

# NORTH

The Northwest Territories' Epidemiology Newsletter

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### A Growing Research Base for FASD in the NWT

#### Health and Social Services, 2007

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#### Part 1

Recognition is growing in the Northwest Territories (NWT) that Fetal Alcohol Spectrum Disorder (FASD) is an urgent and costly concern. Planning and implementation of FASD projects have increased, but a lack of knowledge on the extent of the issue, plays a role in limiting the response. National jurisdictional statistics offer greatly varied estimates of the number of children affected by FASD but do not offer a conclusive Canadian rate. Attempts to establish rates in other northern regions (i.e., Yukon reports 46 in 1000 children) indicate higher rates than southern jurisdictions.<sup>1</sup> Similar to national challenges to determine accurate rates, the NWT does not currently collect reliable statistics that report the rate of occurrence of FASD in the Territories. However, program staff and educators suspect NWT rates are higher than national averages.

To more effectively assess the extent of the issue, develop effective practices and assess progress to date, research needs to be imbedded in the development and delivery of programming and planning. Currently, research specific to the NWT is limited, but the capacity and mechanisms for collaborating on and implementing research are growing. Based on the urgency for appropriate prevention and intervention, research is a growing component in these areas, as evidence-based best practice is crucial to influence priorities and inform the actions chosen for implementation. In efforts to provide prevention, intervention and support for individuals and families affected by FASD, partnerships, strategies and programming inclusive of research are being implemented in the NWT to address the issue.

#### Canada Northwest Fetal Alcohol Spectrum Disorder Partnership (CNFASDP)

##### Ministers' Meeting on March 10, 2007



(L-R): Hon. Kerri Irvin-Ross (Manitoba), Hon. Leona Aglukkaq (Nunavut), Dr. Sterling Clarren (CEO and Scientific Director of CNFASDP), Hon. Floyd Roland (Northwest Territories), Lou Winthers (Board Chair of the Canada Northwest Research Network Board), Hon. Linda Reid (British Columbia), Hon. Brad Cathers (Yukon Territory)

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## Editor's Notes:

*Janet Hopkins, Managing Editor, EpiNorth, Department of Health and Social Services*

This issue focuses on the challenges and risks for individuals and health professionals dealing with substance abuse. People abuse substances such as alcohol, drugs and tobacco for a variety of complicated reasons; consequently, education, promotion, support and counselling require collective solutions.

*Shannon Watson and Colleagues, Prevention Services*, provide an extensive two-part look at Fetal Alcohol Spectrum Disorder (FASD). This article gives an overall view of the many facets of the disorder, the impact of the disorder on the lives of the children and mothers and the necessity for research, partnerships and strategies to provide support for individuals and families affected by FASD.

*Andrea Kermack, 4th year medical student, Dalhousie University and Dr. Kami Kandola, Deputy Chief Medical Health Officer, Northwest Territories* prepared an article on best practices for harm reducing approaches to drug use in the NWT. The focus of the article is on safe needle practices and the need for a program that recognizes the need to protect both the user and the community in a non-judgemental atmosphere.

*Lindsay Beck, Summer Student and Maria Santos, Territorial Epidemiologist* bring us the "Highlights of the 4th National Aboriginal Hepatitis C Conference" "Understanding Hepatitis-C and Co-Infections", and offer a review and epidemiology of The Hepatitis C Virus in the North.

*Rosella Stoesz, Health Promotion Specialist, Department of Health and Social Services*, provides results from surveys on the status of tobacco use among youths and adults and overall trends of tobacco use in the NWT.

*Katherine Friesen, Primary Community Services, Tele-Care NWT Project Coordinator* gives an update on the Tele-Care NWT line as it celebrates its third year helping NWT residents from seniors to new moms with medical concerns. As of April 2007, two new enhancements have been added to the line – Poison information and Sexually Transmitted Infection information.

*Helen MacPherson, Senior Disease Registry Officer*, provides an update on the Incidence of Disease in the NWT.

As always we invite your comments or suggestions regarding articles that appear in Epi-North.

THE EDITOR WELCOMES ARTICLES WITH NWT RELEVANCE FROM ANY AUTHORS. IF YOU WOULD LIKE TO SUBMIT AN ARTICLE, PLEASE CONTACT THE EDITOR FOR MORE INFORMATION AT EPI\_NORTH@GOV.NT.CA

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## Overview of FASD

Fetal Alcohol Spectrum Disorder is an umbrella term used to describe the range of effects that can occur in an individual whose mother drank alcohol during pregnancy. Currently, FASD is the leading Canadian cause for developmental disabilities in children. The diagnoses within the spectrum include: Fetal Alcohol Syndrome (FAS), partial FAS (pFAS), Alcohol-Related Neuro-developmental Disorder (ARND), and Alcohol-Related Birth Defects (ARBD).<sup>2</sup> The presence of FASD is influenced by the mother's blood-alcohol concentration, frequency of alcohol use, timing of fetus exposure to alcohol, and patterns of consumption. The range of effects may be physical, mental or behavioural, including learning disabilities.<sup>1</sup>

Screening for FASD takes into account factors such as evidence of prenatal exposure to alcohol, presence of characteristic facial features, growth deficits, and central nervous system deficits. For individuals, some or all of these affects may be present and combinations of these features warrant referral for diagnosis.<sup>1</sup>

Diagnosis is recommended to be conducted by multi-disciplinary diagnostic teams comprised of a physician, psychologist, occupational therapist, and speech language pathologist. The team utilizes records and information from multiple sources (i.e., educational, medical, legal) to determine whether the criteria for history of maternal alcohol consumption, physical attributes, and psychological data is met.<sup>1</sup>

Mothers of children born with FASD are diverse in race, education, and economic backgrounds, but have often experienced unresolved challenges such as abuse, mental health issues, and social isolation.<sup>1</sup> An important element of diagnosis is the system of support that is required to support the individual and family after diagnosis. The diagnosis incorporates an individualized plan for intervention dependent largely on the presence of accessible support services and interventions.<sup>1</sup> Currently, this system of support is characterized by gaps in many jurisdictions and research plays a role in determining the most effective means of intervention and support.<sup>1</sup>

