ There is concern that youth who do not have access to mental health care carry the potential for subsequent, more lethal, suicide actions. “The risk for future suicide attempts increases twenty-fold with an individual’s history of a prior attempt.”¹¹ Today’s suicide attempts risk becoming tomorrow’s deaths.

Minimizing cluster suicides through effective postvention initiatives in schools and communities is important. Caregivers must attend to youths’ need to talk about a tragedy but discourage “repeated, dramatic discussions around actual suicide cases which may inadvertently serve as a natural advertisement for other young people with pre-existing vulnerabilities.”⁶ Communities, including school communities, need to develop plans regarding how to communicate and manage the aftermath of suicide. Clinicians agree that the following actions are key to managing crisis, protecting at-risk youth, and minimizing cluster suicides:^{6,12,13}

- create a central co-ordinating group that not only develops and reviews prevention activities, but also identifies key people and prepares a postvention plan, *in advance* of a crisis,
- discuss the act of suicide in a manner that does not sensationalize or normalize the choice of suicide, nor attribute simple cause-effect reasoning to the *why* of suicide,

“Today’s suicide attempts risk becoming tomorrow’s deaths.”

- acknowledge that suicidal thoughts are common but do not have to be acted upon,
- provide information about available help resources, and
- assess for suicide risk in other community members and offer support to at-risk individuals and families.

Focus on skill building and problem solving. Education programs should focus on *choosing life*, seeking help, or coping with challenging situations that youth experience. Evidence indicates that adolescents can benefit from improving self-esteem, learning about healthy romantic relationships, and developing coping skills for challenging family, social and academic situations.

Choose language with care. Words such as *unsuccessful/successful suicide* imply that the person is a failure unless they do die by suicide. The term *death by suicide* is more neutral. Terms such as *suicide contagion* and *epidemic* imply that people are powerless to stop suicide or that it is catching like a disease.

Conclusion

In our grief and outrage about youth suicide, we search for a solution to the problem. Our knowledge of suicide is incomplete but what we know points to a multitude of predisposing and precipitating factors. Therefore, the solutions need to be multifaceted and integrated into larger health care and community development initiatives. "State-of-the-art research indicates that the prevention of suicide, while feasible, involves a whole series of activities, ranging from the provision of the best possible conditions for bringing up our children and youth, through the effective treatment of mental disorders, to the environmental control of risk factors."¹² In the NWT, this means supporting healthy families, encouraging community-generated solutions, providing effective mental health services, and targeting environmental risk factors such as child abuse and neglect, bullying, family violence, addictions, and poverty. While suicide crises must continue to be managed, best practice research indicates that comprehensive and holistic

prevention initiatives require greater attention. Youth suicide prevention is essentially about building good mental health.

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A Congenital Anomalies Surveillance System

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The World Health Organization defines a congenital anomaly as a structural, biochemical, or functional developmental disturbance that is present at birth.¹ Two to three percent of children are born with a serious congenital anomaly, and birth defects are the cause of infant mortality in 1.9 out of every 1,000 live births in Canada.² Among surviving infants, congenital anomalies frequently result in lifelong disability.³

Usefulness of a Congenital Anomalies Surveillance System

It has been estimated that 7.5% of congenital anomalies are due to single gene mutations, 6% to chromosome abnormalities, 5% to maternal illness, 8% to 12% due to environmental factors, and 20% to 25% due to a combination of factors.^{2,4} By pointing out the main causes of birth defects, whether genetic, environmental, or due to maternal conditions such as age, illness, or medication use, surveillance data can be used to identify ways of reducing the incidence of birth defects, for needs assessment in program planning and, over time, to evaluate the impact of preventative programs and services. Birth defects surveillance can help identify research questions, and provide data for research projects both locally and nationally. Additionally, the statistics provided by the birth defects data set can be used to communicate information to the public and to clinicians regarding health promotion and education to prevent birth defects.

Prevention of congenital anomalies can occur in three ways:

- Primary prevention is undertaken to reduce exposure of the fetus to known teratogens so that the congenital anomaly does not occur.¹
- Secondary prevention involves the prenatal diagnosis of the birth defect and the subsequent elimination of the anomaly before birth, either by correcting the defect in-utero or by terminating the pregnancy.

