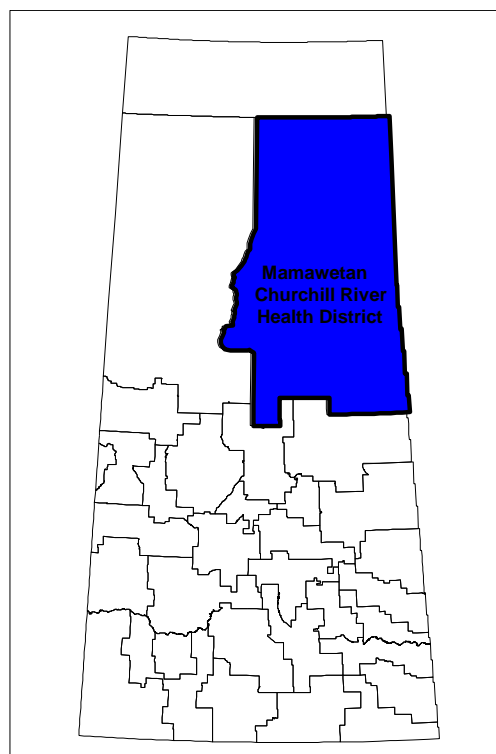


Mamawetan Churchill River Health District

Health Status Report

July 1, 1998



Population Health Unit

- Keewatin Yatthé Health District
- Mamawetan Churchill River Health District

Suggested reference: Irvine J, Stockdale D. Mamawetan Churchill River Health District Health Status Report, July 1, 1998. Population Health Unit, La Ronge, 1998/2017.

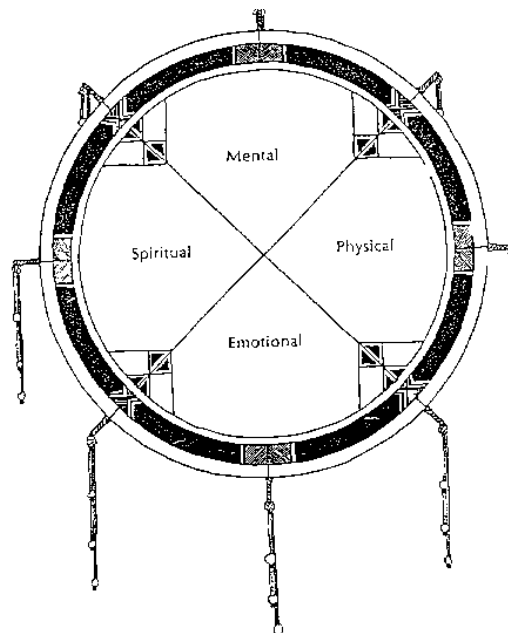
Note: This version prepared in March 2017 contains minor corrections and formatting changes to the original.

INTRODUCTION

This report is the first health status review for the Mamawetan Churchill River Health District and the surrounding service areas since the development of the Keewatin Yatthé and Mamawetan Churchill River Health District Boards as of April 1, 1998.

The framework for which this health status report was developed was based on two premises:

- ❶ on a broad definition of health which includes physical, mental, emotional, and spiritual health, and
- ❷ a population health approach which emphasizes the root issues that impact health (referred to as the 'determinants of health').



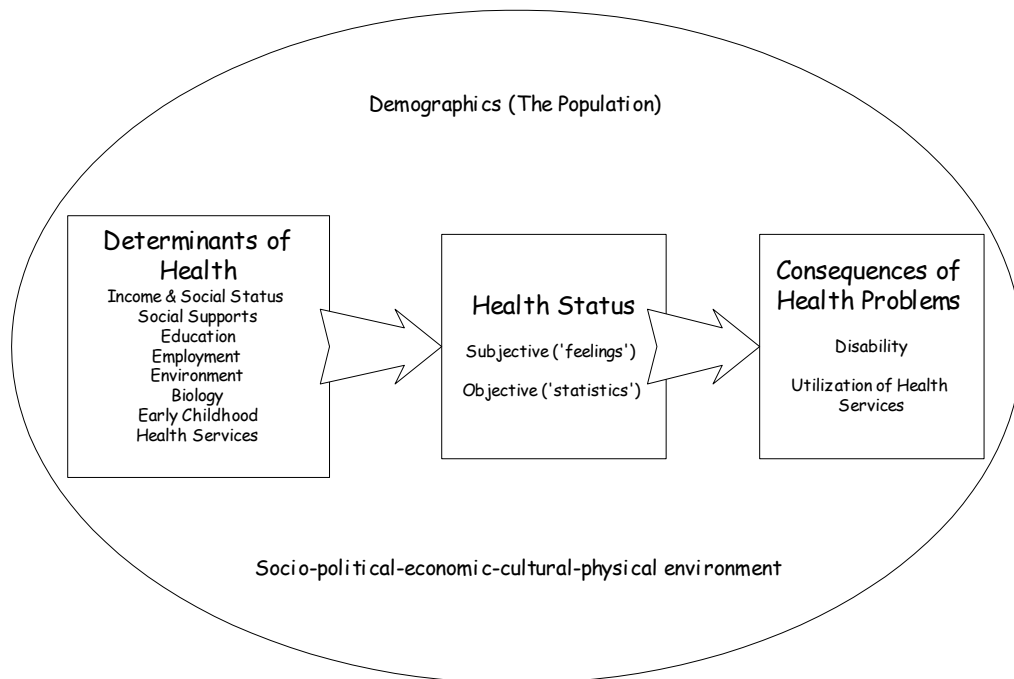
The approach in this ongoing health status report is to assess the population of the Health Districts; outline and describe some of the health determinants including the income and social status, employment, education, environmental conditions (human made and natural), social supports, health services and early childhood development; describe various community health indicators of health status; and describe some of the health consequences such as utilization of services.

This report is not a complete assessment of the health status of community members in northern Saskatchewan but is meant as a preliminary assessment as the Health Boards plan for their first few months of activities. This report is not meant to be a needs assessment as we have not included some important community health indicators which are not readily available during these first few months of Health Board involvement. Further information will be available as the Health Districts move through their 'Needs Assessment' processes, and as other studies are implemented and completed. Community involvement and direction will be important aspects to a full health status report. This initial report could be seen as an initial draft or "work in progress" in a much larger process which would include community consultation, and perhaps community meetings, surveys, and focus groups as well as

interviews with key stakeholders. This initial report is also not complete as there has been no attempt to seek more of the personal and community feelings and assessments of their health. That will be left to the larger needs assessment process. An outline of one approach to a needs assessment process can be seen in Appendix A.

Where information was not readily available at the district level at this time, other information has been substituted in this report with information at the northern or provincial level until more up to date or more local information is available. In some instances, national or provincial level information may be adequate for program planning.

Approach to Health Status Report:



There are a number of other activities which will provide further information. The development of a Community Vitality study through Northern Affairs, Health Districts, and Environmental Quality Committees supported by Cameco also has the potential for adding a valuable information on the psychosocial aspects of health, the determinants of health, and possible risk conditions.

Please accept this first Health Status Report for the Keewatin Yatthé Health District. If you have any questions, feel free to call. Your comments would be appreciated.

Yours truly,

James Irvine
MD, MSc, CCFP, FRCPC
Medical Health Officer

EXECUTIVE SUMMARY

Demographics

- There are about 20,000 people in the Mamawetan Churchill River District spread over a large area. This makes up 1.9% of the provincial population.
- The northern Health Districts have higher proportions of youth in their populations. 37% of the population is under the age of 15 years in MCRHD versus 22.5% for the province.
- The northern health districts' populations are increasing. The northern population grew by 5.5% between the 1986 and 1991 Census whereas the provincial population decreased by 2% over the same time period.
- The population of the service area for the Mamawetan Churchill River Health District (which includes the MCRHD, the Keewatin Yatthé Health District, the Athabasca area and part of the North East Health District) is almost 34,000. This makes up 3.1% of the population.

Health Determinants

- There are greater proportions of low income families in northern Saskatchewan. Incidence of low income in northern Saskatchewan is over twice that in the province as a whole (32% versus 14%).
- There are lower education levels in northern Saskatchewan. 36% of the northern population over age 15 has an education level under grade 9 compared to 16% provincially. Over half of the northern on-reserve population (53%) has less than a grade 9 education. An education level of less than grade 9 is often defined as functional illiteracy.
- There is greater unemployment in northern Saskatchewan. In 1991,
 - a. one quarter of the northern labour force was unemployed versus 7% of the provincial labour force.
 - b. only 41% of northern First Nations and 57% of the non-First Nations northerners participated in the labour force versus 69% of the provincial population.
- Housing is a concern in many northern communities. There are more people per household in northern Saskatchewan. The average number of persons in private households in northern Saskatchewan is 4.0 based on the 1991 Census information compared to 2.7 for Saskatchewan and Canada.
- Everyone in northern Saskatchewan does not have access to safe water and sewage systems.

- There are higher rates of non-traditional tobacco use in northern Saskatchewan. Smoking rates among Aboriginal people in Canada are extremely high compared to the Canadian average. Studies show that about 32% of the overall Canadian population are regular smokers, compared to 56% among First Nations and 57% among Métis.
- Though immunization coverage is fairly good across the Health District, some communities need additional involvement.
- Prevention and screening programs utilization could be improved (e.g. breast screening and Pap smear screening).

Health Status

Death Rates

- The overall death rate for females in MCRHD is lower than the provincial average. This is largely a result of the lower death rate in women over the age of 65 in the north compared to the southern part of the province. For men in MCRHD, who have a higher death rate than women, the rate is just slightly higher than the provincial rate, also largely a result of the slightly lower death rate in those over 65 years.
- The rates of death in those less than 65 are greater in MCRHD than the provincial average. Rates for those less than 24 years of age are from 2 to 4 times higher than the provincial average.

Infant Deaths

- There has been about a ten-fold reduction in infant mortality in northern Saskatchewan since the early 1950s. However, there continues to be an increased rate of infant deaths in northern Saskatchewan with rates ranging from 2.7 times the provincial rate in AHA area, almost twice the provincial rate in the MCRHD, and 1.27 times the provincial rate in the KYHD.

Premature Deaths

- Injuries and violent deaths make up by far the largest proportion of premature deaths in northern Saskatchewan.
- In Saskatchewan, 68.8% of all deaths to children and youth one to 19 years of age were due to injuries.
- The rates of premature deaths for cancer, heart disease, congenital anomalies, cerebrovascular disease, and perinatal mortality are less in the north than the provincial rates.

Cancer

- Cancer rates in northern Saskatchewan are just slightly less than the provincial average for all types of cancer combined (excluding skin cancer).
- Lung cancer is a major concern in northern Saskatchewan. Northern Saskatchewan health districts area has the highest rates of lung cancer in the province. About 85-90% of lung cancers in Canada are associated with smoking.

Low Birth Weight

- The proportion of births considered to be low is slightly less in the northern districts (4.9%) than in the province as a whole (5.2%). For Canada as a whole, the proportion is 5.5% (1991). Thus, for this indicator it appears that the north is faring better. This needs to be interpreted with caution in light of the higher incidence of high birth weight in the north (18.7% in the north compared to the provincial average of 13.4%) and the research linking high birth weight and diabetes.

Teen Pregnancy

- In northern Saskatchewan, the rate of births in 10 – 14 year old girls is 5.8 times the provincial rate, and for 15 – 19 year olds, is 4.0 times the provincial rate.

Diabetes

- Diabetes is an increasing concern in northern Saskatchewan Without prevention we are likely to see more and more people with diabetes seeking health services for diabetes or its complications. Diabetes causes significant complications such as heart disease, kidney failure, blindness, and blood vessel disease in legs resulting in the need for amputations. These complications are preventable through diabetic treatment and management.

Infectious Disease

- Hepatitis A has been a significant communicable disease in northern Saskatchewan, averaging about 61 cases per year (ranging from 6 in 1988 to 138 in 1992). The rate of hepatitis A in northern Saskatchewan over the last decade has been 8 times greater than in southern Saskatchewan. The new vaccine program is likely to make a marked improvement. Since the start of the new hepatitis A vaccine program in northern Saskatchewan, we have had only 1 case in 1998 up to July.
- In northern Saskatchewan, injection drug use is the most common risk factor for hepatitis C.
- Diarrheal diseases from bacteria and parasites are over three times greater in MCRHD than the provincial average. These illnesses are influenced by the availability of safe water to drink and wash.

- For 1985-87 (the last available time for information on TB by Census Division), northern Saskatchewan had the highest rate of tuberculosis of any census division in Canada.
- The rate of new cases of tuberculosis is almost 18 times greater in the MCRHD than the provincial rate.
- The age-standardized rates for chlamydia and gonorrhea were 6.3 times higher for communities within the Athabasca basin and 5.6 times higher for the Keewatin Yatthé and the Mamawetan Churchill River health districts than for Saskatchewan in 1997. The age groups at greatest risk are the 15-24 year olds.
- HIV / AIDS continue as a threat to the health of our communities.

Hospitalization

- Hospitalization rates in northern Saskatchewan are higher than in the southern rural and southern urban areas.
- Pregnancy, delivery and related conditions and respiratory conditions make up the two largest rate of hospitalization in northern Saskatchewan whereas in southern Saskatchewan circulatory diseases make up a larger proportion of hospitalizations.

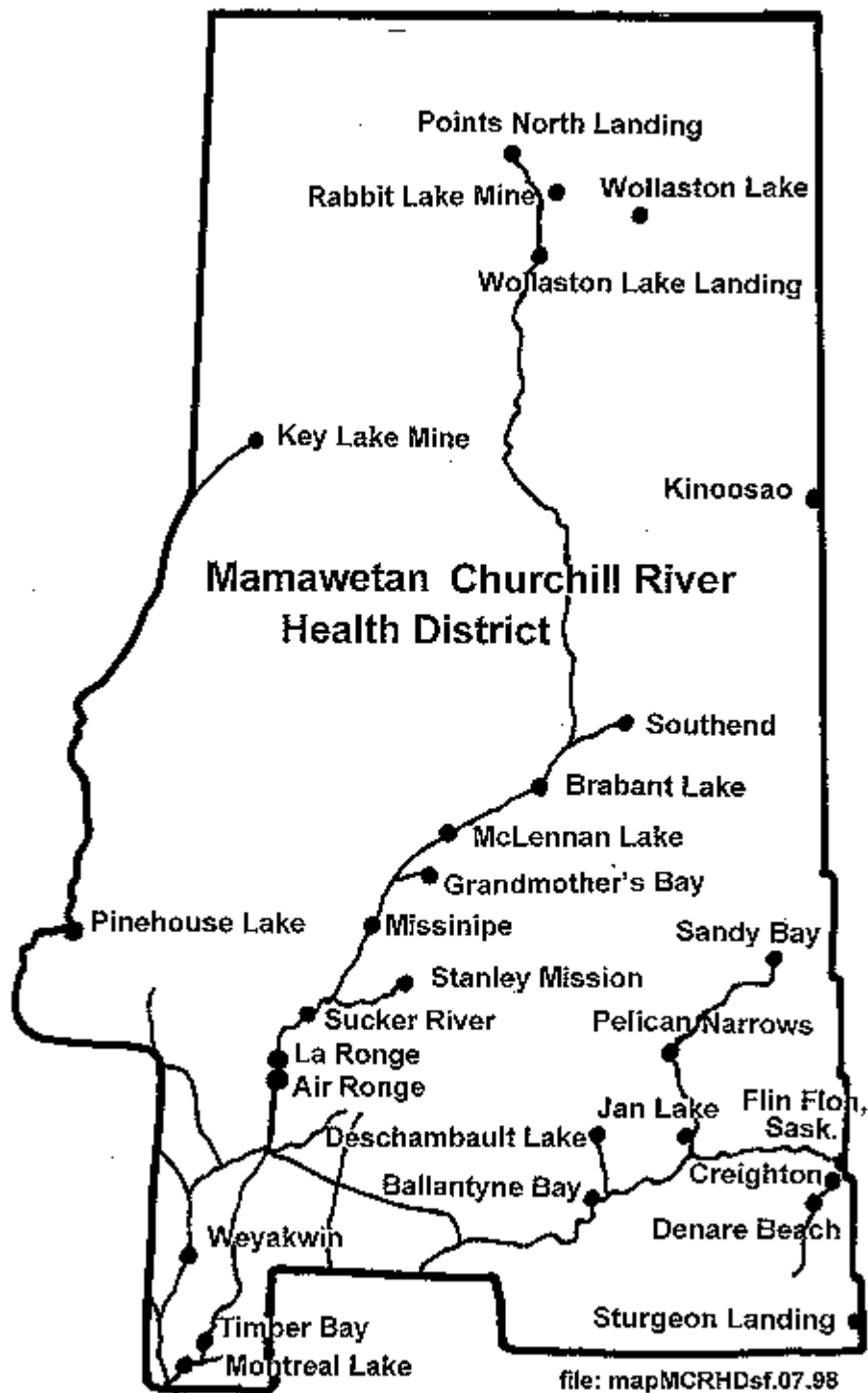
Oral Health

- Indicators suggest there are some improvements in our children's dental health especially for older children, but the number of decayed, missing, or filled teeth in northern Saskatchewan is greater than the provincial rates.