## Priority for Research

Effective research on issues related to FASD in the NWT has been limited in the past three decades since the disorder was identified. In general, across Canada, a small portion of federal health research funding has been directed to FASD research, many principle investigators are located in eastern jurisdictions of Canada, and little coordination in the field was present

in the past. Research conducted nationally, shows a large emphasis placed on examining the biology of FASD.<sup>3</sup>

Limited research has been conducted on the effectiveness of prevention and intervention strategies both to inform providers of how existing programs can be improved and to determine long-term impacts of programs. Specifically, there is a lack of research identifying evidence-based interventions for children with FASD ages zero to five. Experiencing success and limiting secondary problems for children with FASD is assisted through early identification and intervention, which emphasizes the need for research in this area to influence programming and planning.<sup>4</sup> Examples of secondary disabilities include: mental health problems, drug/alcohol addictions, disrupted school experience, joblessness, homelessness, and involvement with the law.<sup>5</sup>

Research and strategies exist to provide recommendations on interventions for pregnant women who abuse alcohol.<sup>5</sup> Preventing alcohol consumption during pregnancy is the essential primary prevention focus for reducing FASD. Analysis and investigation examining the current research and its applicability to a northern context is required to determine priorities for implementation. The NWT reports the highest level of heavy alcohol consumption of all Canadian jurisdictions.<sup>6</sup> Additionally, issues of family violence, housing instability, family environment, residential schools, and other factors that influence addictions are experienced uniquely in the north and may impact the rates of alcohol consumption during pregnancy and the interventions that will be effective. The 2002, *NWT Drug and Alcohol Survey* identified that 93% of NWT women are aware that alcohol consumption during pregnancy is harmful; however, 14% of that group of women reported drinking during their last pregnancy.<sup>7</sup> Assessing effective intervention strategies for that cohort are essential.

To increase the ability to conduct research in Canada's Northwest regions, a mechanism was required to improve cost effectiveness, increase the ability to leverage funds, provide access to a critical mass of population and researchers, and share information and knowledge.<sup>3</sup> These needs led to the development of the Canada Northwest FASD Research Network.

### Partnerships for expanding the knowledge base for FASD

In 1999, the Department of Health and Social Services, became an active member of the Canada Northwest FASD Partnership (CNFASDP).<sup>8</sup> The CNFASDP is an alliance of the four Western provinces of Alberta, British Columbia, Manitoba and Saskatchewan and three northern territories of Nunavut, the Yukon and the Northwest Territories.

#### The outlined purpose of the CNFASDP is to:

- Act as an alliance of partners in the development and promotion of an inter-provincial/territorial approach on the prevention, intervention, care and support of individuals affected by FASD
- Work collaboratively in the prevention of FASD, using a common message that if you are pregnant or planning to become pregnant, no alcohol is best.
- Share expertise, best practices, and materials, thereby aiding effective and efficient use of resources.<sup>8</sup>

Key developments of the history of the CNFASDP include ministerial direction to include FASD prevention and support work into all early childhood development strategies across the jurisdictions, biennial symposia and conferences on alternate years for knowledge base growth, collaboration with all Canada Northwest jurisdictions for information sharing and joint projects, and the development of the Canada Northwest FASD Research Network.

#### Canada Northwest FASD Research Network

In 2004, the Canada Northwest FASD Research Network was conceived to stimulate and consolidate research and clinical activity on FASD in Western and Northern Canada.<sup>9</sup>

#### The Research Network has five purpose statements:

- To build a sustainable research network.
- To build research capacity and knowledge across and within the jurisdictions of Canada Northwest.
- To identify priority research questions and themes relating to FASD policy and practice.
- To develop comprehensive and culturally appropriate prevention, surveillance, diagnosis and intervention

research programs to answer research questions in ways that can be understood, utilized and applied.<sup>9</sup>

The Research Network CEO and staff supervise a set of Network Action Teams (NATs) and Network Integration Teams (NITs) whose organizational structure is decentralized and inclusive to foster working relationships across all jurisdictions while developing programs and writing new initiatives. The NATs undertake the majority of the research of the Network. There are currently five teams assigned to topics within diagnostics, intervention and prevention. Each team is composed of cross-jurisdictional members who have the expertise and interest in the topics being explored. These members may be individuals, or represent organizations or communities. The number of teams may vary depending on the work at hand.<sup>9</sup>

The NITs provide special expertise and guidance to all aspects of the Network. The Teams are led by professional individuals or groups with skill sets congruent with the mission of the Network. There are currently two NITs with a focus on communications and data management. There are plans for two additional teams in 2007/2008 with a focus on ethics and methods and research with First Nations, Metis, and Inuit communities.<sup>9</sup>

The collaboration within these teams and the partnerships that incorporate the NWT will enhance research involvement and knowledge for the NWT given the cross-jurisdictional nature of project development and implementation. The creation of the networks provides the needed connection to primary investigators, population mass, and collaboration for identifying research funds. The Network Action Teams will undertake 14 projects in 2007/2008 and the Network Integration Teams will undertake an additional two.<sup>9</sup> Results of these and future projects will act as a long-needed Northwestern research base for the planning and implementation of northern strategies and programming.

#### Cross Jurisdictional Research Example

An example of a NAT is the Prevention from a *Women's Health Determinants Perspective*. The British Columbia Centre of Excellence for Women's Health is the lead agency. The rationale for the development of this group was to discover the determinants of women's health that could influence the prevention of FASD. This team includes representation from all of the seven jurisdictions in the CNFASDP.