- Tertiary prevention involves mitigating the effects of a congenital anomaly by correcting the anomaly and/or by planning services for children with congenital anomalies in order to prevent unnecessary disability.⁵

The congenital anomalies surveillance data set forms a base for a variety of research questions. One is the possibility of studying the functional outcomes of particular birth defects. Cases of multiple congenital anomalies can be studied to classify a syndrome or to identify new syndromes. Clusters of congenital anomalies discovered in the data can lead to questions about etiology and a genetic mutation, genetic susceptibility, or environmental exposure may be identified. Most commonly the surveillance data is used to address questions posed by a community, the media, or a clinician, when a cluster of birth defects is noted or concerns are raised regarding an environmental exposure. Thus a congenital anomaly surveillance system may be used to verify or exclude statistically a perceived increase in birth defects.

Congenital anomalies surveillance also serves epidemiologic research to delineate rates and trends in occurrence of birth defects, the burden of congenital anomalies, and the role they play in the infant mortality rate of a population. This helps identify preventable infant mortality and preventable birth defects that call for public health intervention. Furthermore, a congenital anomalies surveillance system provides an information source for tracking progress towards health promotion and disease prevention goals. These include identifying differences in health status within population subgroups or ethnic groups and monitoring long-term trends in congenital anomalies and associated morbidity and mortality.^{5,6} A further important use identified for birth defects surveillance is for quality assurance purposes. The data set can be used to evaluate diagnostic techniques and

accuracy, and identify training needs among contributing clinicians. Moreover, tracking the affected children listed in the database can determine whether they are receiving needed health care and social services and where improvements and service integration can be made. In such a fashion, a congenital anomalies surveillance program can connect public health, clinical care and social services providers.⁷ Finally, data from a birth defects surveillance database is useful for advocacy, grant writing, and legislative efforts towards birth defects research and prevention, and can be contributed to national and international databases.⁸

Establishment of a Congenital Anomalies Surveillance System

Establishing a congenital anomalies surveillance system involves a number of challenges, including: 1) identifying quality data sources and ensuring their consistency, 2) diagnosing congenital anomalies, 3) defining the anomalies on which to focus, 4) designating what data will be gathered and how it will be coded, and 5) creating a system that ensures the data are valuable, reliable, and timely.⁷ Establishing and operating a surveillance network requires the interest and co-operation of a variety of participants. These include clinicians involved in prenatal, postnatal, obstetric and pediatric services, public health and statistics personnel, legislators, hospital coding personnel and community health workers. Legislation may be required to implement a surveillance system, either to mandate that birth defects be reported to the surveillance program or to authorize the surveillance program to access medical records for the purpose of data collection.^{5,9} Other important considerations in the collection of surveillance data include: 1) the accuracy and verifiability of the diagnosis, 2) the completeness of the data set, 3) the timeliness of data gathering and reporting, and 4) the compatibility of the data set gathered with other collaborating surveillance systems.^{1,8}

Surveillance for Congenital Anomalies in the Northwest Territories

The Northwest Territories featured an average of 816 births annually between 1981 and 1999. According to WHO guidelines, surveillance of such a small birth series would only call for very simple organization, but complete verification and long periods of observation would be required for valid statistical analysis.¹⁰ An intensive surveillance system is then recommended for databases featuring a small number of births and anomalies.¹ Such a system would involve collection of comprehensive information, verification of cases, and could include data from nontraditional sources such as prenatal diagnoses and pregnancy terminations. The small data set of congenital anomalies in the Northwest Territories would make intensive surveillance feasible from a labour standpoint. The WHO guidelines add that already functioning health and surveillance systems are important to the successful establishment of congenital anomalies surveillance. So too is interest by involved health care professionals, the community and an established committee that addresses birth defects.

Risk Factors of Interest

The risk factors for birth defects faced by the population in question are of interest when establishing a system for congenital anomalies surveillance. Fetal Alcohol Syndrome (FAS) is the most common cause of developmental disability in Canada, and may be the most common congenital anomaly as well. Inclusion of FAS in a congenital anomalies surveillance system in the Northwest Territories is of particular interest since studies have shown a high prevalence of FAS among northern Canadian and Alaskan Aboriginal peoples.¹¹

Other risk factors may include exposure to infectious disease and the prevalence of vaccination, the nutritional status of the population and the prevalence of periconceptional multivitamin and folic acid supplementation, environmental exposures, maternal age, and populations that live in genetic

isolation and feature high rates of consanguinity.¹ In the area of genetic isolation, the Northwest Territories includes some of the most geographically isolated populations found in a developed nation. The remote communities also present unusual health challenges, such as ensuring vaccination, implementing health promotion activities that are culturally and linguistically relevant, and guiding prenatal nutrition in northern communities that are in dietary transition from a traditional high-protein diet to imported foods.