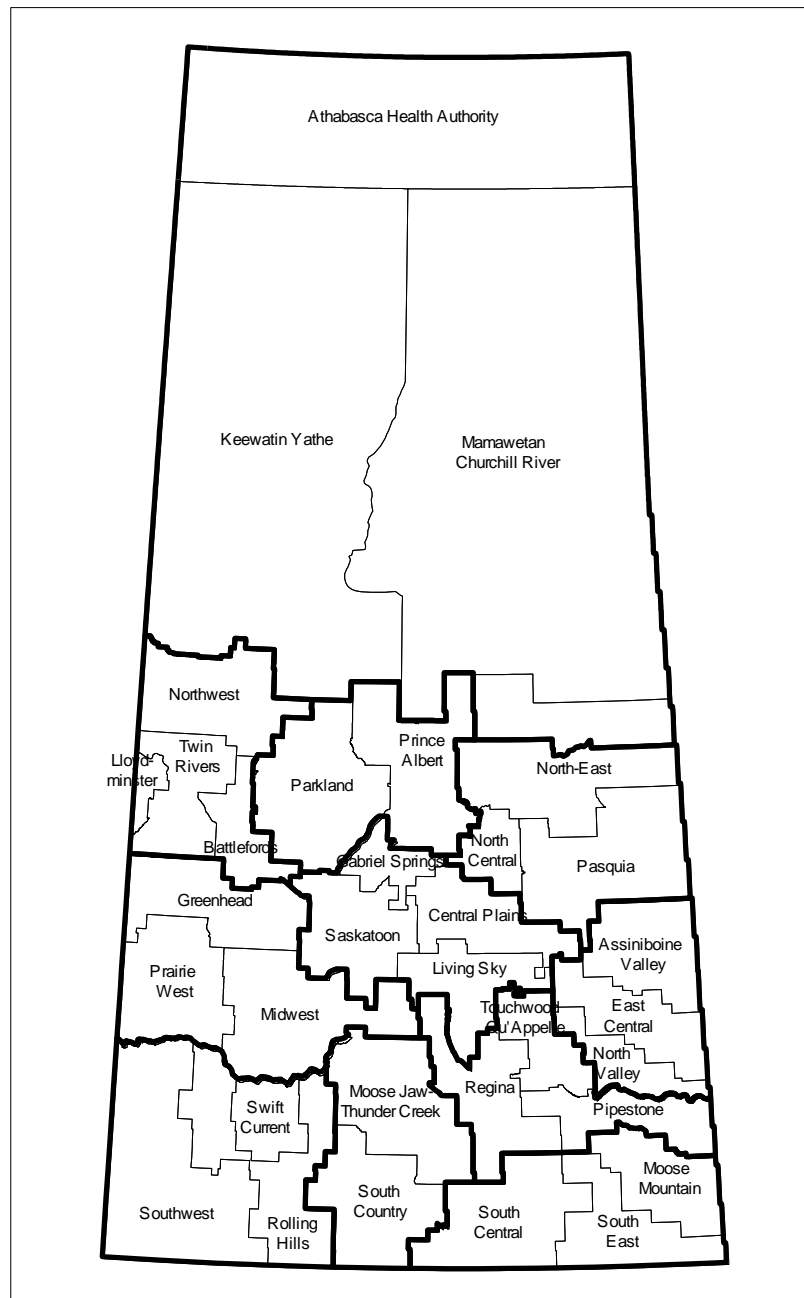
Addictions and Mental Health

- Addictions and mental health concerns continue as major issues for the health of northern Saskatchewan people.

MAP OF MAMAWETAN CHURCHILL RIVER HEALTH DISTRICT



MAP OF NORTHERN HEALTH DISTRICT SERVICE AREA



The northern health district service area includes the Athabasca Health Authority, the Mamawetan Churchill River Health District, the Keewatin Yatthe Health District, and part of the North East Health District (Cumberland House).

Mamawetan Churchill River Health District
Health Status Assessment

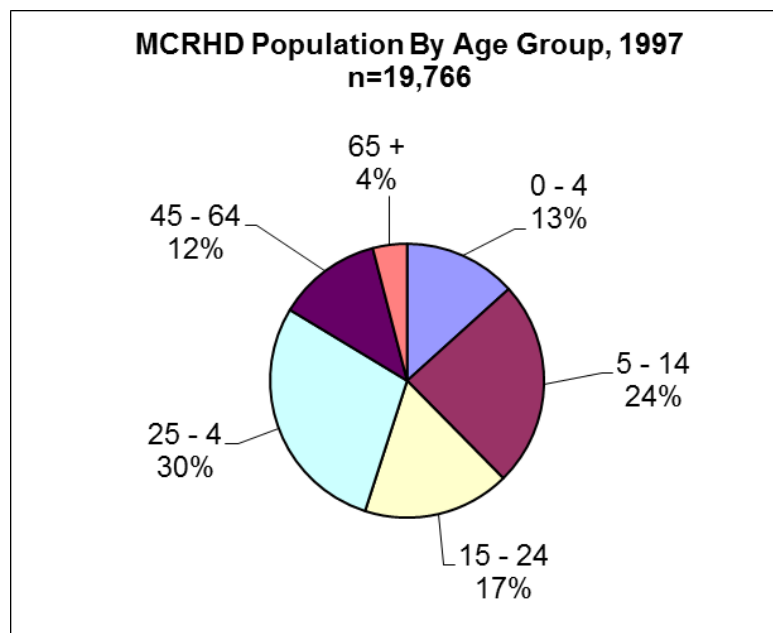
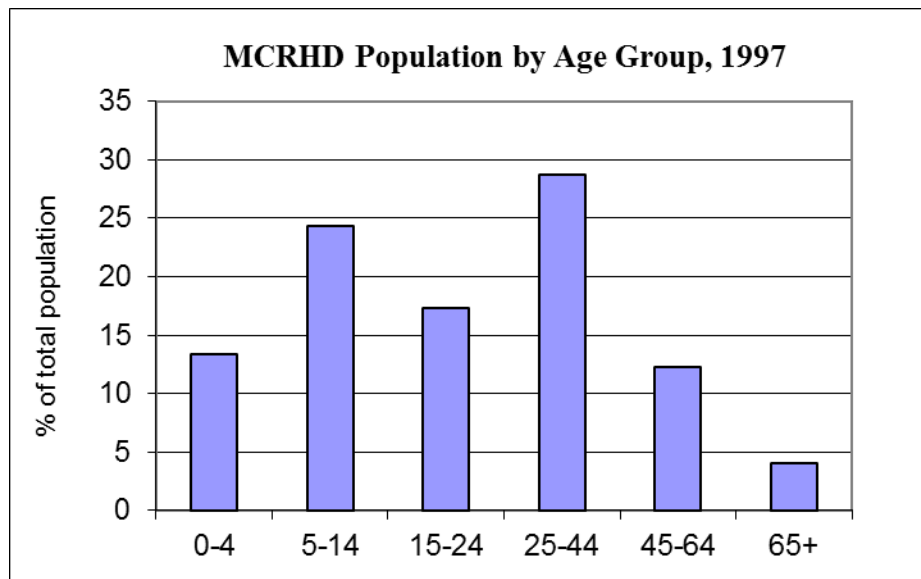
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A. DEMOGRAPHICS

A community's most important resource is its people. The activities of the Health District Boards are influenced by the number of people, the rate of growth, the number of people in age and gender groups, and their geographic distribution.

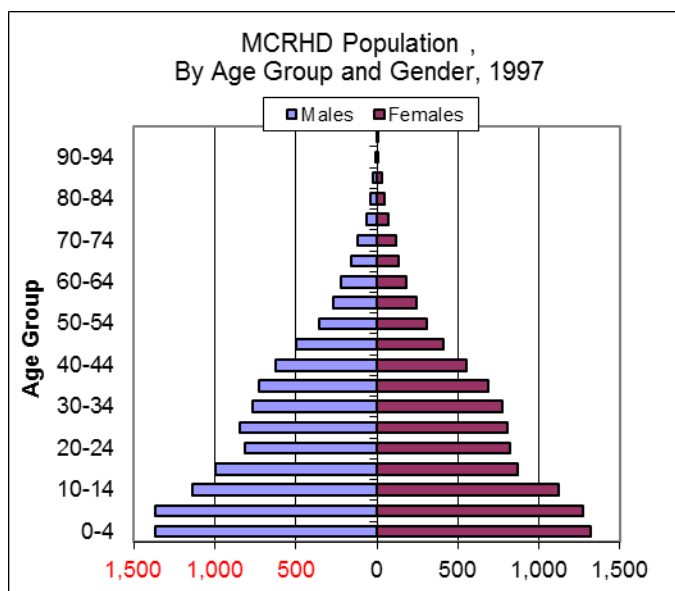
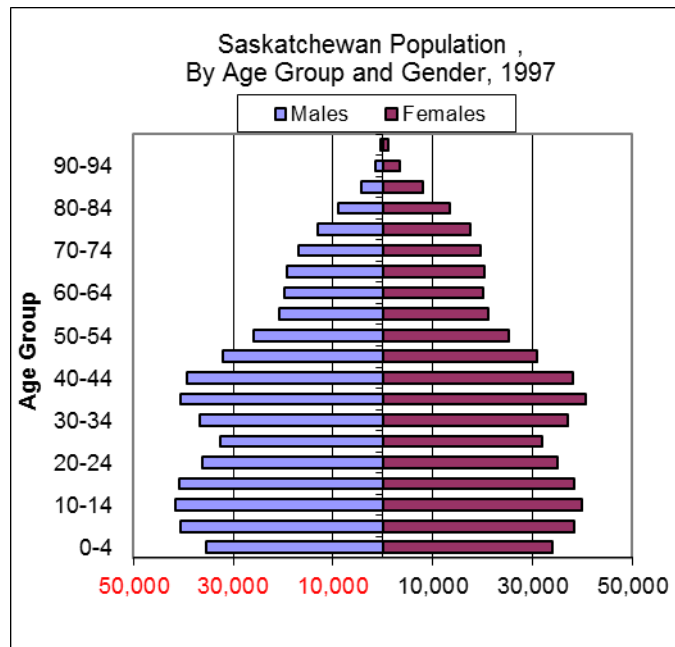
1. Total Population

There are about 19,766 people in the Mamawetan Churchill River District.
37% of the population is under the age of 15 years.



2. Age- Sex Distribution (Population Pyramids)

The age distribution of a population is useful to determine the health and social needs of the district. These population pyramids graphically show the distribution of age groups within a population. One can see that in the MCRHD area the greatest proportion of population is in the groups 0 to 4 and 5 to 9 years of age, with a decreasing proportion in the older age groups. In the province as a whole, the largest proportions of the population are in the 5 to 19 and the 35 to 44 year groups and that there is a significantly higher proportion of the population in the over 50 year age group compared to MCRHD.



3. Community

Saskatchewan Health has apportioned the populations of various municipalities to various health districts throughout the province. This apportioning divides municipalities that have land in two health districts between the health districts and apportions First Nations to the various health districts by an assessment of postal codes of the clients. This provides an estimate of the number of people who reside in the various Health Districts.

MAMAWETAN CHURCHILL RIVER HEALTH DISTRICT APPORTIONED POPULATION - 1997

Community	Apportioned Population
Creighton	1,882
Denare Beach	652
Flin Flon Creighton Unorg	361
Sturgeon Landing	19
Lac La Ronge Indian Band	5,098
La Ronge	2,380
Air Ronge	732
Stanley Mission	94
Hatchet Lake Band	1,027
Wollaston Lake	63
Pinehouse	962
Peter Ballantyne Cree Nation	4,279
Pelican Narrows	135
Southend	103
Sandy Bay	442
Weyakwin	206
Timber Bay	75
Montreal Lake	1,256
MCRHD	19,766

For these population figures, First Nations' populations are given by band and not by community of residence. Therefore, for individual communities one would need to add the municipality number to the First Nations number living there. (e.g. Stanley Mission = municipality of Stanley Mission plus a portion of Lac La Ronge Indian Band. Peter Ballantyne Band population is dispersed between the communities of Southend, Pelican Narrows, Deschambault, Sturgeon Landing, as well as Sandy Bay and other areas off-reserve.)

Mamawetan Churchill River Health District has agreed to provide certain community health services to the service area that includes the Mamawetan Churchill River Health District, the Keewatin Yatthé Health District, the Athabasca area and Cumberland House of the Northeast Health District. The service area population is approximately 33,802.

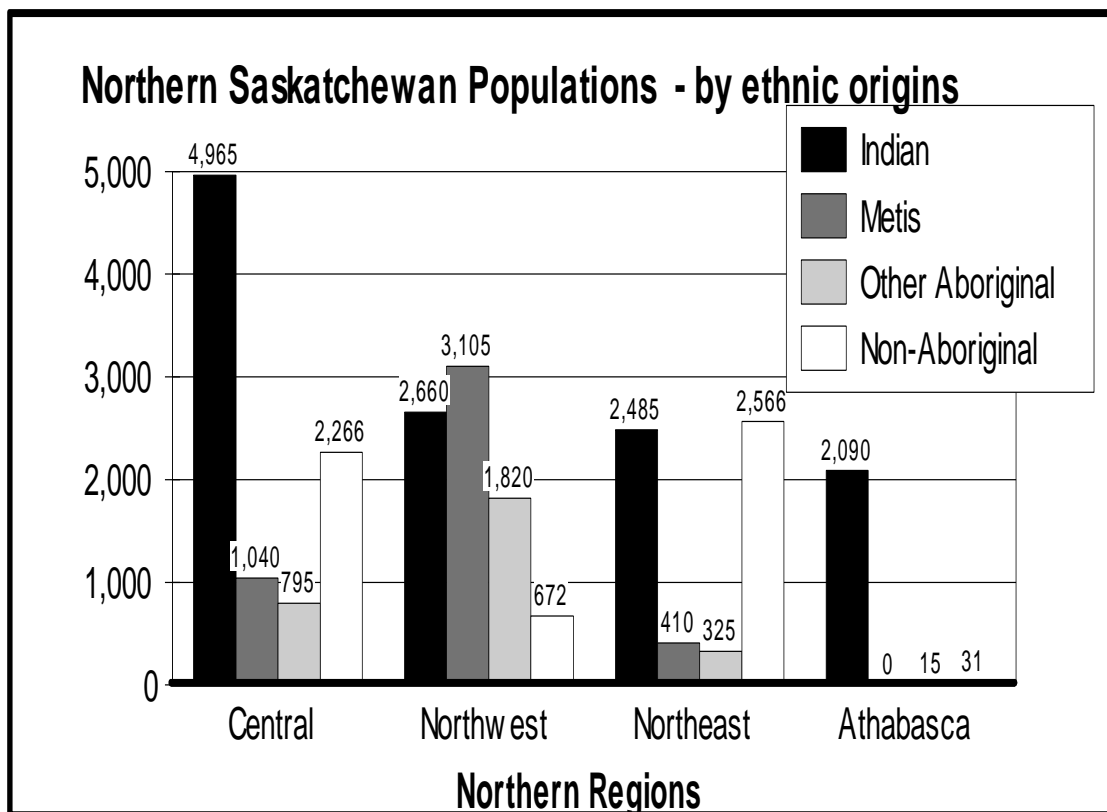
SERVICE AREA APPORTIONED POPULATION – 1997

Health District / Area	Apportioned Population
Mamawetan Churchill River	19,766
Keewatin Yatthé	10,364
Athabasca Health Authority	2,239
Cumberland House	1,433
Total Service Area	33,802

4. First Nations Status

First Nations in northern Saskatchewan are the largest cultural group forming about 48% of the population of northern Saskatchewan. Non-status and Metis people comprise about 30% of the northern population.

In 1991, the Census included information on ethnic origin. This information will be available for the 1996 Census in the coming year. This following graph shows the approximate proportion of Aboriginal peoples in northern Saskatchewan geographic areas. The population numbers have increased since 1991 so that should be considered in viewing this graph. For the development of this graph, Pinehouse was including in the Central area, Cumberland House in the Northeast area and Wollaston was included in the Athabasca area. For Mamawetan Churchill River Health District, it would be roughly equivalent to the Central and Northeast areas (excluding Cumberland House) plus Wollaston Lake from the Athabasca area. Proportions by health district should be available in the future.

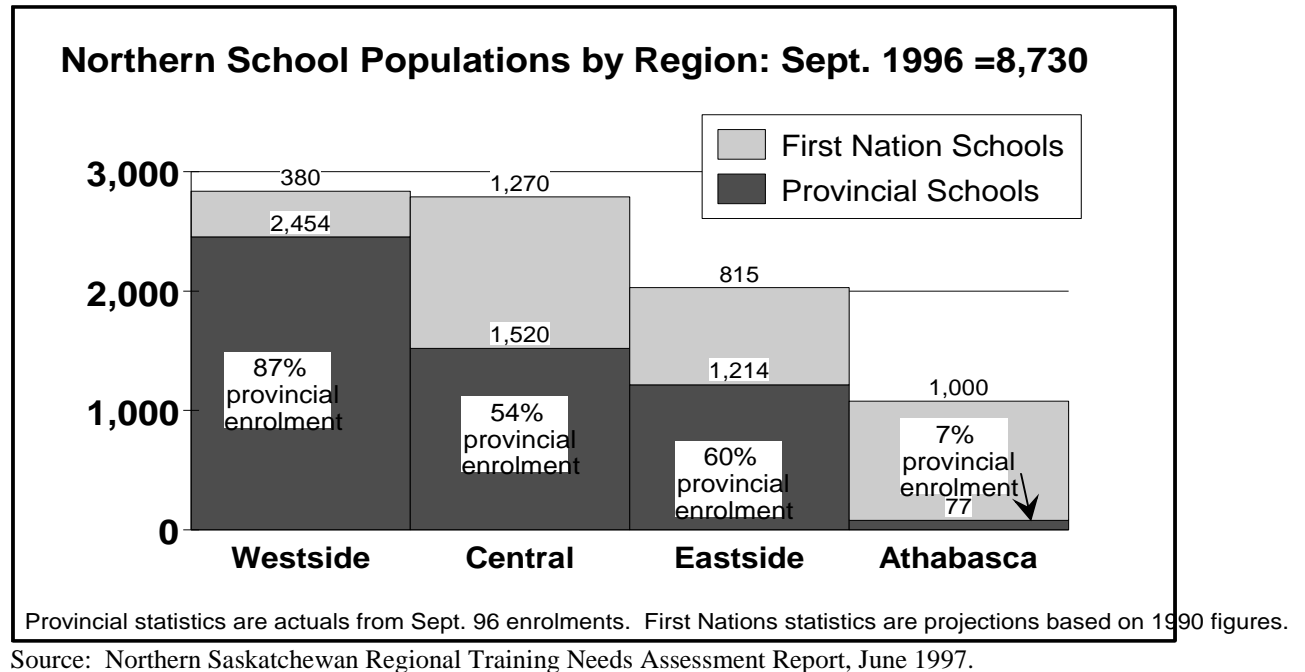


Source: Northern Saskatchewan Regional Training Needs Assessment Report; June 1997

5. Kids in school

More than three-quarters of all northern students in the northern K – 12 system are of Aboriginal ancestry.