### The objectives of this team include:

- Identifying, evaluating, and promoting better practices in maternal substance use and FASD prevention;
- Building a network of researchers and research collaborators in the northern territories and western provinces;
- Conducting research in examining how social determinants of health impact women's substance use during pregnancy; and
- Facilitating the incorporation of analysis of barriers and supports to access to care into FASD prevention efforts.<sup>10</sup>

As an initial achievement, this team completed a cross jurisdictional mapping of key services available to women and identified barriers to access these services. The identified services were focused on addictions, violence, housing and services for pregnant women. The mapping shows concentrations of all these services and where there were few services. Access to many of these services is limited for women with substance use problems, women who are pregnant and new mothers.<sup>10</sup>

This research analyses correlated factors identified in other research as risk factors and identified the accessibility to services that could mediate risk factors. For example, a link between availability of transitional housing and FASD prevention is supported by research that found women's alcohol and illicit drug use significantly decreased in the three months following a stay in a transitional house independent of significant substance intervention.<sup>11</sup> Moreover, research examining the profile of women with children with FASD identified 100% of the study sample had been seriously sexually, physically or emotionally abused.<sup>12</sup> The NAT's cross jurisdictional study identified the waitlist for social housing in many jurisdictions was three years or more and many services for women who have experienced violence deny access for women with substance use issues.<sup>10</sup> Further research in this area will provide recommendations for programming that will increase supports for preventing FASD.

Linking research in women's health with the availability of resources will contribute to the knowledge base of practices for prevention of FASD. Building a knowledge base related to FASD prevention through work with women and their support systems will provide awareness to all the jurisdictions of current approaches to FASD prevention from a women's perspective. As part of this Network Team and others, the NWT will become part of cross-jurisdictional teams to address research and evaluation priorities of communities. **(Part two next issue)**

### References:

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- <sup>2</sup> Canada. Health Canada. Fetal Alcohol Spectrum Disorder (FASD). 2005
- <sup>3</sup> Canada Northwest FASD Partnership. *Breaking New Ground: A plan for FASD research networking in Canada's Northwest*. 2004.
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- <sup>5</sup> Streissguth, A.P. & Kanter, J. *The Challenge of Fetal Alcohol Syndrome: Overcoming Secondary Disabilities*, University of Washington Press. 1997.
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- <sup>7</sup> Government of the Northwest Territories. Health and Social Services. *NWT Drug and Alcohol Survey*. 2002.
- <sup>8</sup> Canada Northwest Fetal Alcohol Spectrum Disorder Partnership. *Terms of Reference*. 2004.
- <sup>9</sup> Clarren, S.K. *The Canada Northwest Fetal Alcohol Spectrum Disorder Research Network: Business Plan*. 2007.
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- <sup>12</sup> Astley, S.J., Bailey, D., Talbot, C., & Clarren, S.K. Fetal Alcohol Syndrome (FAS) Primary Prevention through FASD Diagnosis II: A Comprehensive profile of 80 birth mothers of children with FAS. *Alcohol and Alcoholism*, 35,5 (2000), 509-519.

## Tele-Care NWT Celebrates Three Years!

*Katherine Friesen*

*Primary Community Services, Tele-Care Project Coordinator*

Tele-Care NWT has served over 13,000 callers since the line became available to all NWT residents in May of 2004.



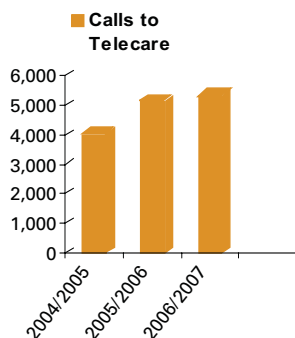
Tele-Care NWT is a free, confidential service available for all residents in the Northwest Territories. It is

available 24 hours a day, 7 days a week, and 365 days a year to anyone with a telephone; putting the caller in touch with a registered nurse. By calling 1-888-255-1010 you can receive health information and advice in all of the official languages of the NWT, as well as more than 100 languages from around the world.

In April 2007, Tele-Care NWT introduced two new enhancements to the Line – Poison information and Sexually Transmitted Infection information. Now, with the push of a few buttons, callers can receive support and information specific to these areas along with the same care as they have been getting in the past three years.

Looking back over the course of the three years the volume has grown – from 4,019 calls in 2004/05, 5,109 in 2005/06<sup>1</sup> and 5,323 calls in 2006/07.<sup>2</sup> Individuals accessing the Tele-Care NWT line ranges from seniors to new parents. It is great to see the residents of the Northwest Territories taking responsibility for their health by using Tele-Care NWT – one call at a time.

### One of the Largest Groups Accessing Tele-Care NWT has been New Parents



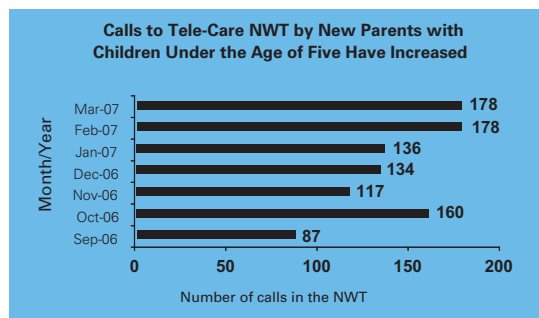
Over the course of the past three years, one of the largest groups of individuals accessing Tele-Care NWT has been new parents. Out of a total call volume of 14,451 calls, 25% have been from new parents calling for children under the age of 5.<sup>2</sup>



Barbara Beaton is an example of a new mother who has called more than once about her little girl, Johanna Grace: “I contacted the Tele-Care service one night when my baby was very distressed and I couldn’t figure out what was wrong. I referred to my baby book to try to determine the cause of her crying and tried several strategies. I finally called the service and it was

reassuring to talk with a nurse about my concerns. I first heard of the Tele-Care service from my place of work. The availability of this service 24 hours a day, seven days a week provides parents with the opportunity to discuss health concerns and questions from home any time of the day or night.<sup>3</sup>

In the past three years, the most common symptoms that parents have called regarding their children’s health were vomiting, cough, colds, fever and diarrhea.<sup>2</sup> In the NWT, the number of new parents calling Tele-Care NWT has been increasing. In September 2006, there were 87 calls to Tele-Care NWT regarding their children’s health under the age of five.<sup>4</sup> However, in March 2007, there have been 178 calls to Tele-Care NWT.<sup>2</sup> New parents are becoming more aware of the help that Tele-Care NWT provides 24 hours a day, 7 days a week, and 365 days a year.