Also specific to the context of the Northwest Territories, concern is increasing about the concentration of persistent organic pollutants (POPs), mercury, and lead in the Arctic and subarctic food chain. The Arctic Monitoring and Assessment Program has noted high concentrations of POPs in traditional foods in the Canadian Arctic, in human blood, and in the breast milk of Inuit women.¹ It has further noted that many POPs cross the placenta and are known to have teratogenic effects in animals. Other environmental exposures to be found in the Northwest Territories are those from the mining industry, including mining of radioactive materials.

Conclusions

Though it features a small sample size, there are several factors in the Northwest Territories that make a congenital anomalies surveillance system feasible. The majority of the births in the Northwest Territories (including some births from Nunavut) occur at Stanton Territorial Hospital in Yellowknife, with the rest occurring either in hospital in Inuvik or out of Territory. There are pediatric staff and a maternal/perinatal health committee interested in collecting congenital anomalies data. Obstetrics staff are able to provide information about all pregnancy terminations and prenatal diagnoses in the Northwest Territories, thus offering the possibility of an exceptionally complete data set. Furthermore, with some effort towards community awareness and physician support,

good recording of Fetal Alcohol Syndrome in the database is feasible. Because a model of continuity of care for the mother and newborn is supported in the Northwest Territories, there is better connection between the doctor who is aware of maternal alcohol or drug exposure and the doctor who attends to the child during the delivery and later in life. Adding to the uniqueness of the data set are small, isolated communities, environmental exposures of interest, and a diverse population. Clearly, the Northwest Territories has an opportunity to assemble a very complete congenital anomalies data set.

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Nutrition and School Performance...continued from page 5

Providing alternatives for children who are in need, for whatever reason, and providing these alternatives where children spend much of their day and do most of their work does not mean that the responsibility for feeding children will be shifted from the parents to others. Parents, students, community members, school staff and teachers can all be part of community nutrition programs. Indeed the best-run school nutrition programs are those that are driven by the program's beneficiaries themselves.

Through a combination of efforts at the education, health and income support levels we can begin to address some of these issues. The national group, Breakfast for Learning, can also be a partner to support the work of local community groups and schools by providing funds, resources and other services and advocating for a national school nutrition program.

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HEALTH .online Fetal Alcohol Spectrum Disorder

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The lifetime health and social costs of Fetal Alcohol Syndrome (FAS) are estimated to be in excess of \$2 million per person afflicted with fetal alcohol syndrome.^a This syndrome occurs when women drink alcohol while pregnant and is a form of Fetal Alcohol Spectrum Disorder (FASD).^b It is the biggest, single cause of mental retardation and affects intelligence, learning skills, and behaviour. The effects of FASD could be greatly reduced with effective education and prevention strategies.

The Internet can be a source of accurate, credible information about the effects and severity of FASD. The following FASD websites have been reviewed and are recommended.

The Prairie Northern FAS Partnership (www.acs.gov.ab.ca/fas/prairies.html) is an alliance of the governments of the Northwest Territories, Alberta, Saskatchewan, Manitoba, Yukon, and Nunavut. Sharing the strategic vision that communities must have the capacity to prevent FAS, this partnership is committed to developing, promoting, and co-ordinating comprehensive plans for the prevention of FAS. This alliance also intervenes, cares for and supports people affected by FAS.

FASworld (www.fasworld.com) is an international alliance of people who do not want to see any more children, teenagers, and adults struggle with birth defects caused when their mothers

- a The Province of Manitoba estimates that the lifetime public cost of one person born with FAS is \$1.5 million. A northern cost of living differential has been factored in, increasing the figure to just over \$2 million. Source: Department of Health and Social Services.
- b The current term Fetal Alcohol Spectrum Disorder (FASD) refers to all damage from prenatal alcohol exposure and includes: Fetal Alcohol Syndrome (FAS), Fetal Alcohol Effects (FAE), partial FAS (pFAS), and related disorders.

drank alcohol in pregnancy. Co-founded by volunteers in Toronto, Canada, and Tucson, Arizona, FASworld has resulted in the new Canadian organization, FASworld Canada (www.fasworld.com/about.ihtml). This organization works with the Fetal Alcohol Community Resources Centre (www.fasworld.com/help.ihtml) in Tucson to co-ordinate efforts in worldwide awareness. Through this Centre you can access on-line manuals, conference and special event notices, international links related to FAS, resources (books and printed materials), as well as some touching real-life stories.