There are about 8, 730 school children in the Service Area of northern Saskatchewan: 5, 265 children attend provincial schools and 3, 470 attend First Nations / Band schools.



6. Trends or Population Growth

In the 1920's the population for the northern Saskatchewan area was about 5,000. (Dominion Bureau of Statistics in Center of Community Studies – The Indian and Metis of Northern Saskatchewan). This has steadily increased, with the greatest increase from the mid-1950's on, to a service population today of over 34,000.

The northern population grew by 5.5% between the 1986 and 1991 Census whereas the provincial population decreased by 2% over the same time period.

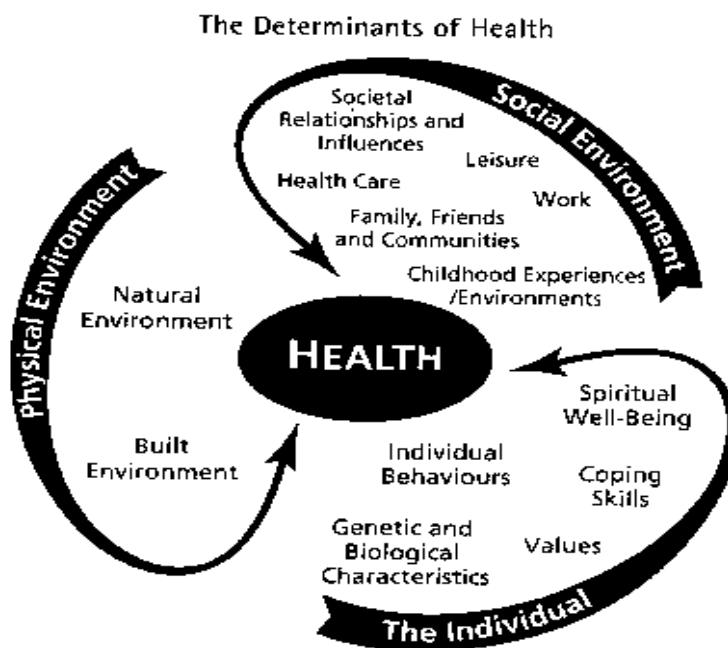
The population growth will need to be considered in the overall health plan for the northern health districts.

B. HEALTH DETERMINANTS

The determinants of health refer to those basic factors and influences that shape or determine the health of individuals and communities. Health determinants identify the areas where action could improve health and can serve as a basis for planning community or district initiatives.

The determinants of health include:

- ☺ Income and social status
- ☺ Social support networks
- ☺ Education
- ☺ Employment and Working Conditions
- ☺ Physical Environment
- ☺ Personal Health Practices and Coping Skills
- ☺ Healthy Child Development
- ☺ Health Services
- ☺ Biology, Genetics and Gender



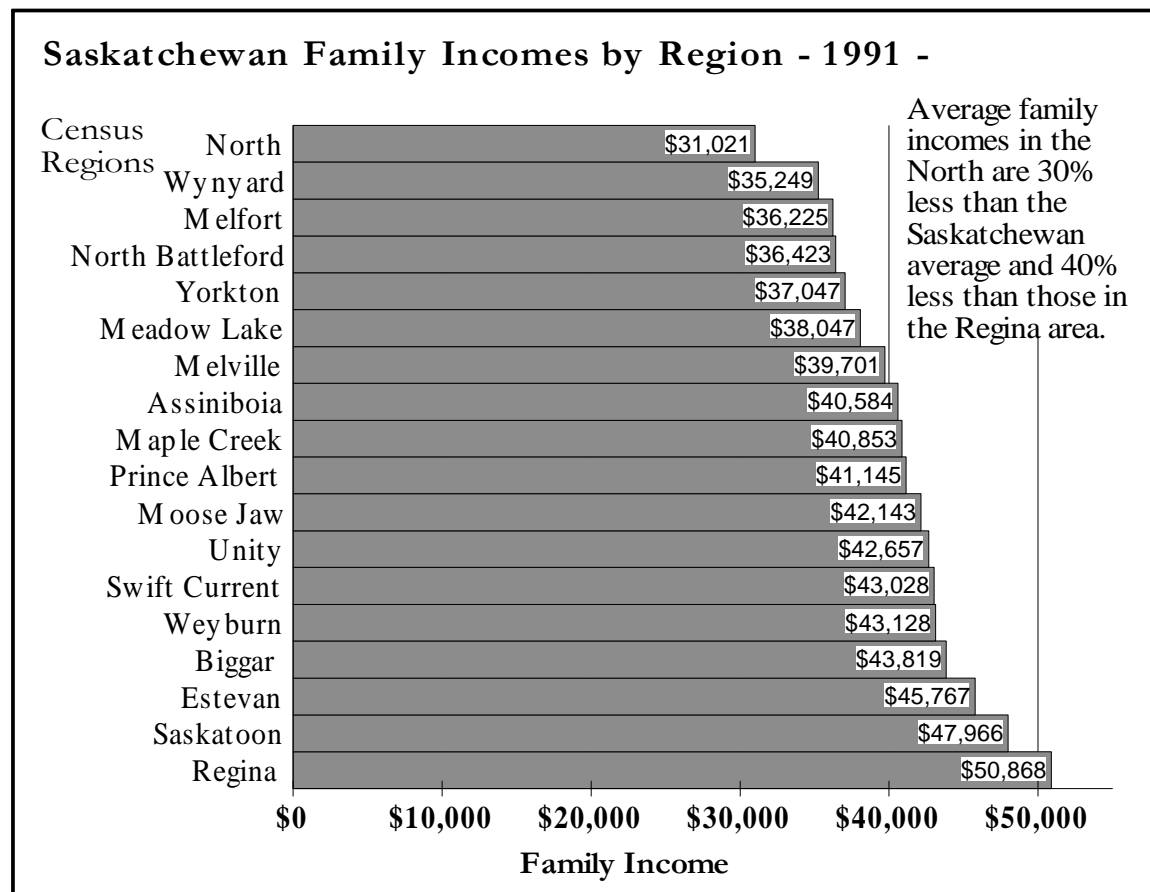
“Health is only possible where resources are available to meet human needs and where the living and working environment is protected from life threatening and health threatening pollutants, pathogens, and physical hazards.”

WHO Commission on Health and Environment
Our Planet, Our Health (WHO, 1992)

1. Income and Social Status

Income has a major influence on health. This means that the higher the family income the more likely people are to be healthy. It is also not only the amount of wealth but how it is distributed in a community or society that is the major influence on health.

Incidence of low income is over twice that in northern Saskatchewan compared to the province as a whole (32% versus 14%).



Saskatchewan Post-Secondary Education and Skills Training, La Ronge. Census 1991

Four of the five communities with the highest average family income in 1991 are in the Mamawetan Churchill River Health District with the fifth one in Keewatin Yatthé Health District. More information will be available from the 1996 Census. One of the issues faced by MCRHD perhaps more than the other northern health districts is these differences in average family annual income levels between communities because there may be different needs and demands of the various communities through the region.

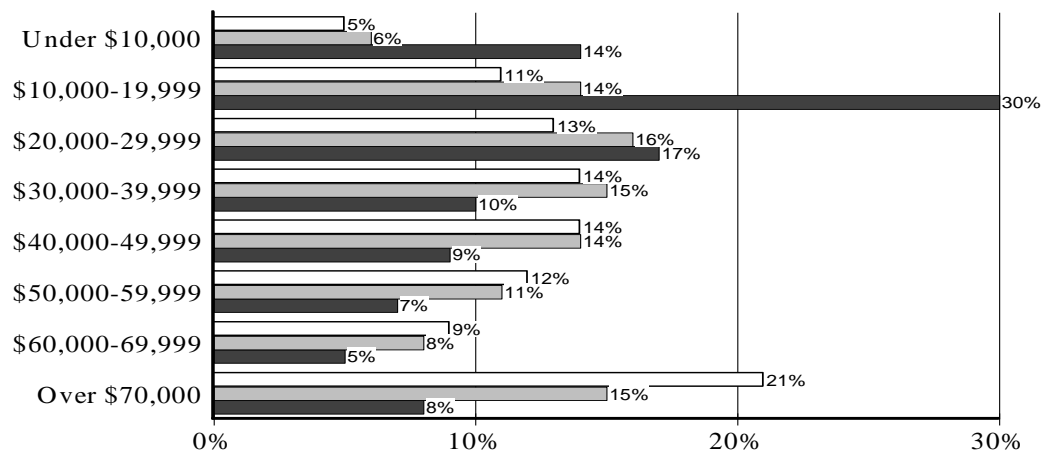
In 1991, more than twice as many northern families had incomes less than \$20,000 compared to the province as a whole. Again, health district specific data can be assessed after the 1996 Census data is available.

Community	Average Annual Family Income
Air Ronge	52,641
Creighton	52,078
Denare Beach	44,059
La Ronge	42,212
Buffalo Narrows	31,068
Northern Average	31,021

ANNUAL FAMILY INCOME-1991

* 60% of northern families earn less than \$30,000 annually compared to 36% provincially and 29% nationally.

* On average, northern family income is 30% less than the provincial norm and 40% less than the national family income.



Percentage of Families

Saskatchewan Post-Secondary Education and Skills Training, La Ronge. Source: Census 1991.

2. Social Support Networks

Support from family, friends and communities helps solve problems, deal with difficult situations, control stress and provide needs. Communities are important in creating opportunities for social contacts and offering a safe, supportive environment. Evidence has shown that individuals with more social support are healthier than those without. Family, workplace, school, culture and traditions, church and community can provide social support.

3. Education

In any society, education links to health. Gains in education produce gains in health. Education increases opportunities for income and job security. It also equips people with coping skills needed to identify and solve individual and group problems. One's level of education is also widely seen as an indicator of socioeconomic status.

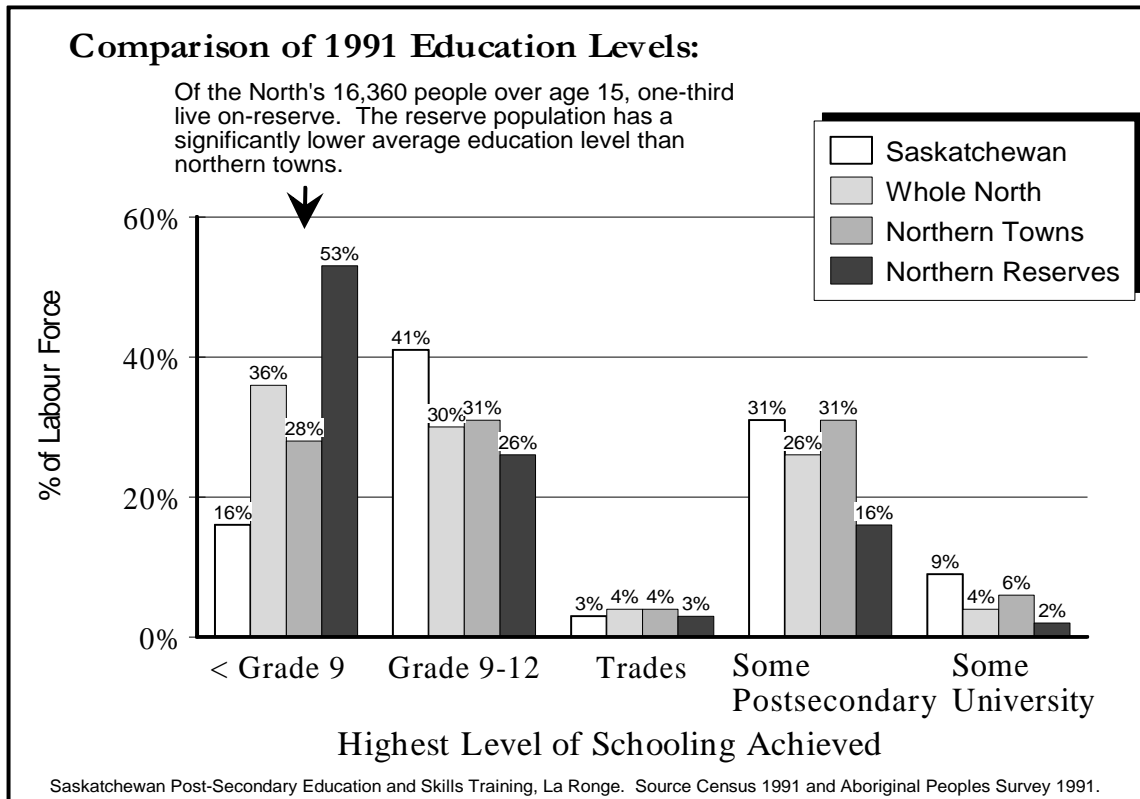
Learning, however, does not take place exclusively in schools. Families also pass on knowledge and skills people need to survive and thrive.

- 48 schools are located in 40 northern communities. One-third (17) of the schools offer high school curriculum.
- 60% of children (5,265) attend 28 provincial schools in 25 communities in 3 school divisions across the north (September 1996) and 40% of children (3,470) attend 20 First Nations Band schools in 18 communities across the north.
- More than three-quarters of all northern students in the northern K-12 system are of Aboriginal ancestry.
- 158 students graduated from grade 12 from northern schools in 1995. These students represent 77% of the number of students who completed Grade 10 three years earlier. This compares to 42% in 1986. These graduating students represent an improvement of 170% in ten years.

36% of the northern population over age 15 has an education level under grade 9 compared to 16% provincially. Over half of the northern on-reserve population (53%) has less than a grade 9 education. An education level of less than grade 9 is often defined as functional illiteracy.

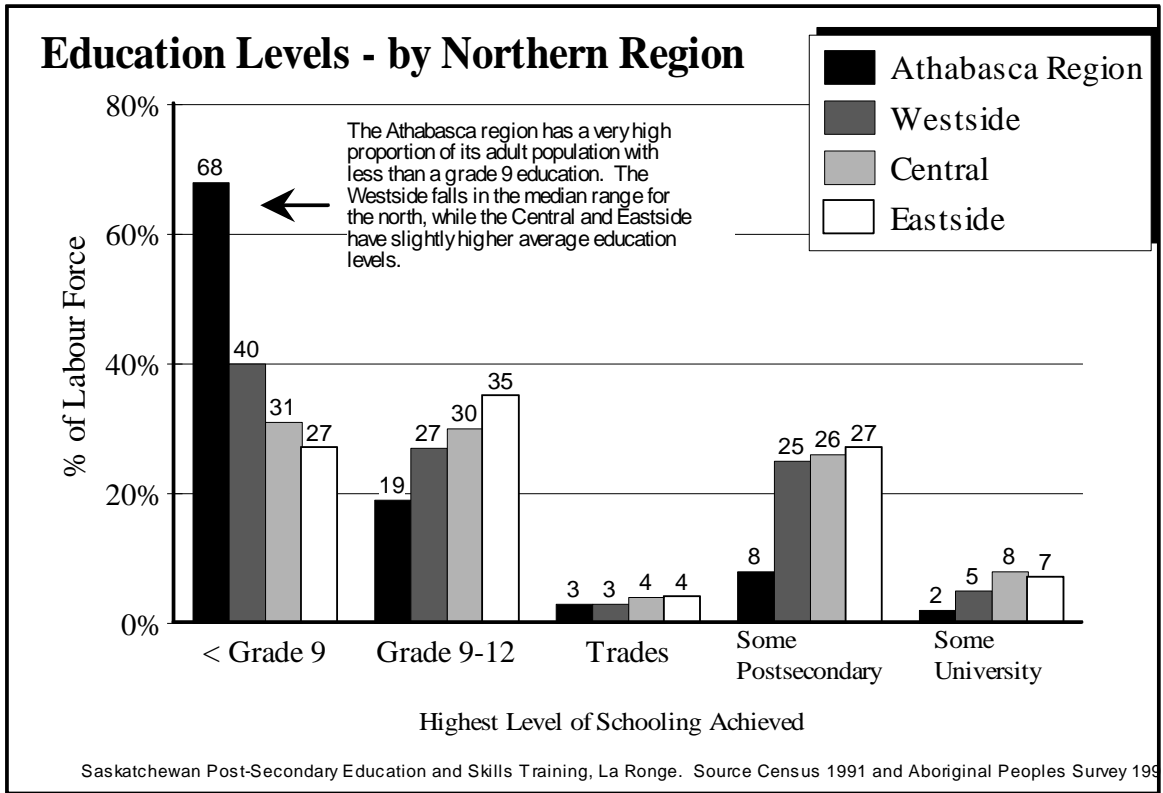
- Of the province's Indian and Metis people, 1 in 5 has less than a grade 9 education. In the north, Indian and Metis people form 77% of the northern population and 1 in 3 have less than a grade 9 education.