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- 3 Beaton, Barbara. Interview. May 23, 2007.
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## Tobacco Addiction

*Rosella Stoesz, Health Promotion Specialist,  
Department of Health and Social Services*

In the NWT, tobacco addiction continues to pose a serious threat to the health of its residents. In the fall of 2006, two surveys<sup>1</sup> were conducted to provide updated information on the status of tobacco use among youth and adults.

Overall, there was no decline in the rate of current adult smokers. It remains at 41%, the same as noted in the 2003 survey.<sup>2</sup>

Current data indicates a slight upward trend in smoking in the 24 – 44 years age group. However, we continue to see an overall trend of lower smoking rates in Yellowknife than in the smaller communities.

School-based prevention programs have been actively engaging youth, educating them about the effects of tobacco and empowering them to stay smoke free or quit before tobacco addiction takes hold. Recent school survey statistics show significant progress in smoking rates among youth. In particular, aboriginal youth statistics have come down from 24.9% in 2003 to 17.1% in 2006.

Another hopeful sign is that we are starting to see a downward trend in the average number of cigarettes smoked per day, down from 14 in 2003 to 12.3 in 2006.

And finally, the number of women who reported that they smoked regularly while pregnant is down significantly, from 21% in 2003, to 10% in 2006. The numbers reporting are small, but this could indicate a good trend.

More analysis of the survey results is required before we can make definitive statements about the status of tobacco use in the NWT. However, it is clear that our efforts are beginning to pay off. It is also clear that whatever momentum has been built needs to be sustained in order to continue to see a downward trend in the rate of smoking in the NWT.

#### References:

<sup>1</sup> The 2006 NWT Addictions Survey and the 2006 NWT School Tobacco Survey

<sup>2</sup> Tobacco Control Program, Health Canada Supplementary Tables, CTUMS 2003.

**"The noticeable decrease in the number of women who smoke during pregnancy - as revealed in this latest data from the NWT addictions survey, is an encouraging sign of progress for a smoke free generation."**

**Dr. André Corriveau,  
NWT, Chief Medical  
Health Officer**

## Best practices for harm-reducing approaches to drug use in the NWT: a focus on safe needle practices

Andrea Kermack, 4th year medical student, Dalhousie University

Dr. Kami Kandola, Deputy Chief Medical Health Officer, Northwest Territories

### WHY SUPPORT NEEDLE EXCHANGE PROGRAMS AS PART OF HARM REDUCTION?

Harm reduction is a public health strategy aimed at reducing potential serious health risks for individuals and/or society associated with a particular behavior. A common example is a designated driver campaign, whereby the negative consequences of impaired driving are avoided by keeping alcohol users from operating vehicles and risking motor-vehicle crash. The potential harms that result from injection drug use are many and have been shown to impact the user and society significantly through several direct (i.e. infection) and indirect (i.e. crime) mechanisms. A harm reduction approach to injection drug use may therefore include many initiatives, at the core of which is needle exchange.

Needle exchange programs are aimed at increasing the availability of sterile “clean” hypodermic needles and associated injection equipment to injection drug users (IDUs) at little or no cost, sometimes in exchange for used needles, to prevent the practice of sharing needles and the associated potential for transmission of blood-borne infections including Hepatitis B, Hepatitis C and HIV. Typically, needle exchange programs provide education, promote prevention and constitute an access point for resources including referral to treatment or support services.

Needle exchange has been widely studied and has been well established as a safe and effective mechanism for reducing the morbidity and mortality associated with injection drug use. As such, this strategy has received wide support from many medical and governmental authorities including Health Canada, the United States Centers for Disease Control and the National Institutes of Health. These national authorities have each published comprehensive sets of evidence-guided recommendations for instituting safe needle practices, as part of a global harm reduction approach to injection drug use.

A comprehensive approach comprised of several actions has been shown to be integral to an effective strategy to address the problem of injection drug use; Health Canada established a framework for implementing harm reduction in 2001.<sup>1</sup> Recommendations are made on how to fulfill the broader set of goals surrounding safe needle practices including: prevention, outreach, research, surveillance, knowledge dissemination, treatment, rehabilitation, national leadership and coordination. Health Canada’s set of recommendations, delineate both the immediate and long-term actions to be taken to reduce the harms associated with injection drug use.

The aims of each component of the strategy are summarized briefly here:

#### Health Canada Recommendations

##### Prevention

- Decreases incidence of use and misuse.
- Focuses on changing attitudes, behaviors and social conditions that engender initiation of, and unsafe practices associated with, substance use and misuse.

##### Outreach

- Provides an accessible point of contact for users with individuals that are viewed as trustworthy and credible by users, who act as resources for education, support and referral.
- Reduce high-risk behaviors associated with injection drug use through provision of needles and other injection materials at minimal or no cost.

##### Research, Surveillance, Knowledge Dissemination

- Establishes and maintains up-to-date knowledge of prevalence and trends of substance use.
- Monitor effectiveness and outcomes of initiative.

- Remain abreast of alternative strategies being implemented in other jurisdictions to assess their applicability to the index community.

##### Treatment and Rehabilitation

- Provides opportunity for users to discontinue use to facilitate improvements in health, employment opportunities and social integration.
- Provide access to treatment options based on evidence of effectiveness.

A full description of Health Canada’s recommendations can be found in Canada’s Drug Policy Publications: Reducing the Harm Associated with Injection Drug Use in Canada:

[http://www.hc-sc.gc.ca/ahc-asc/pubs/drugs-drogués/injection/index\\_e.html](http://www.hc-sc.gc.ca/ahc-asc/pubs/drugs-drogués/injection/index_e.html)

## IS INJECTION DRUG USE A CONCERN FOR THE NORTHWEST TERRITORIES?

Although it is estimated that Canada is home to 125,000 injection drug users, there is little known about the rates and trends of illicit substance use in Canada's territorial communities. Data published by Statistics Canada and Health Canada regarding illicit substance use in Canada does not include data for the Northwest Territories. Despite the paucity of published data regarding illicit drug use in territorial communities, there exists extensive data that characterizes the rates and trends of other personal health practices that, like illicit substance abuse, are mediated by lifestyle choices. Among them are sexual behavior, smoking and alcohol consumption. These data suggest residents of the NWT demonstrate specific lifestyle trends and risk behaviors that could make them more vulnerable to higher rates and/or more problematic use of injection drugs. Residents of the NWT exhibit high rates of smoking - two times higher than the Canadian rate in 2004<sup>2</sup>, and drinking - frequent heavy drinking occurring at nearly 2 times the Canadian rate.<sup>3</sup> They more commonly engage in higher risk activities including unsafe sexual practices, resulting in high rate of sexually transmitted infections. Rates of Gonorrhoea and Chlamydia in this population are 6-8 times the national average.<sup>4</sup> Reported rates of Hepatitis C, a blood borne pathogen most commonly transmitted through injection drug use, are also found to be above the Canadian average at 86.4/100,000 (2004 data).