Alaska is recognized as having one of the highest rates of FASD in the United States. The Department of Health and Social Services in the State of Alaska has established a specific website dedicated to the Office of Fetal Alcohol Syndrome (health.hss.state.ak.us/fas/default.htm). This Office was established in 1998 to develop a statewide strategy to improve FASD prevention efforts and to improve the delivery of services to those individuals already impacted by prenatal exposure to alcohol. The FASD Office is active in providing training workshops and hosting conferences, and is credible in providing resources and information on FASD to expand one's knowledge about FASD and promote best practices.

Other credible FASD websites are:

- Fetal Alcohol Syndrome Diagnostic & Prevention Network (depts.washington.edu/fasdnpn/). This Network is dedicated to primary and secondary prevention of FASD through screening, diagnosis, intervention, training, education and research by using a multi-disciplinary clinical model and objective screening and diagnostic tools.
- Minnesota Organization on Fetal Alcohol Syndrome (www.mofas.org/index.htm). Founded in 1990, this nonprofit organization is dedicated to eliminating alcohol-related birth defects through increased public awareness and education. The organization collaborates with others such as FASworld and the Four-State FASD Consortium (www.usd.edu/fourstatefasconsortium/) to improve diagnosed cases, risk factors, prevalence and prevention of FASD. Two projects currently operated by Minnesota Organization on Fetal Alcohol Syndrome include Project SOS: Seeds of Success, and the Juvenile Justice Project. You can link to them directly through their website.

For more information on FASD, please contact Lona Hegeman, Health Promotion Specialist at (867) 873-7051.

CONFERENCES & workshops

Workshop on Best Practices in Suicide Prevention and the Evaluation of Suicide Prevention Programs in the Arctic

Sandy Little, Mental Health Consultant, Department of Health and Social Services

The Government of Nunavut, Department of Evaluation and Statistics, hosted a workshop on best practices in suicide prevention in Iqaluit, Nunavut, in March 2003.

Forty suicide prevention experts from Alaska, NWT, Nunavut, Nunavik and Greenland were invited to:

- examine the picture of Inuit youth suicide,
- share programming ideas and evaluation methods among jurisdictions,
- hear recent research and best practices from international experts on Aboriginal suicide prevention, and

- help Nunavut to develop a comprehensive suicide prevention program.

Two guest speakers were present. Dr. Kirmayer^a presented the recently released *Acting on What We Know: Preventing Youth Suicide in First Nations: The Report of the Advisory Group on Suicide Prevention*. Tracey Westerman^b presented her work on the *Westerman Aboriginal Symptom Checklist ~ Youth*. The checklist is a unique assessment tool that identifies Aboriginal Australian youth (ages 13-17) at risk of suicide, depression, anxiety and low self-esteem.

Participants identified common themes across the circumpolar regions:

- suicide rates in Aboriginal people remain unacceptably high,
- at highest risk for suicide are young, male Inuit,
- alcohol use is often associated with suicide,
- relationship breakdown is frequently a trigger factor,
- cultural oppression (rapid cultural changes, residential schools, home rule, etc.) has destabilized Inuit culture,
- suicide is a community experience in the Arctic, not merely an individual phenomenon, and
- most communities are isolated and have few formal mental health services.

Some of the promising programs described by workshop participants:

- provided training to community members,
- supported communities to define and develop their own prevention strategies,
- trained and supported school personnel,
- linked elders and youth,
- provided materials to teach youth problem-solving skills,

- enhanced support services for all those impacted by suicide attempts and suicide deaths, and
- communicated pride in survival values and *choosing life*.

Youth delegates from Greenland presented media materials they had developed to encourage a *choose life* approach to suicide prevention.

Dr. Westerman's research spoke to the importance of developing unique assessment and intervention tools that are sensitive to Aboriginal experiences in the North. Her work has shown that impulsivity was the highest risk factor for Australian Aboriginal youth, followed by depression, lack of appropriate coping mechanisms, and community clustering experiences.