Source: Statistics Canada's 1991 Aboriginal Peoples Survey (Regional Training Needs Assessment Report)



The following graph shows the northern education levels by region:

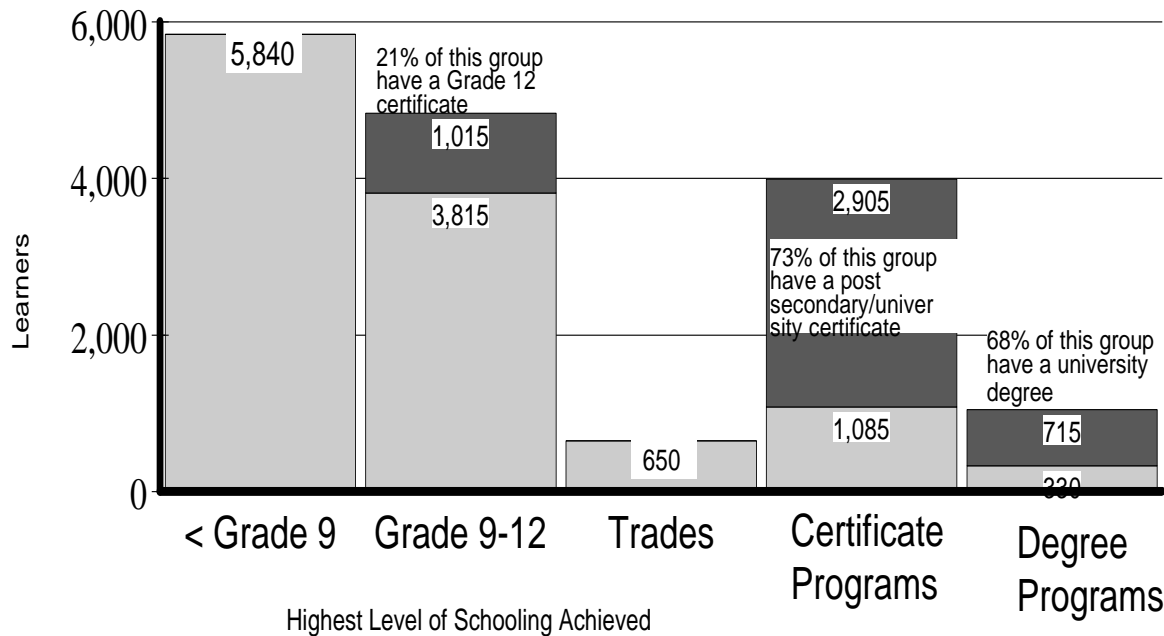
- the Athabasca region has a very high proportion – over 70% - of the labour force with less than a grade 9 education.
- the Westside falls within the average levels for the north.
- the Central and Eastside populations, with more employment opportunities and migration, have slightly higher average levels than the northern average.



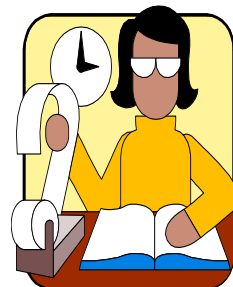
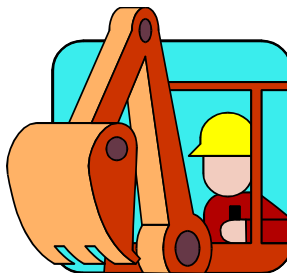
- ◆ A notable trend of improvements in education levels over the last decade is shown in the following graph. Of those northerners who had some high school as their highest education level, the proportion holding a grade 12 certificate was 21% in 1991, up from 13% in 1986. Census 1991

Northern Saskatchewan Education Levels for Population Over Age 15

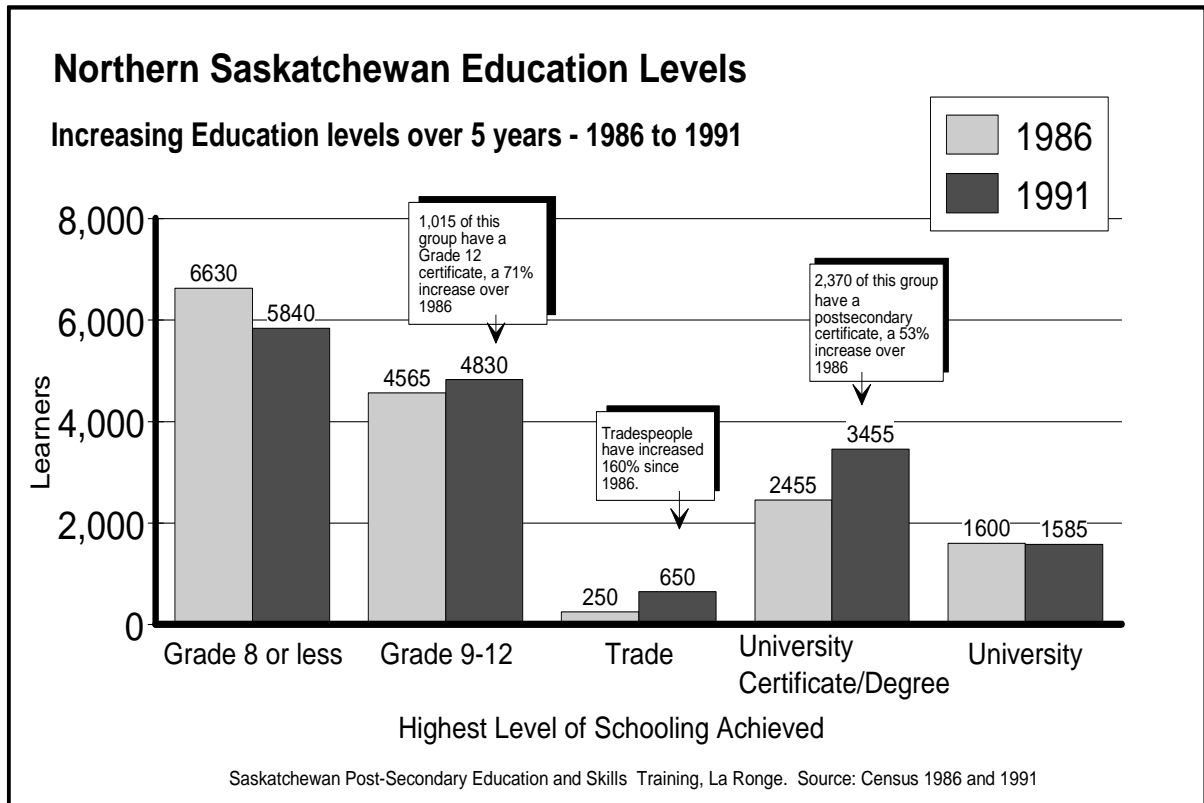
Census 1991- 16,360 northerners over age 15



- ◆ The Aboriginal Peoples Survey in 1991 shows a trend for younger people to have a much higher education level than their parents. One-third of the younger Aboriginal population, age 15 to 49, has attained some high school compared to 5% of the over 50 age group. And one-quarter of this younger group had completed some post-secondary training.



- ◆ The following graph shows that the actual number of northerners who have achieved a grade 12 certificate increased by 71% in 5 years. The number with Trades certificates/journey status has increased by 160%. And the number holding a post-secondary certificate has increased by over 50%.



4. Employment and Working Conditions

Employment and working conditions are also factors that influence health. People generally feel better if they are contributing to society and that their contributions are appreciated and respected. Employment also influences your income and social status, your social supports, and your physical environment in the workplace.

In 1991: One quarter of the northern labour force was unemployed versus 7% of the provincial labour force.

Only 41% of the northern First Nations and 57% of the non-First Nations northerners participated in the labour force versus 69% of the provincial population.

5. Physical Environment

The physical environment includes factors in both the natural and human-built environment. The natural environment includes the land, air and water. The human-built environment includes housing, workplace environments, communication links,

and transportation design and safety. Both natural and human-built environments are important influences on health.

Our community infrastructure and the conditions of our living environment influence our health. Factors to consider are housing conditions and crowding, community infrastructure such as water supply, sewage disposal, solid waste disposal, fire protection, as well as health services.

a) Housing

The average number of persons in private households in northern Saskatchewan is 4.0 based on the 1991 Census compared to 2.7 for Saskatchewan and Canada.

There is considerable community by community variation with the maximum by community being 5.8 for the Keewatin Yatthé Health District area, 6.1 for the Mamawetan Churchill River Health District area and 6.4 for the Athabasca Health Authority area.

Overcrowding has been associated with a variety of health concerns. Diseases which have been associated with poor housing includes the infectious diseases such as diarrheal diseases, tuberculosis, respiratory infections, tuberculosis, meningitis, non-infectious respiratory diseases such as asthma and injuries. Crowding is also now considered a threat to mental and psychosocial health.

b) Sewage

There are concerns for the appropriate, safe disposal of household sewage. A survey is being planned through Municipal Government for a survey of water and sewage treatment facilities on a community by community basis which will add up to date information to this section.

c) Water

★ *Potability:* Safe drinking water is important for good health. Not everyone in northern Saskatchewan has access to safe water. A survey is being planned through Municipal Government for a survey of water and sewage treatment facilities on a community by community basis which will add up to date information to this section. Potential indicators for our use could be the percentage of people supplied with safe water, percent of private water supplies inspected and found to be satisfactory, etc.

★ *Water Fluoridation:* Water fluoridation reduces dental decay. In northern Saskatchewan, only La Ronge adds fluoride to the municipal water supply. La Loche has naturally occurring fluoride.

d) Air Quality

There are various aspects to air quality. Air quality indoors is an area of concern as we spend so much of our time within buildings insulated from the outside temperature. There are a number of factors which affect indoor air quality including: heating and cooking sources, furnishings, materials and household stored chemicals and gases, cigarette smoking, biologic agents (including molds), radon and outdoor sources. There are various influences on air quality that could be used as indicators including: number of homes with smokers, public places (including restaurants) and workplaces which are smoke free, and use of wood heat, etc. Currently a survey is being conducted of the indoor radon levels in schools in northern Saskatchewan as an indicator of the potential concern for radon in our air. Outdoor air quality levels that have been used in more urban/industrialized areas such as the number of days/year when air pollution exceeds acceptable levels could be included for only a few communities (e.g. Creighton).

e) Food Quality, Safety and Availability

There are several areas that could be utilized as health indicators including the accessibility to healthy foods (e.g. cost of healthy food in various communities in comparison to Prince Albert or Saskatoon), personal dietary practices, availability of healthy choices for food, use of traditional foods and the safety of traditional foods (e.g. studies on moose, fish and caribou for heavy metals and radionuclides). One of the ongoing issues is the cost of healthy foods such as milk and milk products as well as fresh produce including fruits and vegetables, especially in the fly-in communities.

f) Vector and Animal Control

Insects and animals can spread disease to humans. Though mosquitoes and black flies are prominent in our northern summers, they cause few physical health concerns other than from the effect of the bites. HIV is not spread through mosquito bites and the mosquitoes in our area do not spread malaria.

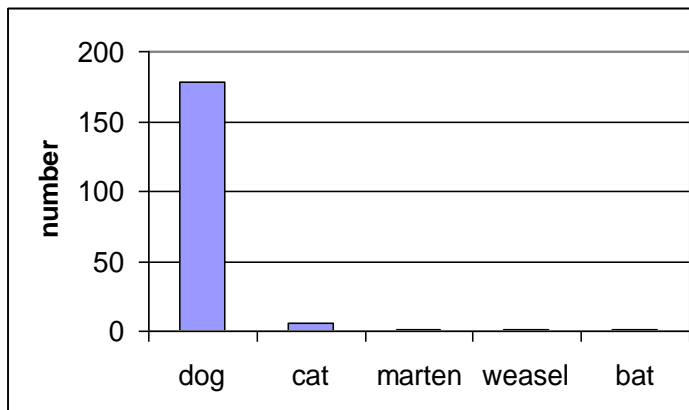
Various animals are monitored or periodically assessed throughout the province for the potential of human health problems.

Dog bites are a concern for two reasons: one, because of the small potential of rabies being spread to the human with the resulting deadly disease; and two, the potentially long-term physical damage or death that can result from dog bites. We have had no human rabies cases in northern Saskatchewan though the number of bites is a major concern for health especially for children.

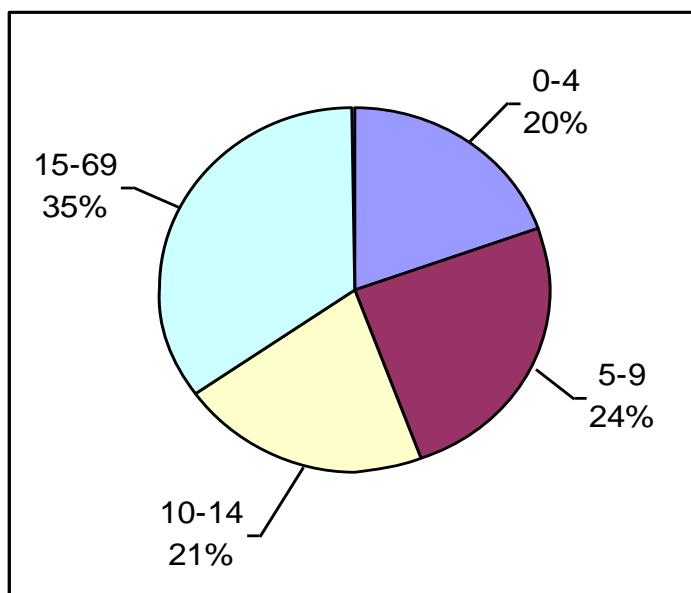
Over the period of 1995-97 there were about 180 animal bites reported to the Medical Health Officer equaling about 60 per year throughout northern Saskatchewan. There is considerable underreporting of these bites and considerable community by community variation (some of which will be related to the health professionals' reporting to the Medical Health Officer).

Most of the animal bites reported were from dogs, and about 65% of the bites were to children less than 15 years of age.

REPORTED ANIMAL BITES BY TYPE OF ANIMAL
NORTHERN SASKATCHEWAN (1995 – 1997)



PROPORTION OF PERSONS BITTEN BY AGE GROUP (YEARS)
NORTHERN SASKATCHEWAN (1995 – 1997)



(Data regarding the bitten person's age was collected for only 49.5 percent of cases. For those whose age was known, 44 percent were under age 10, as shown in the above chart.)

6. **Personal health practices and coping skills**

Personal health practices and coping skills have a great influence on health and well-being. These practices can include healthy eating, physical activity, stress relief, smoking, the use of alcohol and drugs, and the utilization of available preventive health services. Coping skills, which seem to be acquired primarily in the first few years of life, are also important in supporting health. People's knowledge, intentions and coping skills are important in adopting and sustaining healthy behaviors. Public policies can also affect health behaviors. (Source: Strategies for Population Health)

a) Utilization of Preventive Health Services

The utilization of preventive health services is one indicator for personal health practices. However, the indicator for the use of preventive health services is more than an assessment of the individual's decision to participate with preventive services but also an indicator of the service of the preventative program.

b) Immunization Coverage

Immunization is one approach to deal with many of the infectious diseases. Immunization remains an individual choice and so can be seen as a personal health practice for oneself and one's children.

National goals and objectives to control vaccine-preventable diseases of infants and children were developed in Canada in 1995. The targets included achieving and maintaining up-to-date immunization by the second birthday for 95 percent of children for pertussis and for 97 percent of children for diphtheria, tetanus, polio, haemophilus influenza type b, measles, mumps, and rubella. Up-to-date immunization includes 4 doses of DPT-Polio-Hib and one dose of MMR by the second birthday, as recommended by the National Advisory Committee on Immunization. National estimates for vaccine coverage of children 2 years of age in Canada ranged from 84.8 percent for pertussis to 97.0 percent for measles in 1993-4 and 93.3 percent for measles in 1996.



The following table shows the vaccine coverage levels for the five of the non-reserve communities within the Mamawetan Churchill River Health District, as well as the coverage levels for the other two northern health districts for comparison.

IMMUNIZATION STATUS AT SECOND BIRTHDAY, 1997					
		Percent Immunized by Community and Antigen			
		DPT-P-Hib ¹			MMR ²
	Number of children	4 doses (complete)	3 doses (complete minus one)	3 or 4 doses	
Pinehouse	44	95.5	4.5	100.0	100.0
Creighton	30	63.3	23.3	86.7	83.3
Denare Beach	17	70.6	17.6	88.2	88.2
La Ronge	118	49.2	41.5	90.7	75.4
Sandy Bay	36	41.7	47.2	88.9	80.6
Weyakwin	3	66.7	33.3	100.0	100.0
MCRHD	248	59.7	31.9	91.5	82.7
KYHD	168	75.6	17.9	93.5	95.2
AHA	7	71.4	28.6	100.0	100.0
North	423	66.2	26.2	92.4	87.9

¹Diphtheria, pertussis, tetanus, polio, haemophilus influenza type b coverage

²Measles, mumps, rubella coverage

Source: Population Health Unit data, which includes First Nations and other children living in these communities.