## WHY IS THERE SO LITTLE KNOWN ABOUT PATTERNS OF INJECTION DRUG USE IN THE NORTHWEST TERRITORIES?

Several reasons may account for the lack of knowledge and/or published data regarding illicit substance use in the NWT, injection drug use in particular. In the case of injection drug use, it may be that rates are so low that they have not attracted any formal investigation into the extent of use. Alternatively, cultural and/or political factors may have dictated that use occurs much more privately in the NWT, making it less accessible to surveillance mechanisms.

The global impression held by front-line community workers in Yellowknife, including public health nurses, substance abuse counselors and public authorities, is that the overall incidence of injection drug use in the NWT is low. This publicly held view has emerged as disparate from that held by members of Yellowknife's community of active and recovering drug users. Members of this latter group maintain that injection drug use and high-risk practices associated with it, exist as significant issues in NWT communities, but when

Based on interviews with Tree of Peace, RCMP, STI nurse and Correctional Centre as well as a Hepatitis C and former injection drug user. All these people concurred that IV drug use is not widespread, almost negligible in terms of their experience with the drug-using population.

compared to previous peak periods of use, occur in a much more private arena. Despite their divergent views on the incidence of use, all parties consulted remain in favor of establishing a broader range of services to support the user community.

Trends in illicit drug use are dynamic, and should there be a surge in injection drug use, policies need to be in place to reduce further harm by mitigating the spread of blood-borne pathogens.

## WHAT PUBLIC HEALTH INTERVENTIONS EXIST FOR INJECTION DRUG USERS IN THE NORTHWEST TERRITORIES?

In Yellowknife, there exists an informal network of outlets for needle exchange where users may go to access sterile needles and syringes. However, there is no form of public advertising for these services and they are discovered by users primarily by word-of-mouth. It is not known what proportion of the city's IDUs access these services, are aware of them and choose not to access them, or are not aware of them at all.

In theory, analogous services would exist in every community in the NWT where there is a point of access to health care, had the original harm reduction measures been carried-out as intended. In 1991, the Yellowknife Health and Social Services Authority (then Mackenzie Regional Health Service) initiated a pilot Needle Exchange Program (NEP) in an effort to reduce the harms associated with IV drug use and control the spread of HIV. In the 2000 HIV/AIDS Manual, a territorial directive was put forth mandating that all public health offices, community health centers and emergency departments provide clean needles to patients upon their request. However, it is unclear how well this has translated into practice in the field.

The availability of the needle exchange program as intended by the directive does not appear to exist in the NWT. Due to the lack of public awareness and education

about the harms of IV drug use and the resources and strategies available for dealing with these, it is perceived that the NWT IDUs and health care practitioners are under-using the resources that exist. It would therefore be inadequately prepared to manage the advent of an escalating rate of injection drug use.

The level of intervention proposed would constitute the initiation of a firmer directive that would allow public advertisement, and awareness of venues for accessing needle exchange in the NWT. Ideally, the proposed intervention would entail the development of a policy outlining a standard of practice that would be recognized by members of the health care community, the community-at-large and NWT authorities. Such a policy would help re-enforce the presence of a harm reduction approach to injection drug use in the NWT, analogous in its principles to those in existence across the rest of Canada. The strategy would include needle exchange, as a standard of practice for health care workers, in the prevention of the transmission of blood-borne infections and the ills associated with injection drug use including addiction, overdose, personal injury, health-care costs and society unrest.

### WHAT IS THE EVIDENCE FOR NEEDLE EXCHANGE PROGRAMS IN THE TREATMENT OF INJECTION DRUG USE?

Needle exchange programs have been widely accepted as an efficient and effective means of reducing the harms associated with injection drug use. A large number of studies have been conducted on cohorts of IDUs in North America and around the world which together demonstrate overwhelming support for the use of needle exchange programs.

Perhaps the most resounding outcome from these studies, from a public health perspective, has been the decrease in rates of needle sharing, and subsequently, the transmission of serious blood-borne infections. This bears considerable significance for Canadians among whom an estimated 70% of those infected with Hepatitis C in Canada are current or former IDUs and 63% of new infections with Hepatitis C are related to injection drug use. About one third of new Hepatitis B infections are likely to be caused by injection drug use. The proportion of reported HIV positive cases caused by injection drug use in Canada has risen dramatically in recent years and was estimated to have accounted for over one-third all of new HIV infections in 1999.<sup>5</sup>

Similar infection rates of HIV and viral hepatitis related to injection drug use are seen in the United States, where proponents of harm-reduction have faced, arguably,

much greater political opposition. In spite of a government that has historically clung to abstinent ideals and a commitment to the "War on Drugs", countless studies have emerged from our neighbors to the south that serve to reinforce the necessity of harm reduction measures targeted at substance use. The benefits of these are shown to extend well beyond that of reductions in needle sharing.