Dr. Kirmayer described the multiple pathways to suicide and the risk factors for Canadian Aboriginal populations. He recommended that we increase our knowledge about what works, build effective and integrated health and social service systems, support community approaches, and build youth identity, resilience and culture.

Workshop participants shared ideas that could form the basis of a Nunavut suicide prevention strategy. On March 24, the Government of Nunavut passed a motion to establish a task force on *Suicide Prevention and Community Healing* by May 1, 2003.

For more information, or a summary of workshop materials, please contact Sandy Little, Mental Health Consultant, GNWT Health and Social Services at sandy_little@gov.nt.ca.

Websites for further information:

Health Canada, First Nations and Inuit Health Branch. *Acting on What We Know: Preventing Youth Suicide in First Nations*
www.hc-sc.gc.ca/fnihb/cp/publications/preventing_youth_suicide.htm

University of British Columbia. Mental Health Evaluation and Community Consultation Unit (Mheccu). Suicide Prevention Resources:
www.mheccu.ubc.ca/SP/publications/index.cfm

Centre for Suicide Prevention, Calgary
www.suicideinfo.ca

Canadian Mental Health Association ~ NWT Division *Helpline*
1-800-661-0844
(7-11 p.m. daily in NWT)
www.cmha.ca

Kids Help Phone
1-800-668-6868
www.kidshelpphone.ca/en/

Youth Suicide Prevention Website
www.youthsuicide.ca/

Culture and Mental Health Research Unit: Working Papers Series
www.mcgill.ca/psychiatry/namh/transcultural

a Dr. Laurence Kirmayer is Director of the Division of Social and Transcultural Psychiatry, at McGill University, and editor-in-chief of *Transcultural Psychiatry*, a quarterly scientific journal. He also directs the Cultural and Mental Health Research Unit at the Department of Psychiatry, Sir Mortimer B. Davis - Jewish General Hospital in Montreal, Quebec.

b Tracey Westerman is a psychologist, PhD candidate, and Director of Indigenous Psychological Services in Western Australia.

NOTIFIABLE diseases

for the Northwest Territories (NWT) January 2003 - March 2003^a

		January - March 2003	Cumulative Totals - 2003
		NWT	NWT
<i>Vaccine Preventable Diseases</i>	Hepatitis B	0	0
	Haemophilus Influenzae	0	0
	Influenzae A	0	0
	Influenzae B	1	1
	Pertussis	0	0
<i>Sexually Transmitted/ Bloodborne Diseases</i>	Chlamydia	171	171
	Gonorrhoea	28	28
	Hepatitis C	6	6
	Hepatitis, Other	0	0
	Syphilis	0	0
<i>Diseases by Direct Contact/ Respiratory Route</i>	Chicken Pox	25	25
	Invasive Group A Strep	4	4
	Invasive Group B Strep in neonates	0	0
	Invasive Pneumococcal Disease	0	0
	Legionellosis	0	0
	Meningitis, Other Bacterial	0	0
	Meningitis, Unspecified	0	0
	Meningitis, Viral	0	0
	Meningococcal Infections	0	0
	Respiratory Syncytial Virus	9	9
	Tuberculosis	4	4
<i>Enteric, Food and Waterborne Diseases</i>	Botulism	0	0
	Campylobacteriosis	1	1
	Cryptosporidiosis	0	0
	E.Coli 0157:H7	1	1
	Giardiasis	0	0
	Hepatitis A	0	0
	Salmonellosis	1	1
	Shigellosis	0	0
	Tapeworm Infestation	0	0
	Trichinosis	0	0
	Yersinia	0	0
<i>Vectorborne/Other Zoonotic Diseases</i>	Brucellosis	0	0
	Malaria	0	0
	Rabies Exposure	0	0
<i>Antibiotic resistant microorganisms</i>	Methicillin-resistant Staph.Aureus	0	0
	Vancomycin-resistant Enterococci	0	0

NWT HIV Infections Reported from 1987 to 2003

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 ^b	MSM/ IDU ^c	IDU	Hetero- sexual	Perinatal	Blood Products
21	1	0	0	4	12	5	0	1	2	21	11	1	5	4	1	1

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

b Men who have sex with men

c Injection Drug User