The coverage for the Mamawetan Churchill River Health District may be underestimated. Maintaining current immunization records and learning which families have moved into or out of the community is particularly challenging in large communities. Implementation of the provincial computerized Immunization Information System will help to more accurately determine immunization coverage and target children who are behind with their immunization.

c) Pap Smear Coverage

A study completed in 1995 by the provincial Health Services and Utilization Research Commission (HSURC), assess the proportion of women who had been screened with Pap smears during the period of 1988 to 1992. During this time period it was found that 63% of women aged 18 to 69 years of age from northern communities and 69.7% of women from northern reserves had been screened at least once during this period. This compared to 68.5% for southern reserves, 78%

for small southern urban centers, 76.8% for southern rural centers, and 84.5% for large urban centers. For northern communities and reserves, the age groups with the lowest rate of screening were the older age groups, especially over 60 years of age. 82% of women aged 18-19 in 1988 from northern communities had been screened at least once by 1992 and 77.5% of women aged 18-19 in 1988 from northern reserves had been screened.

d) Breast screening coverage

Saskatchewan women between the ages of 50 to 69 years of age are recommended to have a mammogram every two years. The Screening Program for Breast Cancer has a mobile screening van that now travels to several areas in northern Saskatchewan including 4 sites in the KYHD and 2 sites in the MCRHD. The program started to include northern sites from 1992 on. Prior to that access was only available in Meadow Lake, Prince Albert or Nipawin and other southern centers. The clinics in La Ronge and Creighton provide service to a large number of communities and women travel in by air or road to access the breast cancer screening program.

Community of Mobile Clinic	Total Population Eligible	Never Screened	Percent Not Screened Since 1992
La Ronge *	656	198	30%
Creighton≡	384	62	16%
LaLoche	128	47	37%
Buffalo Narrows	110	18	16.4%
Ile a la Crosse	80	24	30%
Beauval	143	50	35%

* - La Ronge mobile clinic site serves the entire central area from Weyakwin to the Athabasca area including Uranium City, Camsell Portage, Black Lake, Fond du Lac, Stony Rapids, Wollaston, Southend, Stanley Mission, and La Ronge and area.

≡ - Creighton mobile clinic serves the Creighton area as well as Sandy Bay, Pelican Narrows, Deschambault, etc.

e) Smoking

Smoking rates in northern Saskatchewan are likely higher than in the province as a whole. We do not have accurate information on overall smoking rates in the north at this time.

Smoking rates among Aboriginal people in Canada are extremely high compared to the Canadian average. Studies show that about 32% of the overall Canadian population are regular smokers, compared to 56% among First Nations and 57% among Métis.

In the 1997 health survey for Saskatchewan First Nations communities, 65% of those surveyed were current smokers (Source: Saskatchewan Regional Health Study). More people started smoking between ages 11 and 15 than any other age group and almost 90% had started by the time they were 20 years old (and only about 10% started smoking after age 20 years). 52% of responders indicated there were no community restrictions on smoking in their communities.

Presently there are no restaurants in northern Saskatchewan which consistently offer 'smoke-free' areas other than the cafeteria at the La Ronge Health Center and the cafeterias at most of the established mine sites in northern Saskatchewan.

Compliance checks are done through the Health Protection Branch of Health Canada's Tobacco Enforcement Program for the sale of tobacco products to minors. In the MCRHD area, only La Ronge and Air Ronge have had compliance checks.

TOBACCO SALES TO CHILDREN – COMPLIANCE CHECKS 1996-98

Year	Number of Spot Checks	% of Checks with Sales to Minor
1996	45	47 %
1997	15	7 %
1998	14	7 %

f) Tobacco Chewing

Tobacco chewing amongst youth has been an increasing concern in North America. It continues as a concern in northern Saskatchewan. A 1997 survey in Saskatchewan First Nations communities (Saskatchewan Regional Health Study) had 8% of responders currently using snuff and less than 2% using chewing tobacco.

g) Alcohol

Alcohol is used to some extent by a large proportion of Canadians. Although most people drink responsibly most of the time, alcohol misuse is a leading cause of premature death and disability. Further information is available in this report on the utilization of addiction services by northerners. Information on alcohol use and abuse could be obtained through community surveys. Information on alcohol related offenses are also being updated as a reference for the health districts. The following table show some of the alcohol related offenses from 1990 to 1995 showing increasing numbers of offenses over this period.

ALCOHOL-RELATED CONVICTIONS BY YEAR
FOR NORTHERN HEALTH DISTRICT AREAS

Year	Number
1990/91	407
1991/92	401
1992/93	436
1993/94	459
1994/95	482

CONVICTION CODES FOR 1994-95

Driving While Disqualified	91
Impaired Driving	104
Blood Alcohol Over 0.08	283
Impaired Driving Causing Bodily Harm	4

h) Physical Activity

Regular exercise has been shown to reduce the risk of cardiovascular disease, diabetes, obesity, back ailments and some cancers. It also contributes to positive well-being by reducing tension and anxiety. It can also contribute to a positive self-image in youth. Information can be gathered as to the recreation facilities in communities, physical education in schools, or personal physical activity through surveys.

i) Injection Drug Use (IDU)

There is the perception of various health workers that injection drug use is increasing in northern Saskatchewan though we do not have solid evidence for this. About 4% of those from northern Saskatchewan receiving addiction treatment services off-reserve have stated that they have used or are using injection drugs.

j) Diet

Poor nutrition and unhealthy eating habits are associated with diabetes, cardiovascular disease and cancer. School performance can also be linked to nutrition and physical activity. Diet can be closely linked to awareness and knowledge, family and community practices and support, availability and access to healthy choices as well as other factors. Information can be gained through community surveys.

k) Sexual Activity

Little information is available on the sexual behaviors in northern Saskatchewan but there is evidence for concern in our statistics on sexually transmitted infections and pregnancies in 10 to 14 year old girls.

We can gain a little information from other surveys though the situation in northern Saskatchewan may be substantially different.

A 1992 survey in western Canada found that 55% of 17 year old boys had had sexual intercourse and of those, 33% had four or more partners: 52% of 17 year old girls had had sexual intercourse and 30% of this group had four or more partners. Of those who were sexually active, 57% of 17 year old boys used a condom the last time they had intercourse but less than half the 17 year old girls did.

7. Healthy Childhood Development

A healthy and nurturing environment in pregnancy and early childhood has significant implications for life long health.

8. Health Services

Health services deal with prevention, promotion, treatment and curative services, and rehabilitative and supportive services. There is a relationship between the availability of preventive and primary care services and improved health. The health care system can treat an injury, an infection or addiction. However, if the individual's social, environmental or personal problems are not addressed, the cause of the problem is still there. One needs to look at a balance of the determinants of health.

9. Biology, Genetics and Gender

Genetics refers to genes and the particular characteristics each individual inherits. The genes one is born with may set the stage for particular diseases or health problems (such as diabetes, heart disease) making someone more likely to develop these problems than another. Gender also influences health issues and needs.

C. HEALTH STATUS

An assessment of the health status of the residents of the Health District, based on information about health problems and disease, is necessary for planning and evaluating the health services.

There are various indicators that can be used to monitor community health status. At this early stage for the northern Health Boards, not all desired community health indicators are readily available. Further indicators will be available as the District Health Boards initiate their needs assessment processes.

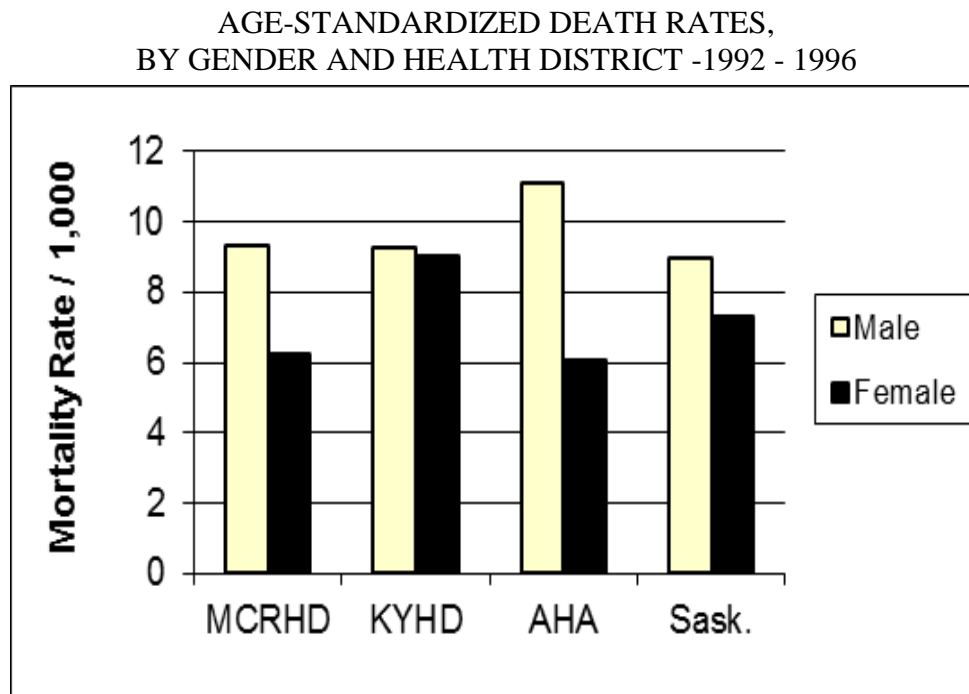
The present information has to do with more of what is usually termed the 'objective' health status indicators ('statistics') and not with what can be termed the 'subjective' health status indicators ('feelings'). Subjective indicators could include such indicators as how community members perceive their own or their community's health or their own thoughts and feelings on the leading health problems in their community.



1. Mortality

Mortality or death is used for a variety of community health indicators and is useful to some extent for health planning. It is a crude indicator as it only measures concerns which are severe enough to cause death.

a) Total Mortality Rate



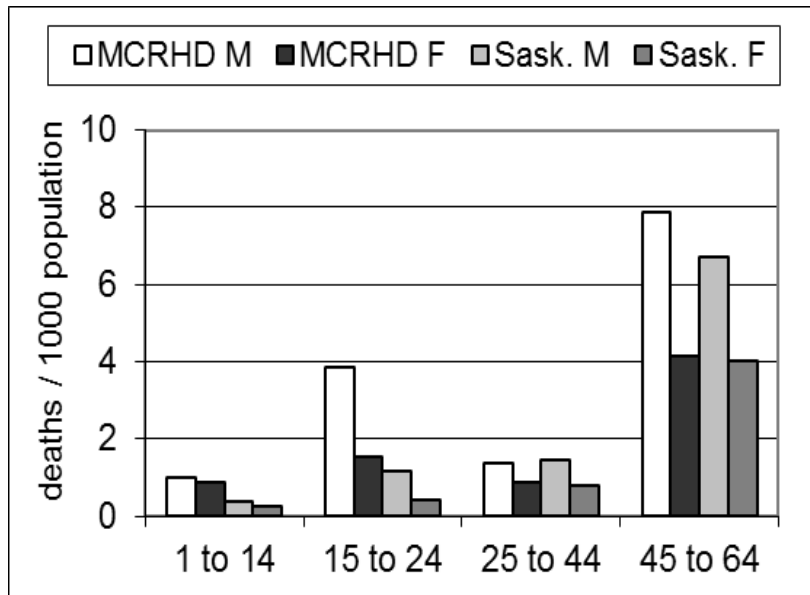
The mortality rate is higher in males than in females in each of the northern health district areas, as well as in the province as a whole. The mortality rate for men in the MCRHD (9.3), KYHD (9.3) and in the AHA (11.1) is higher than the provincial rate at (8.9). For women in the MCRHD (6.2) and the AHA (6.1) areas the rate is lower than the provincial rate (7.3), but for the KYHD (9.0) the rate is higher than the provincial rate.

b) Age-Specific Mortality Rate

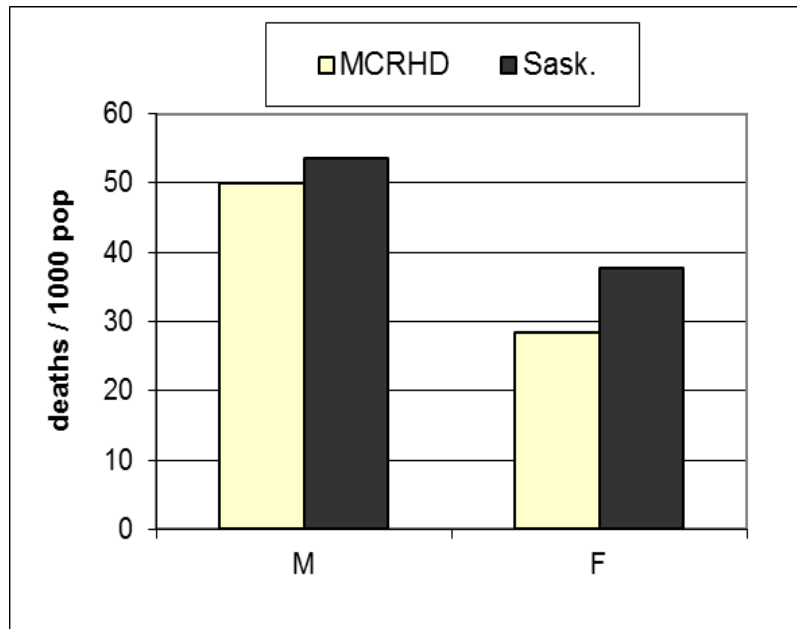
Mortality rates increase with age. The mortality rate for males and females in the MCRHD are higher than those of the provincial average in those less than 65 years of age. The age groups in which the discrepancy with the provincial average is the greatest are the 15 to 24 and 1 to 14 year age groups. However, the mortality rate for those aged 65 years and older is lower for MCRHD

residents than the provincial average. Elders in MCRHD area have a lower death rate than the provincial average (this feature has been demonstrated before for First Nations and Metis elders in the province).

AVERAGE ANNUAL AGE-SPECIFIC MORTALITY RATES,
MCRHD and SASKATCHEWAN, 1992 – 96



MORTALITY RATES - AGE 65 and OVER,
BY GENDER, 1992-96



c) Numbers of Death by Cause

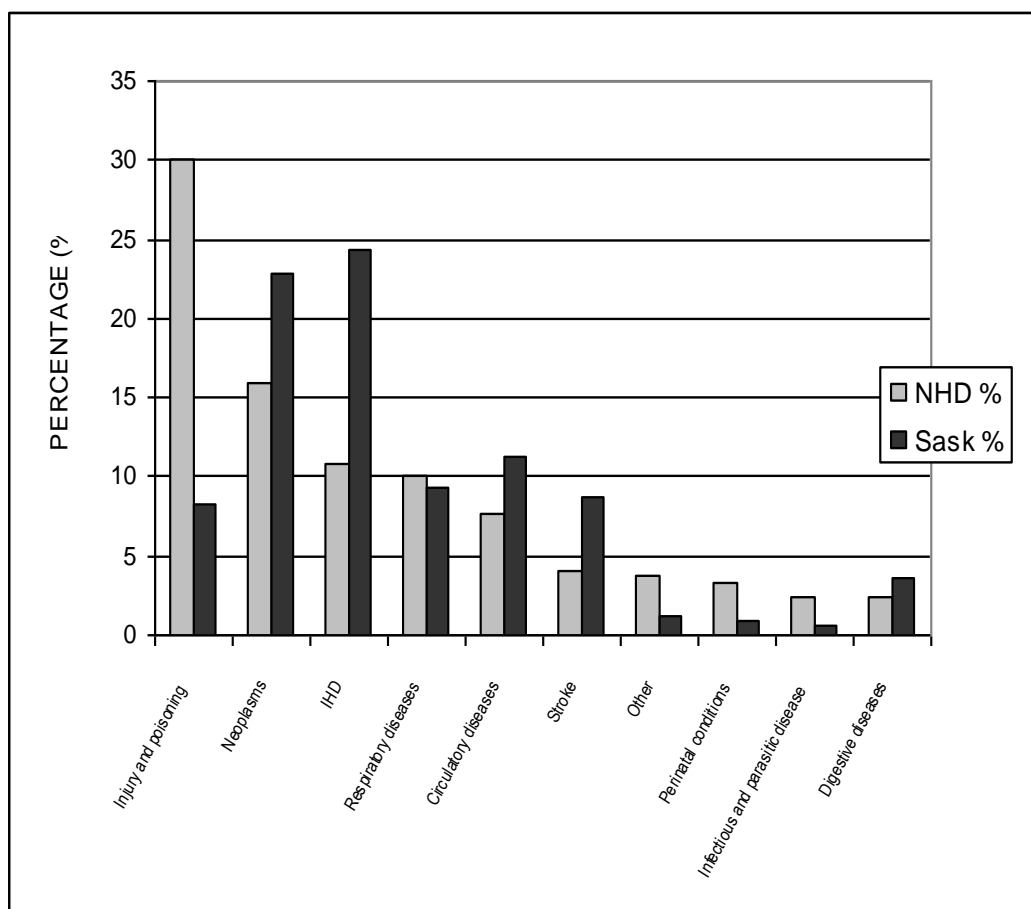
PROPORTIONS OF DEATHS BY CAUSE OCCURRING IN NORTHERN HEALTH DISTRICTS AND SASKATCHEWAN: 1974-1996			
	NHD #	NHD %	Sask %
Injury and poisoning	790	30.1	8.3
Neoplasms	419	16.0	22.8
IHD	284	10.8	24.4
Respiratory diseases	266	10.1	9.4
Circulatory diseases	200	7.6	11.3
Stroke	106	4.0	8.6
Other	100	3.8	1.1
Perinatal conditions	85	3.2	0.9
Infectious and parasitic disease	65	2.5	0.6
Digestive diseases	65	2.5	3.6
Congenital anomalies	65	2.5	0.8
Endocrine, nutritional & metabolic diseases & immunity disorders	53	2.0	2.3
Nervous system and sense organ diseases	38	1.4	2.0
Genitourinary diseases	33	1.3	1.5
Mental disorders	24	0.9	0.9
Other neoplasms	10	0.4	0.4
Blood and blood-forming organ diseases	8	0.3	0.4
Musculoskeletal and connective tissue diseases	7	0.3	0.4
Skin and subcutaneous tissue diseases	4	0.2	0.1
Complications of pregnancy, childbirth and the puerperium	2	0.1	0.0

Injuries and violence make up the highest number of deaths in northern Saskatchewan – attributing to 790 deaths in the period 1974-96 or about 34 deaths per year. This makes up just over 30% of all deaths in northern Saskatchewan. In the province as a whole, injuries and violence makes up 8.3% of deaths during this same period. More information will be available shortly on the specific causes of injuries and trends in the various age-groups. We now know however, that injuries are the most common cause of death for males and females in the age-groups ranging from 1 to 45 years of age in northern Saskatchewan.