In a cohort of high-risk injection drug users in California, Bluthenthal et al. found that 60% of needle sharing IDUs reported eliminating sharing after gaining access to a needle exchange program.<sup>6</sup> In a cohort of IDUs in New York City, Marmor et al. demonstrated a significant deceleration in rates of injection among sporadic and consistent users of needle exchange services.<sup>7</sup> In a cohort of IDUs in Chicago, Huo and Ouellet demonstrated that relative to NEP nonusers, NEP users were less likely to share needles receptively (OR = 0.33), pass used needles (OR = 0.55), and share other injection paraphernalia (OR = 0.70) across the four study visits. At three year follow-up, needle use was still negatively associated with needle re-use among NEP users compared to the NEP non-user controls, despite the availability of outreach services and standard-of-care HIV prevention services used to treat this latter group.<sup>8</sup>

Similar trends occurred universally in the presence of NEPs worldwide. In Montreal, Roy et al. conducted a study of drug use trends among street youth from 1995-2005 which demonstrated a significant decrease in needle sharing during this period.<sup>9</sup> Nevertheless, the authors of this study reinforce the need, in keeping with best practice standards in harm reduction, to distribute injection material without restriction. They speculate a failure to meet these standards in some programs in Montreal may have resulted in less than optimal reductions in needle sharing, in spite of the overall decrease observed.

From political and legal perspectives, the critical area of focus on NEPs is on how they influence the rates of injection drug use. Analogous to the age-old debate between condom availability and the initiation of sexual activity, policy makers are primarily concerned with the incidence of a practice or behavior in relation to the supposed harm-reduction intervention. The evidence available from trials extending from pilot programs has successfully mitigated these concerns by demonstrating that NEPs do not increase the incidence of injection drug use.

Perhaps the most extreme and controversial harm-reduction program established for injection drug use in Canada exemplifies the relative safety of NEPs. 'Insite', Vancouver's (and North America's first) safe injection site, was established as a pilot project in 2003 and

### KEY MESSAGES TO SUPPORT NEEDLE EXCHANGE AS A BEST PRACTICE

- Reduces rates of needle sharing and sharing of other drug paraphernalia
- Reduces rates of transmission of blood-borne infections including HIV and Hepatitis
- Reduces rates of injection among individual users
- Is not associated with an increase in the incidence of injection drug use or relapse rates
- Links users with health, addictions and social support systems and is associated with increased enrolment in detoxification services

allowed to operate in accordance with a federal legal exemption which was conditional to a 3-year external scientific evaluation of the program and its outcomes.<sup>10</sup> In the summary of findings from the prospective cohort studies that were carried out, the following observations were reported from the external evaluations. First, the program has not been associated with an increase in the initiation of drug use.<sup>11</sup> Second, a comparative study comparing 1-year periods prior to and following the initiation of the program saw no increase in rates of relapse into injection drug use or decrease in cessation rates related to the availability of a safe injection site and safe materials.<sup>12</sup> Third, use of the injection site has been associated with increase in use of detoxification services.<sup>13</sup>

### SUMMARY OF POSITIVE IMPACTS OF REVISED NEEDLE EXCHANGE PRACTICES IN THE NWT

- To characterize the patterns of illicit substance use, by injection route in particular, among residents of the NWT.
- Have a formal policy in place that provides access to a comprehensive strategy to help control the rate of injection drug use and the harms associated with use in a high-risk population.
- Help control the spread of blood-borne diseases including HIV and hepatitis, and keep the Territorial incidence of HIV at a minimum.
- Create an avenue for knowledge and awareness among users, members of the health care profession and the community- at- large.

### SUMMARY OF CHALLENGES AND POTENTIAL PITFALLS

- Lack of published data characterizing the extent and patterns of injection drug use in the NWT.
- Barriers to obtaining and maintaining sound statistical data on patterns of use and misuse.
- Paucity of existing formal/recognized harm-reduction based programs or initiatives in the NWT.
- Inadequate access to substance abuse treatment facilities, particularly for youth and women.
- Cultural and logistical barriers to access and implementation in peripheral communities.
- Unique social/political/cultural context of NWT communities which preclude extrapolation of data regarding health practice, and behavioral trends from other provinces/territories.
- Cultural values and attitudes (and how they vary across the communities): the importance of preservation of anonymity, the potential for stigma associated with injection drug use, as barriers to accessing or implementing services.

### WHY IMPLEMENT HARM REDUCTION MEASURES LIKE NEEDLE EXCHANGE INTERVENTIONS FOR IDU IN THE NWT?

Whatever the extent of the problem of substance use, in particular IDU that exist in the NWT, there remains a need to establish a policy for harm reduction initiatives. The primary goals of a policy on harm-reduction are threefold:

- to keep the community of users, and the community at large, safe from the potential negative consequences associated with IDU;
- to provide a framework for prevention measures aimed at controlling or reducing the incidence of IDU; and
- improving preparedness and capacity to respond to increasing rates of use that may be associated with additional resource development initiatives. (eg: pipeline).

**KEY MESSAGES:**

- Needle exchange has been widely studied and has been well established as a safe and effective mechanism for reducing the morbidity and mortality associated with injection drug use.
- The dynamic nature of drug-use patterns necessitate/highlight the importance of community preparedness to act. Irrespective of the extent of injection drug use in a community, the presence of IDUs necessitate interventions that will reduce harms associated with use and keep those to a minimum in the advent of escalating use.
- Needle exchange must be implemented as part of a comprehensive approach to harm reduction in order to make it optimally effective.
- Needle exchange is an important measure for prevention, safety and health of not only the user but also the entire community in which he or she lives.

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# The Hepatitis C Virus in the North: Review and Epidemiology

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## HIGHLIGHTS OF THE 4TH NATIONAL ABORIGINAL HEPATITIS C CONFERENCE “UNDERSTANDING HEPATITIS-C AND CO-INFECTIONS”

Held in Yellowknife June 18, 19 & 20th 2007, more than 300 participants engaged in topics such as:

- HIV/AIDS & Co-Infection
- STIs (sexually transmitted infections)
- Drug/Alcohol/Gambling Addictions
- Residential School Survivors
- Hepatitis-C Treatment
- Aboriginal perspective on Hepatitis C
- Elders/Youth Social Concerns

### Background

The Hepatitis C virus (HCV) was first recognized due to its association with blood transfusions and was discovered in 1989 by molecular cloning. HCV is the primary cause of the type of hepatitis previously known as non-A, non-B hepatitis. Hepatitis C is a liver disease, and the virus is found in the blood of persons who have this disease. Consequently, infected persons serve as a source of transmission to others.<sup>1</sup>