In Saskatchewan, 68.8% of all deaths to children and youth one to 19 years of age were due to injuries.

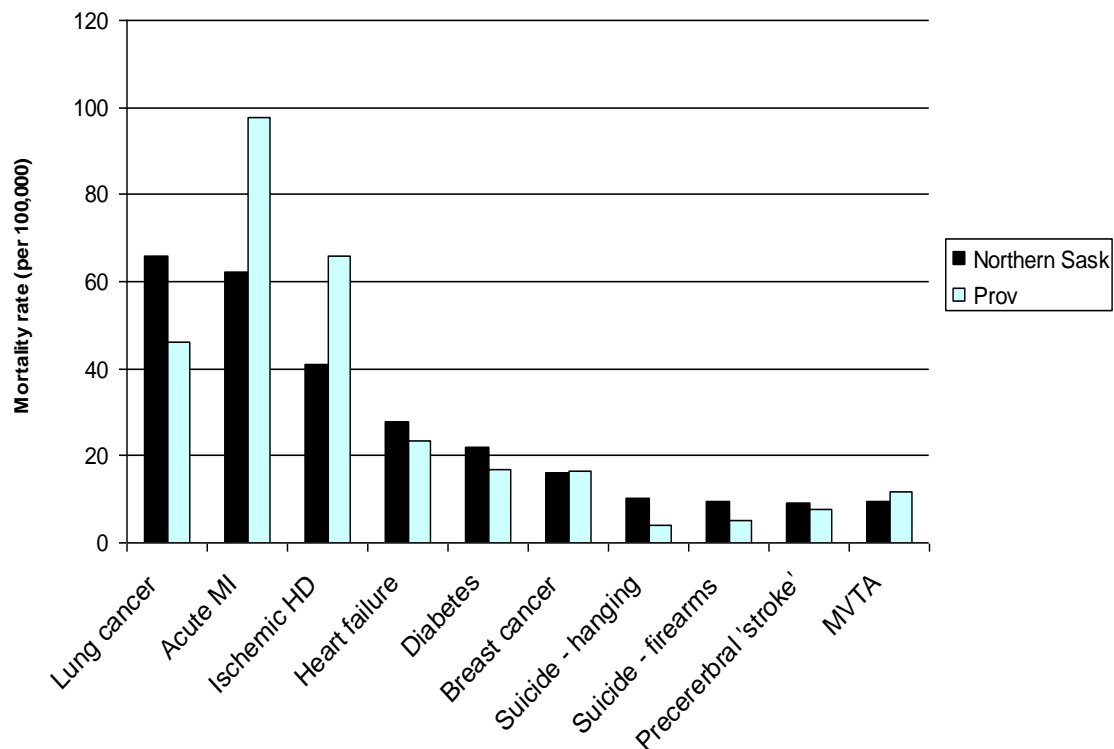
Following injuries and violence, the next most frequent causes of death in northern Saskatchewan are cancers, heart disease and respiratory disease. More information on the comparison rates and changing patterns of death (are specific causes increasing or decreasing, what age groups are most affected, etc.) is being assessed and will be available in the future by northern health district area. It is important to look at rates when we are comparing deaths in different populations rather than just absolute numbers and as well to age-standardize because of the different age make-up of the northern populations compared with the province as a whole (e.g. higher proportion of youth). This information will be available in the future through our work with the Department of Community Health and Epidemiology and Northern Medical Services at the University of Saskatchewan.

PERCENTAGE OF CAUSES OF DEATH IN NORTHERN HEALTH DISTRICTS AND SASKATCHEWAN, 1974-1996 – ALL CAUSES



d) Mortality Rate For Selected Chronic Diseases And Injuries

AGE-STANDARDIZED DEATH RATES FOR THE TOP 10 CAUSES FROM CHRONIC DISEASES AND INJURIES, NORTHERN SASKATCHEWAN, 1989-93



Source: Saskatchewan Health. Important Causes of Non-Communicable Chronic Condition Deaths in Saskatchewan, 1989-93. November 1997.

Of the conditions studied, lung cancer was one of the most common chronic disease deaths of all the health districts in the province. Northern Saskatchewan had the highest rate of lung cancer death. Those listed in the above list are the 10 most common for the northern Saskatchewan area. Suicides were not included in the top 10 list in the province (14th). If you combined deaths in northern Saskatchewan from all suicides (rather than dividing up by mechanism of suicide) it would appear more significantly in this graph. The same would be true for injuries if they were classified as all injuries versus injuries by various mechanisms. For motor vehicle traffic accidents (MVTA), MVTA of an unspecified nature and those due to loss of control without a collision on a highway were more common in northern Saskatchewan than the province as a whole and MVTA involving collision with other motor vehicles were much more common in the province as a whole.

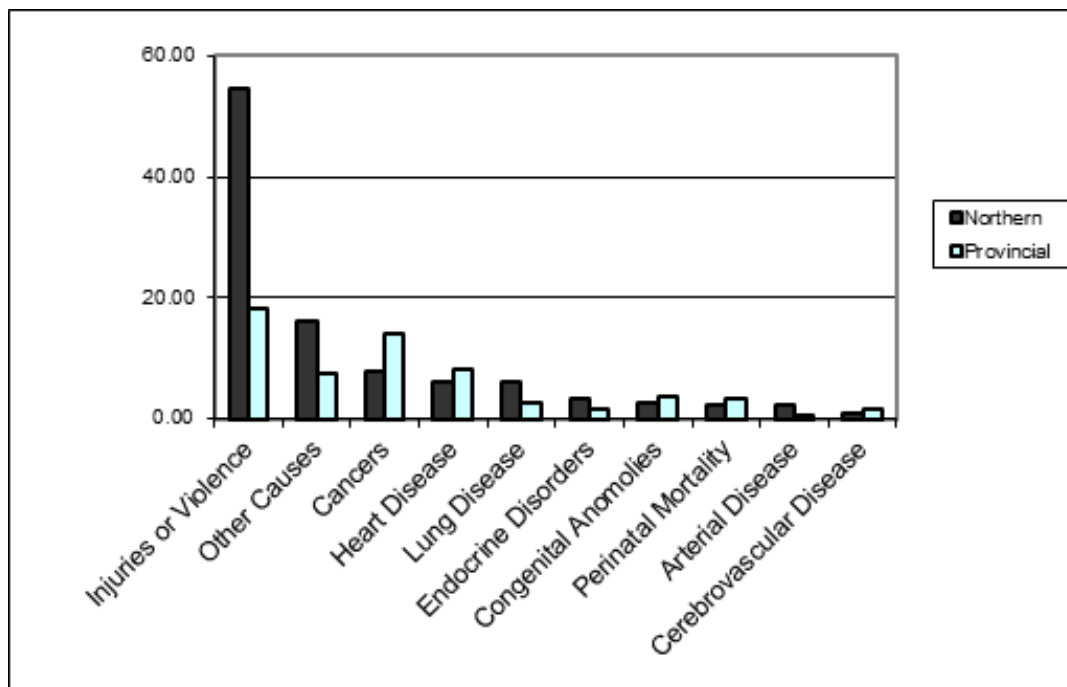
Malignant neoplasms (i.e. cancers) of the prostate gland, breast, kidney, stomach, colon and rectum, bladder, and ovaries, as well as lymphoid leukemia are lower in northern Saskatchewan than the provincial average.

Precerebral ‘strokes’ or occlusion and stenosis of precerebral arteries is more common in the north than the provincial average (9.47 deaths per 100,000 population versus 7.75) but intracerebral haemorrhage (stroke) is more common in the province (2.65 in the north, versus 7.13 in the province).

e) Potential Years of Life Lost (PYLL)

Potential Years Of Life Lost is an indicator of premature mortality. It gives more weight to causes of death occurring at younger ages than to those occurring at later ages. More specifically, the indicator PYLL provides an estimate of the total years of life lost before age 75 years by persons between their 1st and 75th birthdays. For this indicator, a death of a child contributes more to the PYLL rate than the death of a 74 year old as it is an indicator of premature death.

POTENTIAL YEARS OF LIFE LOST – 1995:
NORTHERN SASKATCHEWAN COMPARED TO PROVINCE
(RATE PER 1,000 POPULATION)



Source: Data based on Saskatchewan Vital Statistics and compiled by CITB.
PYLL are calculated based on deaths before 75 years of age.

Injuries and violent deaths make up by far the largest proportion of premature deaths in northern Saskatchewan.

Injuries and violent deaths make up a large proportion of premature deaths in northern Saskatchewan. The impact of injuries and violent deaths in terms of overall premature mortality is much greater in northern Saskatchewan than in the province as a whole. The rate of PYLL for injuries and violence is just over 3 times greater in northern Saskatchewan than the provincial rate. Lung diseases and endocrine disorders account for PYLL rates over twice that of the provincial average, and arterial disease is over 3 times the provincial rate.

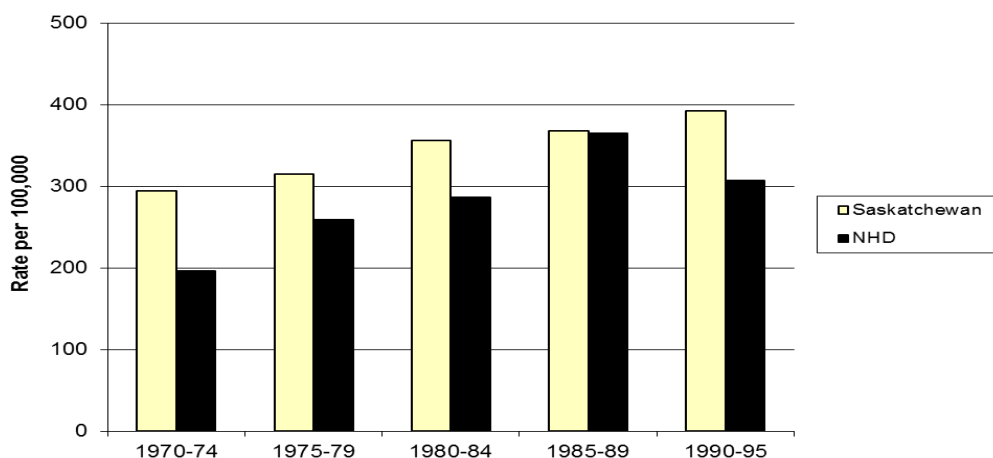
The rates of PYLL for cancer, heart disease, congenital anomalies, cerebrovascular disease, and perinatal mortality are less in the north than the provincial rates.

2. Morbidity

a) Cancer Incidence

Cancer is a concern for many Canadians. The lifetime probability of a Canadian male developing cancer is about 41% and for women is about 33%. Previous studies in northern Saskatchewan (Irvine, Tan, et al. Cancer in Northern Saskatchewan) for 1964-88 revealed cancers to be increasing in northern Saskatchewan but still at a lower rate for males and females combined than the remainder of the province. Of particular concern at that time was for lung cancer as well as breast and cervix. This information is being updated at the present time through our work with the Department of Community Health and Epidemiology (Tan, Alvi, Irvine, and Whitehead) and will be available in the future. Some preliminary information is shared here.

ALL CANCERS COMBINED FOR MALE AND FEMALE – 1970-95

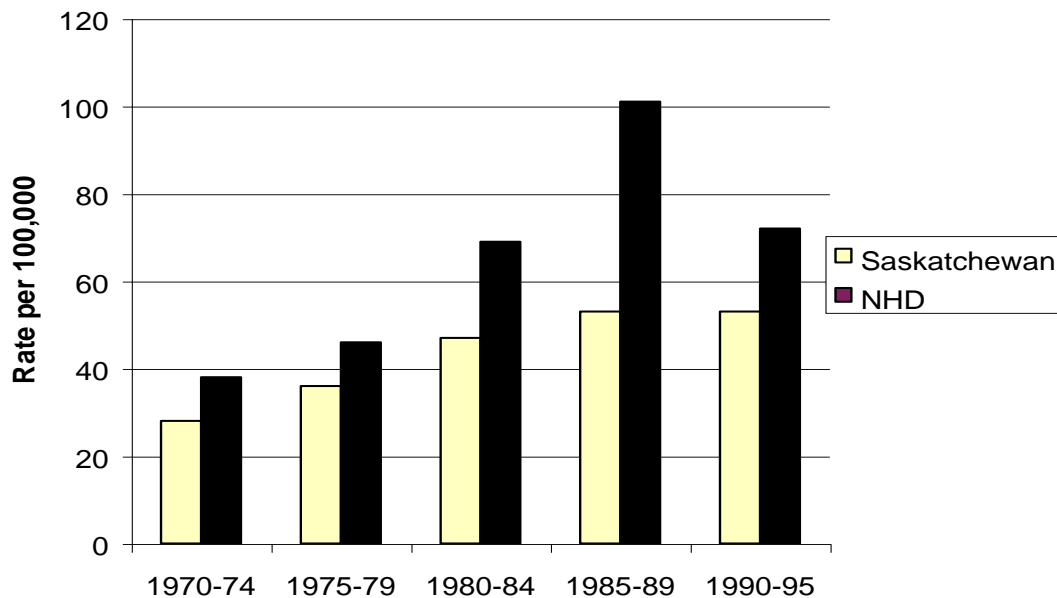


For all cancers combined there is a general increase in cancers for males and females combined for both the provincial rates as well as the northern rates with a slight decrease in the most recent time period. (Because of the small numbers it is possible for the rates to go up or down even though the general trend continues to increase). It appears that the rate for northern Saskatchewan for all cancers combined is still slightly lower than the provincial rate (statistical significance will be assessed in the future).

Lung cancer continues to be a concern. Lung cancer rates in northern Saskatchewan appear to be higher than the provincial rates and the general trend is increasing with a reduction during the latest time period. In the previous study (Irvine, Tan, Robson), both northern male and female rates were increasing, though the female rates were increasing faster than the rate in males. The rate in males was still higher than in females. The trends over the latest time periods will be available in the future.

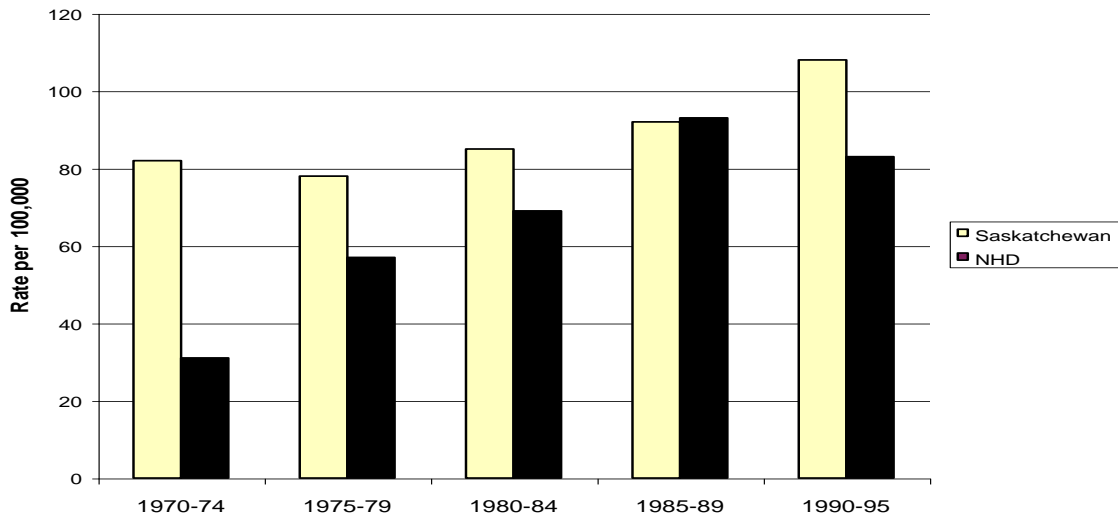
Lung cancer is a major concern in northern Saskatchewan.
About 85-90% of lung cancers in Canada are associated with smoking.

LUNG CANCER FOR MALE AND FEMALE – 1970-95



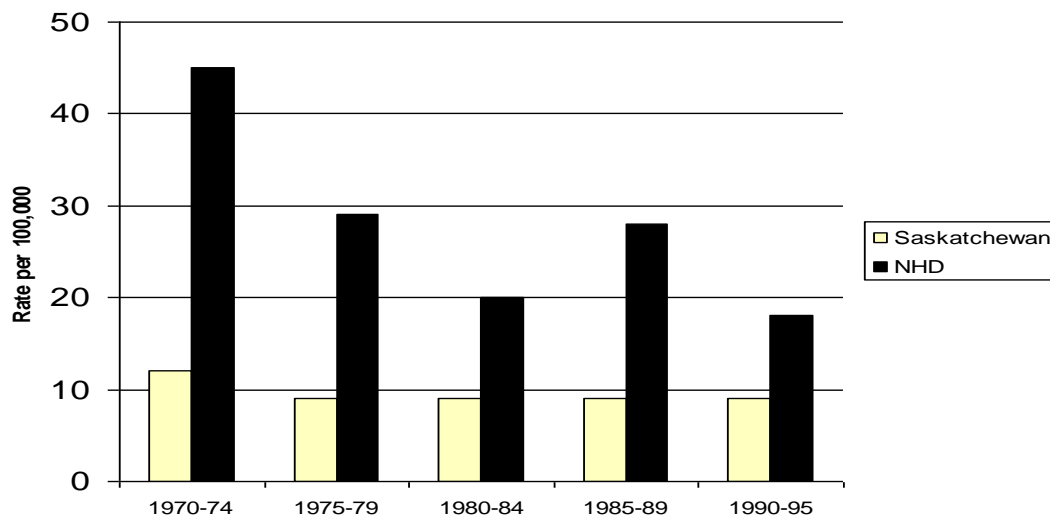
Cancer of the female breast was seen to be increasing rapidly from 1964 to 1988 in the previous study. This information was used to incorporate northern visits by the Breast Cancer Screening Program in Saskatchewan. This more recent study suggests a decrease in the most recent time period for breast cancer though the rates are still higher than the 1980-84 time period.

CANCER OF THE FEMALE BREAST – 1970-95



Cervical cancer continues to be a concern but the rates appear to be decreasing. The rates are more than half the rates of the 1970-74 time period but the decrease has slowed over the last 15 years with the rate for 1990-95 being only slightly lower than 1980-85. The rates in 1970-74 for the north were almost 4 times the provincial rate; for 1990-95 they are double.

CERVICAL CANCER - 1970-95



b) Diabetes

Eight non-reserve communities within the MCRHD and the KYHD reported a range of 20 to 70 prevalent cases of diabetes in each community in 1998. Sixty-seven percent of these 253 cases were female. Of the diabetics in the MCRHD, 54.3 percent were First Nations people living off-reserve.

In comparing diabetes rates in northern communities with the provincial average, it must be remembered that northern communities have a younger population (further studies with age-standardization will assist in this comparison). Among the eight non-First Nations population in the eight communities that have been studied so far, there was significant community by community variation (likely associated with the proportion of Aboriginal people in the community). One northern Metis community had a crude rate for non-First Nations people of 4.6%. In comparison, the crude prevalence of diabetes among Saskatchewan non-First Nations residents in 1991-96 was 3.64% and 4.52% for Saskatchewan First Nations residents. (Preliminary report of Saskatchewan Advisory Committee on Diabetes).

Diabetes is an increasing concern in northern Saskatchewan. It is a potentially preventable disease. Without prevention we are likely to see more and more people with diabetes seeking health services for diabetes or its complications.

Diabetes causes significant complications such as heart disease, kidney failure, blindness, and blood vessel disease in legs resulting in the need for amputations. These complications are preventable through diabetic treatment and management.

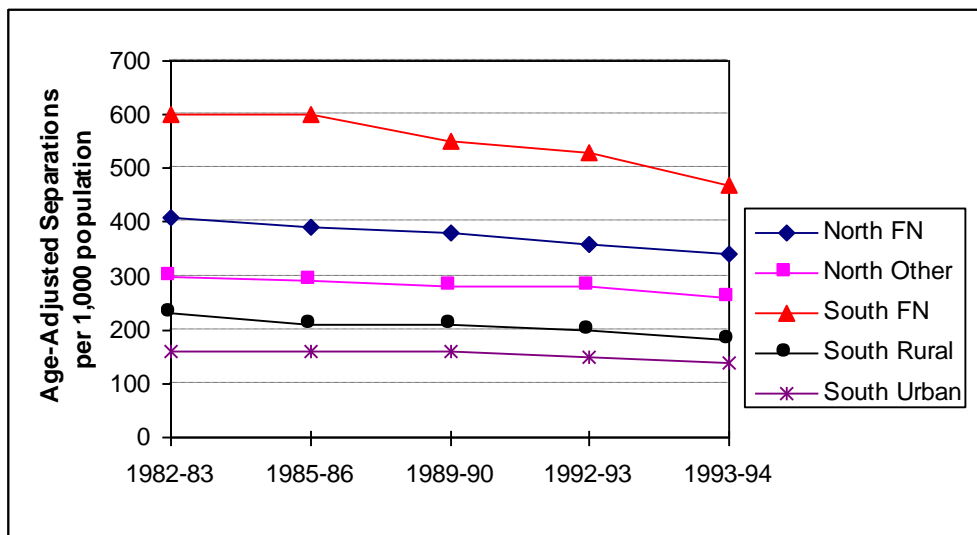
c) Hospitalization Rates (Population Based)

Hospitalization rates and the comparison of these rates between health districts are useful as rough indicators of health status. However, there are factors that contribute to the differences in rates of hospitalization between health districts. These factors include:

- Hospital bed availability
- Physician practice patterns
- Availability of suitable ambulatory care
- Home and community support
- Others

i) Overall Hospitalization Rates – Trends 1982-83 to 1993-94

**TREND OF AGE-ADJUSTED SEPARATIONS FOR ALL CAUSES,
BY STUDY GROUP, 1982-1994**



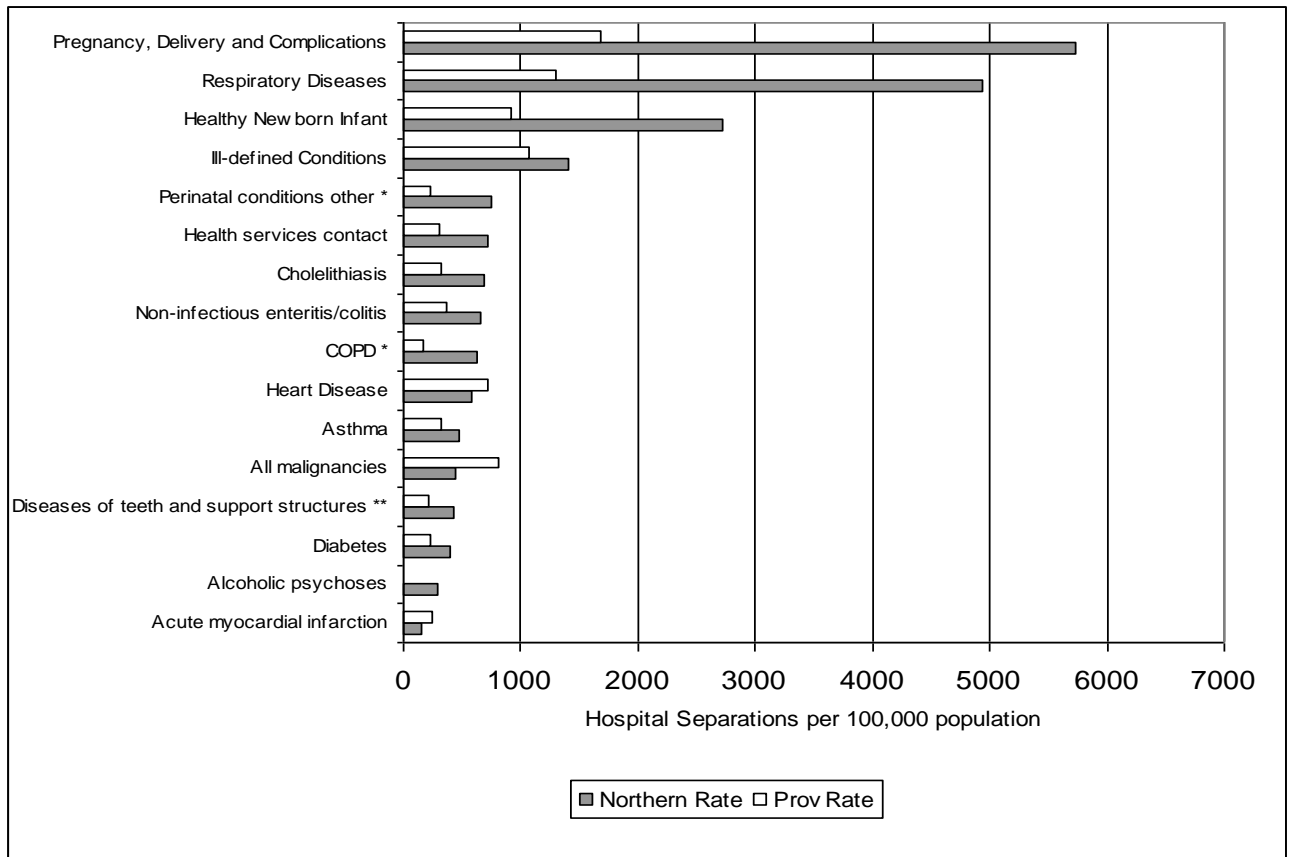
Source: NMS Hospitalization Study (Alvi, Tan, Irvine, Stockdale)

Hospitalization rates for all conditions combined have been higher in northern Saskatchewan than the rest of the province. When one looks at registered Indians in the province there were higher rates of hospitalization for southern First Nations, followed by northern First Nations. The rates of hospitalization have been decreasing slightly in all of the above groups. Since 1993-94, there may be further reduction in hospitalization because of the changes in hospital bed availability and the increased emphasis on community care.



ii) Hospitalization Rates for Diagnostic Groups

HOSPITALIZATION RATES FOR NORTHERN HEALTH DISTRICT AREAS, 1993-94 for COMMON DIAGNOSTIC CONDITIONS



Note: * Provincial average not available, comparison with Prince Albert Health District.

**Comparison with North East Health District.

Source: Saskatchewan Health, Population Health Branch, Hospital Separations 1993-94.

The hospitalization by diagnostic group information reveals the major role that maternal-child health and obstetrics/prenatal care plays in northern health services. The second most common reason for admission to hospital over all age groups was respiratory diseases including respiratory infections and pneumonias. Asthma was found to have a lower hospitalization rate than in southern health districts. In this study it was hard to assess the status of health from the injury and violence perspective as individual injuries were assessed and not grouped as “injuries” as a whole and thus did not make the top10 list of diagnostic conditions.

If one combines injuries together then it is seen as a higher issue of hospitalization. In children age 1 to 10 years, injuries were the third most common reason for admission to hospital in northern Saskatchewan and for the province as a whole. (Saskatchewan Institute on Prevention of Handicaps) Also a study of the hospitalization trends being done through Northern Medical Services Research and Development Committee (Tan, Irvine, Alvi, Stockdale) reveals injuries to be the third or fourth most common hospitalization.

For children age 0 to 19, falls are the most common injury resulting in hospitalization, but for females age 10 to 19 the most common injury requiring hospitalization is from self-injury whereas from males from 15-19 years, the most common hospitalized injury is from assaults. (Saskatchewan Institute on the Prevention of Handicaps. Child Injury in Saskatchewan)

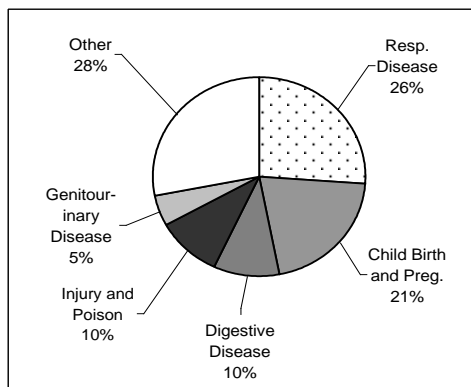


The following charts show the changes that have occurred in the five leading causes of hospitalization in northern Saskatchewan for First Nations and non-First Nations people. Comparison information is provided for a decade previous, as well as for southern Saskatchewan rural and urban populations. The information can be summarized as follows:

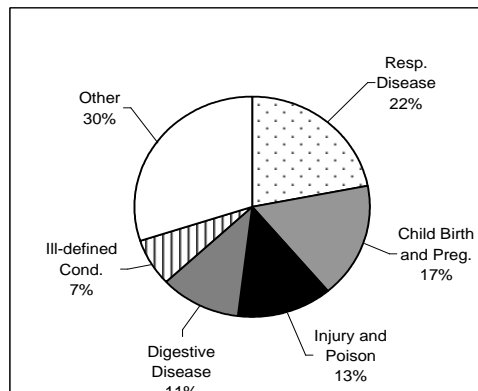
- Respiratory disease and childbirth and pregnancy related hospitalizations make up the two most common diagnostic groups for hospitalizations in the north followed by digestive diseases and injuries and poisonings.
- Respiratory diseases and childbirth and pregnancy related hospitalizations make up a greater proportion of hospitalizations in the north compared to southern Saskatchewan.
- Circulatory disease makes up a lower proportion of hospitalizations in the north compared to southern Saskatchewan.

THE FIVE LEADING CAUSES OF HOSPITALIZATION FROM 1982-83 TO 1993-94-

Northern Health District Area
First Nations
1993-94

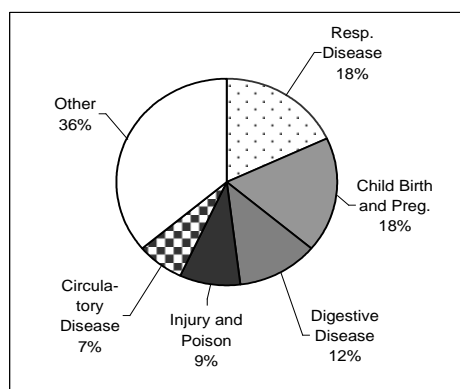


1982-93

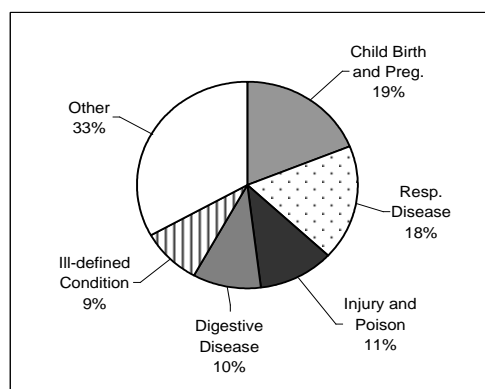


Northern Health District Area
Non-First Nations

1993-94

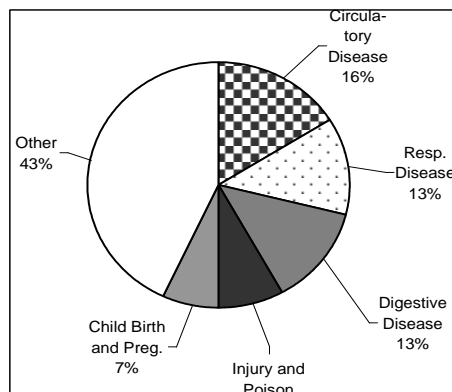


1982-83



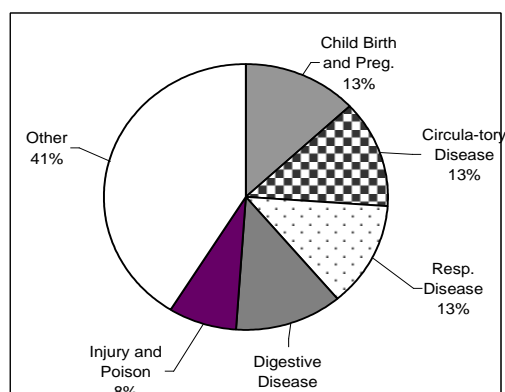
Saskatchewan Rural

1993-94



Saskatchewan Urban

1993-94



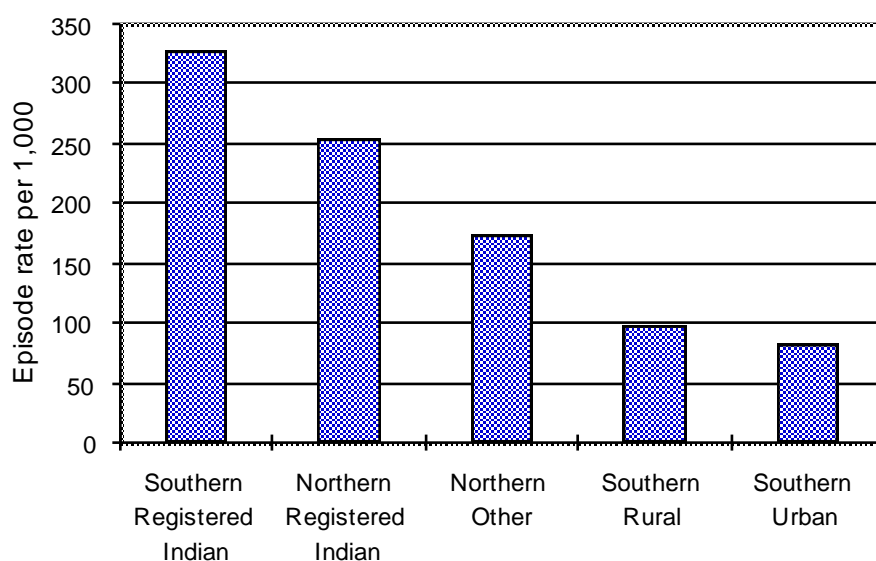
Source: NMS, Hospitalization Study in process (Tan, Alvi, Irvine, Stockdale)

iii) Hospitalizations in Children

Hospitalization accounts for a large portion of the expenditures in child health, and decreases in the rate of hospitalization can release funds and resources for other health initiatives. Some times of hospitalization in children can be used as an indicator as a breakdown in other aspects of health programming including the health promotion, community development, disease prevention, and ambulatory care service components of the health and medical care systems.