There are at least six major HCV variations (genotypes) and several subtypes, which vary by region. In North America, the HCV infection variations are mainly genotype 1 (approximately 65%–70%), and genotypes 2 and 3 (30–35%); others represent a very small percentage of cases.<sup>2</sup>

### Health Effects

HCV affects the liver, an essential organ that acts as a filter for chemicals and toxins that enter the body. The liver also helps digest food, stores vitamins and minerals, and aids in the manufacture of blood. The illness begins with flu-like symptoms such as fatigue, fever, body aches and pains, and perhaps nausea or vomiting. Urine may become dark brown and in severe infections, the skin and eyes may turn yellow (jaundice).<sup>1</sup>

- 75%-85% of HCV infected persons develop chronic infection
- 70% of chronically infected persons have chronic liver disease
- 10%-20% of persons with chronic Hepatitis C develop cirrhosis
- progression to cirrhosis usually occurs over 20 or more years
- 1%-5% of infected persons die of HCV-related chronic liver disease.<sup>3</sup>

### Risk Factors

The number one risk factor in Canada<sup>4</sup> and the NWT<sup>5</sup> for HCV transmission is injection drug use (sharing of needles and equipment/paraphernalia needed for injection). Other means include non-injection drug use (cocaine “snorting”, crack smoking), the receipt of infected therapeutic blood products, accidental injuries (occupational exposure to contaminated needlesticks), vertical transmission (from mother to baby), and high-risk sexual practices and exposure to unclean tattooing or body-piercing instruments.<sup>1,2</sup>

#### HCV is NOT spread by:<sup>6</sup>

- Sneezing
- Hugging or kissing
- Coughing
- Breastfeeding
- Food or water
- Sharing eating utensils or drinking glasses
- Casual contact

### Prevention:<sup>7</sup>

Prevention and control of Hepatitis C involves:

- Prevention of HCV infection
- Slowing disease progression
- Reducing the likelihood of premature death

### Minimize Your Risk: <sup>1,8</sup>

- Never share needles or any other drug equipment
- Wear latex gloves if you are likely to be in contact with someone else’s blood
- If you are a health care or public safety worker, always follow routine barrier precautions and safely handle needles and other sharps
- If you have sex with more than one partner, always use a condom
- If you are getting a tattoo, body piercing or acupuncture, choose a reputable licensed person and ensure all equipment is sterile. Do not allow anyone to use homemade or reused equipment, including needles, ink or jewellery
- There is no vaccine available for Hepatitis C
- Get vaccinated against Hepatitis A and B

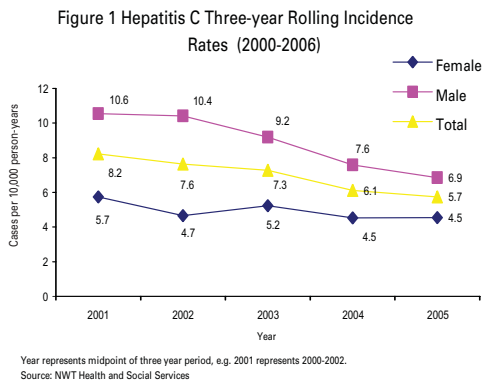
### How can you find out if you have Hepatitis C?<sup>9</sup>

A blood test is available for Hepatitis C screening. The test shows if a person has been infected with HCV; however, it does not distinguish between recent and old infection. In addition, the test does not distinguish between persons who are infectious and those who have completely recovered and cannot pass the infection on to anyone else.

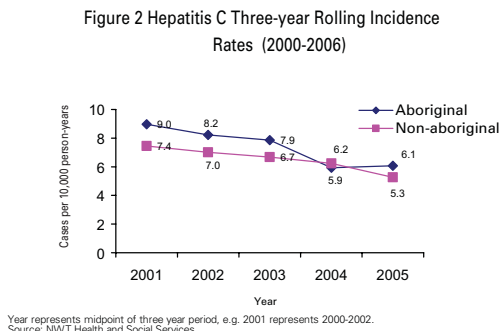
### Incidence of Hepatitis C In the NWT

Hepatitis C has been a reportable disease in the NWT since 1991 with the main source of infection mainly due to intravenous drug use (IDU). With increased testing, there have been more cases reported but many cases still go undiagnosed. Therefore, the real incidence of Hepatitis C is still likely under-reported.

Newly diagnosed Hepatitis C cases among NWT residents have been on the decline since 2001; the total cases per 10,000 person- years fell from 8.2 to 5.7 in 2004-2006, with the number of male cases slightly higher than female (6.9 and 4.5 cases per 10,000 person-years respectively) . (Figure 1)

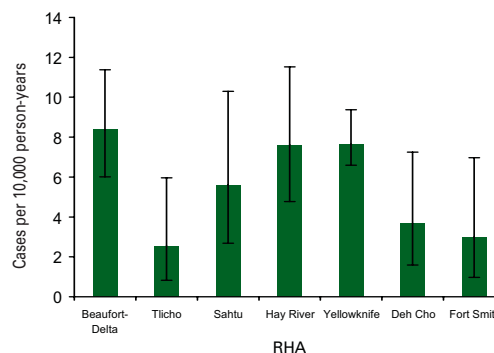


Comparison of the reported HCV incidence by origin between 2001 and 2005 shows that the rate among both Aboriginal and non-Aboriginal NWT residents declined during this period; decreasing from 9.0 to 6.1 and 7.4 to 5.3 respectively. (Figure 2)



Examination of the distribution of Hepatitis C incident cases by Regional Health Authority (RHA) demonstrates that there are substantial regional variations among some regions. The rates in Tlicho were significantly lower than in the Beaufort-Delta and in Yellowknife (Figure 3).

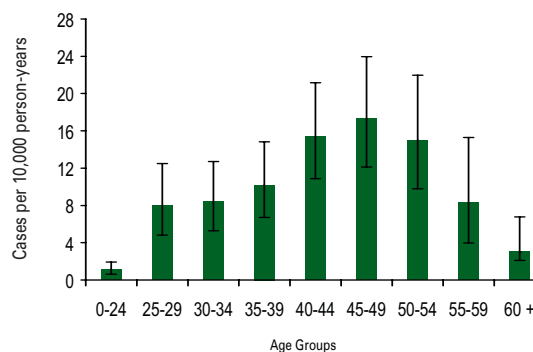
Figure 3 Hepatitis C Incidence Rates by RHA (2000-2006)



Source: NWT Health and Social Services

Comparison of the age-specific reported incidence indicates that the age group 0-24 years has significantly lower rates than other age groups, except for 60+ years (Figure 4). Incidence of Hepatitis C peaked in the age group 45-49. (Figure 4).

Figure 4 Hepatitis C Incidence Rates by Age Groups (2000-2006)



Source: NWT Health and Social Services

### Programs for Hepatitis C in the NWT:

The Hepatitis C Prevention, Support and Research Program (Public Health Agency of Canada) contributes to the prevention of Hepatitis C infection; to support persons infected with and affected by Hepatitis C; to provide a stronger evidence base for Hepatitis C policy and programming decisions and advance prevention, treatment and cure options by expanding the body of available research and research capacity; and to strengthen the response of the Canadian population to Hepatitis C through increased awareness and capacity.

### Elements of a comprehensive strategy to prevent and control hepatitis C virus (HCV) infection and HCV-related disease<sup>10</sup>

Primary prevention activities include:

- screening and testing of blood, plasma, organ, tissue, and semen donors
- virus inactivation of plasma-derived products;
- risk-reduction counseling and services; and
- implementation and maintenance of infection-control practices.

Secondary prevention activities include:

- identification, counseling, and testing of persons at risk, and
- medical management of infected persons.
- professional and public education.
- surveillance and research to monitor disease trends and the effectiveness of prevention activities and to develop improved prevention methods.

### KEY MESSAGES

- Infection with Hepatitis C can be prevented:
  - by avoiding high-risk behaviour.
  - by engaging in harm-reduction strategies.
- Most people with Hepatitis C have no symptoms.
- There is no vaccine to protect against Hepatitis C.
- People who are at risk for infection with Hepatitis C should get tested.

#### Those who test positive for Hepatitis C should:

- get immunized against Hepatitis A and B.
- avoid alcohol.
- maintain a positive attitude and healthy lifestyle.

Most people with Hepatitis C infection can be successfully treated with medication. However, others suffer serious consequences such as end stage liver disease and cancer. They would require a liver transplant.

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## NOTIFIABLE Diseases

CUMULATIVE TOTALS for the Northwest Territories (NWT) January - March, 2007<sup>1</sup>

|   |                                       | January - December | January - March |
|---|---------------------------------------|--------------------|-----------------|
|   |                                       | 2006               | 2007            |
|   |                                       | NWT                | NWT             |
| Vaccine Preventable Diseases                  | Hepatitis B                           | 0                  | 0               |
|   | Haemophilus Influenza                 | 3                  | 0               |
|   | Influenza A                           | 19                 | 12              |
|   | Influenza B                           | 14                 | 0               |
|   | Pertussis                             | 2                  | 1               |
|   | Chicken Pox                           | 24                 | 4               |
| Sexually Transmitted/ Bloodborne Diseases     | Chlamydia                             | 700                | 168             |
|   | Gonorrhea                             | 180                | 60              |
|   | Hepatitis C                           | 21                 | 4               |
|   | Hepatitis, Other                      | 0                  | 0               |
|   | Syphilis                              | 0                  | 0               |
| Diseases by Direct Contact/ Respiratory Route | Invasive Group A Strep                | 5                  | 1               |
|   | Invasive Group B Strep in neonates    | 0                  | 0               |
|   | Invasive Group B Streptococcus        | 2                  | 0               |
|   | Invasive Pneumococcal Disease         | 12                 | 2               |
|   | Legionellosis                         | 0                  | 0               |
|   | Listeriosis                           | 0                  | 0               |
|   | Meningitis/Other Bacterial            | 0                  | 0               |
|   | Meningitis/Unspecified                | 0                  | 0               |
|   | Meningitis/Viral                      | 0                  | 0               |
|   | Meningococcal Infections              | 1                  | 1               |
|   | Respiratory Syncytial Virus           | 13                 | 106             |
|   | Tuberculosis                          | 6                  | 3               |
|   | Enteric, Food and Waterborne Diseases | Botulism           | 0               |
| Campylobacteriosis                            |                                       | 9                  | 0               |
| Cryptosporidiosis                             |                                       | 0                  | 0               |
| E.Coli 0157:H7                                |                                       | 0                  | 0               |
| Giardiasis                                    |                                       | 8                  | 2               |
| Hepatitis A                                   |                                       | 0                  | 0               |
| Salmonellosis                                 |                                       | 9                  | 6               |
| Shigellosis                                   |                                       | 0                  | 0               |
| Tapeworm                                      |                                       | 0                  | 0               |
| Vectorborne/ Other Zoonotic Diseases          | Trichinosis                           | 0                  | 0               |
|   | Yersinia                              | 0                  | 0               |
|   | Brucellosis                           | 0                  | 0               |
|   | Malaria                               | 0                  | 0               |
| Antibiotic resistant microorganisms           | Rabies Exposure                       | 5                  | 0               |
|   | Methicillin-resistant Staph. Aureus   | 14                 | 9               |
|   | Vancomycin-resistant Enterococci      | 1                  | 0               |

## NWT HIV Infections Reported from 1987 to 2006

| Total | Age at Diagnosis |       |       |       |       |       |       |     |        | Gender |                  | Risk Category        |     |               |           |                |       |  |
|-------|------------------|-------|-------|-------|-------|-------|-------|-----|--------|--------|------------------|----------------------|-----|---------------|-----------|----------------|-------|--|
|       | 0-9              | 10-14 | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | Female | Male   | MSM <sup>2</sup> | MSM/IDU <sup>3</sup> | IDU | Hetero-sexual | Perinatal | Blood Products | Other |  |
| 34    | 2                | 0     | 0     | 5     | 19    | 6     | 1     | 1   | 7      | 27     | 13               | 1                    | 7   | 9             | 2         | 1              | 1     |  |

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

2 Men who have sex with men (MSM)

3 Injection Drug User (IDU)

Updated July 4, 2007  
Office of the Chief Medical Officer