Rates of hospitalization in children are about three times higher for northern First Nations and twice as high for northern non-First Nations compared to the southern Saskatchewan population though the rates are lower than southern First Nations. (Source: Irvine. Pediatric Hospitalizations for Ambulatory Care Sensitive Conditions 1992/93)

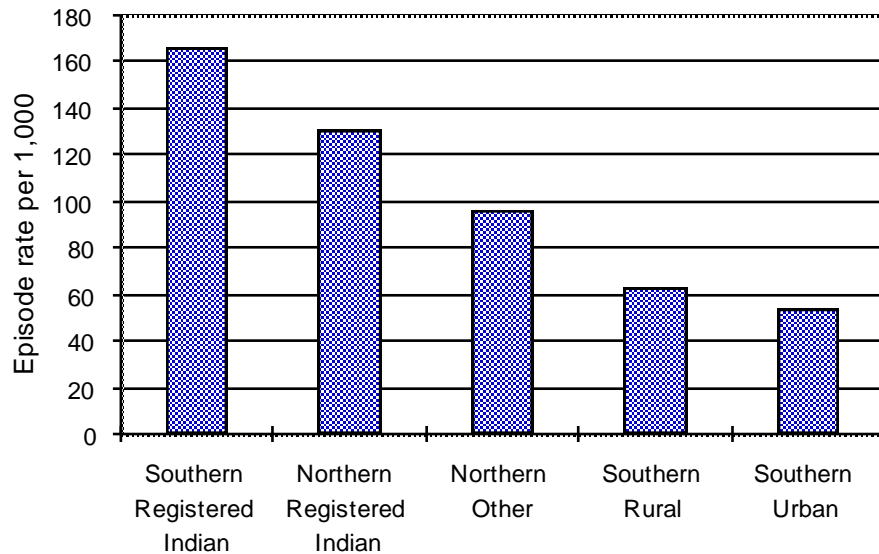
STANDARDIZED HOSPITAL EPISODE RATE – CHILDREN: 1992/93



The children at greatest risk of hospitalization are the less than one year age group, making up about 40% of the hospitalizations in children aged 0 – 14 years for northern First Nations and about 33% for northern other than First Nations children.

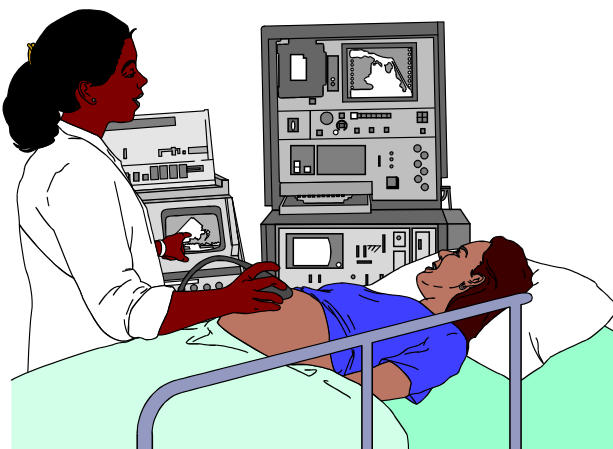
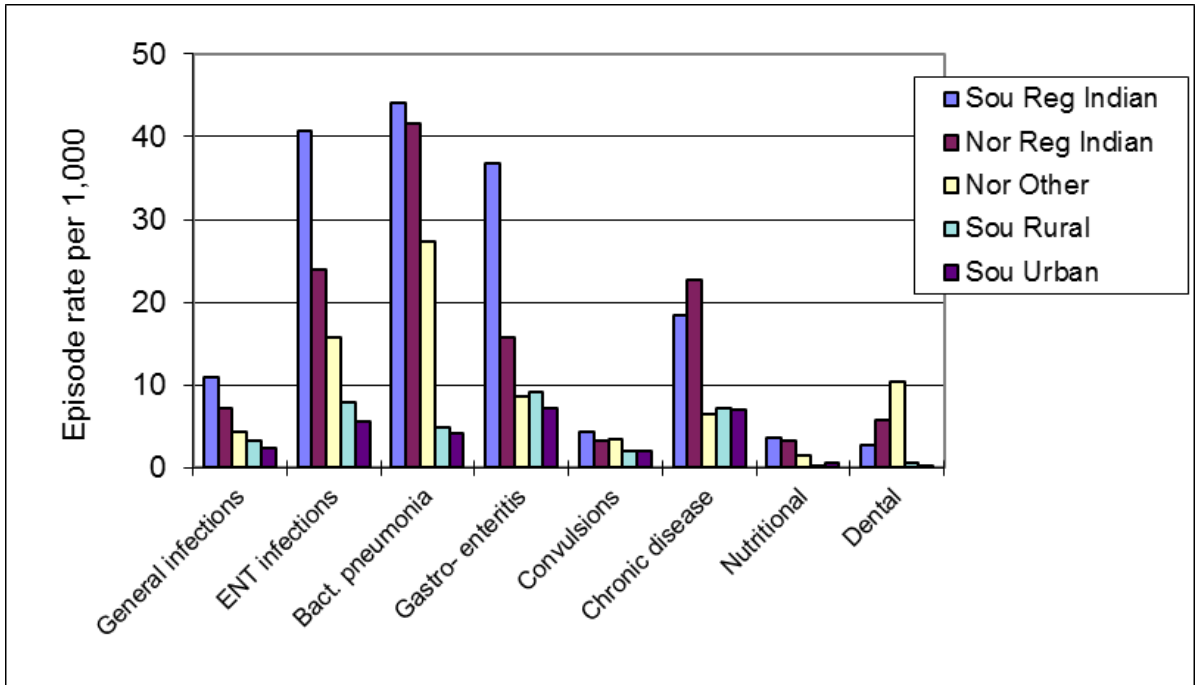
Hospitalizations for conditions that are potentially preventable by community ambulatory care services and community or family support are termed 'ambulatory care sensitive' hospitalizations. The rates in northern Saskatchewan for ambulatory care sensitive hospitalizations are higher than rates in southern Saskatchewan in 1992-93.

STANDARDIZED HOSPITALIZATION RATES IN CHILDREN FOR AMBULATORY CARE SENSITIVE CONDITIONS – 1992/93



Ambulatory care sensitive conditions can also be assessed by type or group. In looking at the hospitalizations for these conditions in northern Saskatchewan, it appears that the areas resulting in greatest discrepancy with the southern part of the province (and the areas for greatest potential improvement) are for ear, nose and throat infections (ENT), bacterial pneumonias and gastroenteritis. Note that the hospitalization rate for dental conditions was higher in Northern Other than Registered Indian children: this may be more of a reflection of the differences practice pattern of the dentist working with Northern Health Services Branch and the ones working with First Nations communities than a true reflection of health status.

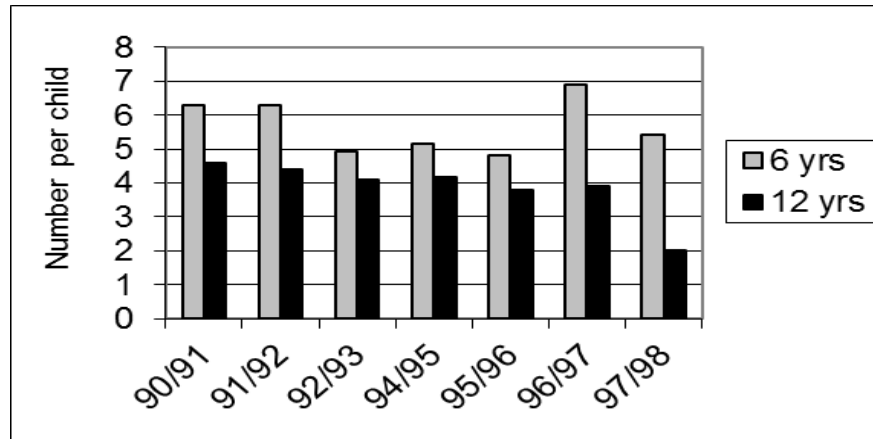
HOSPITALIZATION RATES FOR AMBULATORY CARE SENSITIVE HOSPITALIZATIONS BY TYPE 1992/93



d) Oral Health

A common indicator for oral health is the number of decayed, missing and filled teeth ('DMFT' for permanent teeth or 'deft' for 'decayed, extracted, filled teeth' for primary teeth). The following graphs show the average number of decayed, extracted or missing, and filled teeth per child surveyed during a periodic visit to the dental health program provided through Northern Health Services Branch during those time periods.

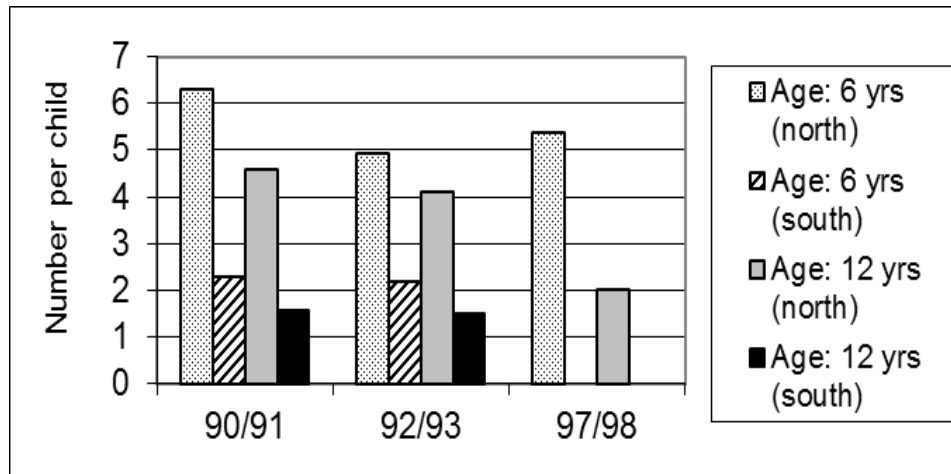
deft/DMFT – NORTHERN SASKATCHEWAN 1991/92 – 1997/98



Over the time period from 1990-91 to 1997-98 there appears to have been a gradual improvement in the dental health condition of the 12 year old children surveyed though there has been little change in 6 year olds during this time.

In order to assess the oral health in northern Saskatchewan a comparison was made with the results of southern surveys. The southern surveys did not utilize as extensive an assessment as the northern surveys (e.g. the southern surveys did not have the benefit of dental x-rays) and so it would be expected that the southern numbers would be somewhat lower. The surveys reveal that the oral health is substantially better in southern Saskatchewan children surveyed.

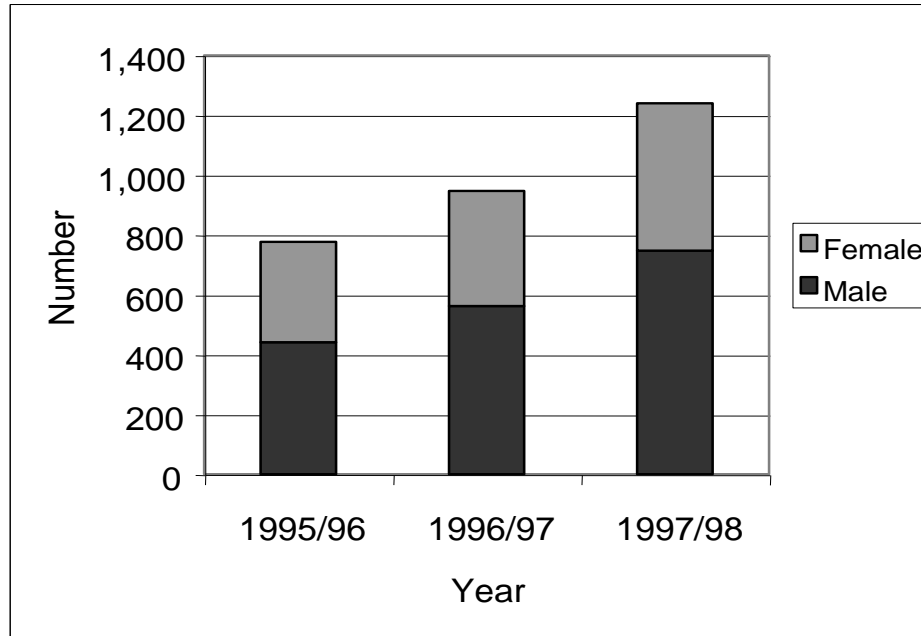
deft/DMFT COMPARISON – NORTHERN AND SOUTHERN SASKATCHEWAN



e) Addictions

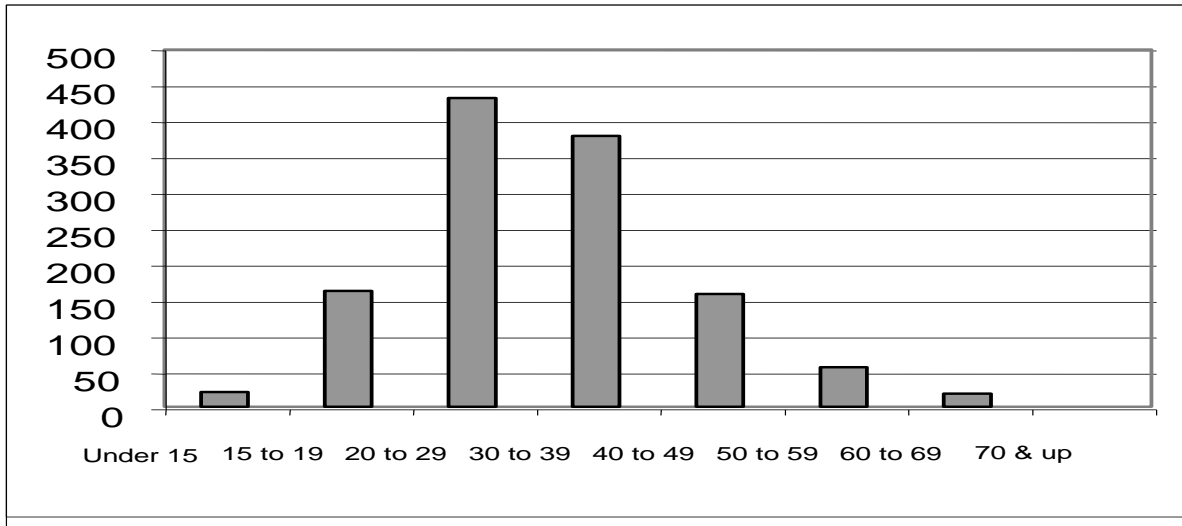
One addiction indicator is the utilization of addiction services. This provides some information on the clients utilizing the service as well as the extent of utilization. The utilization of the addiction services is not in itself a useful community health indicator as the utilization may increase or decrease from either changes in service or change on the rate of addiction in a community.

CLIENTS SERVED BY OFF-RESERVE ADDICTIONS PROGRAMS,
MCRHD AND AHA COMBINED

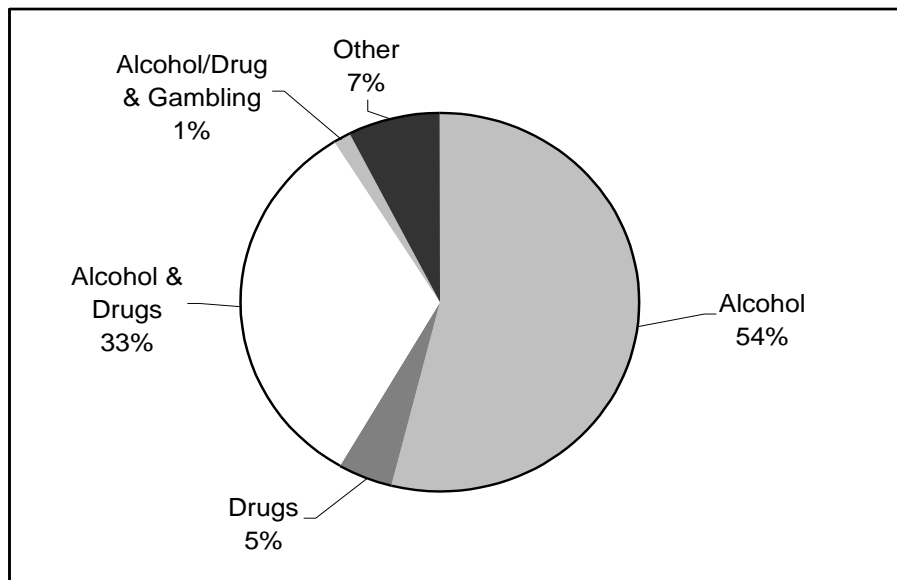


The number of clients served by off-reserve addictions programs has increased over the last 3 years. The largest age groups served are those between 30 and 49 years. Alcohol is the primary addiction named as the reason for seeking service; however, almost 40% name drugs as at least a contributing addiction.

AGE BREAKDOWN OF CLIENTS FROM MCRHD AND AHA AREAS
UTILIZING OFF-RESERVE ADDICTION SERVICES: 1997-98



CLASSIFICATION OF CLIENTS UTILIZING OFF-RESERVE ADDICTION
SERVICES BY TYPE OF ADDICTION 1995-98

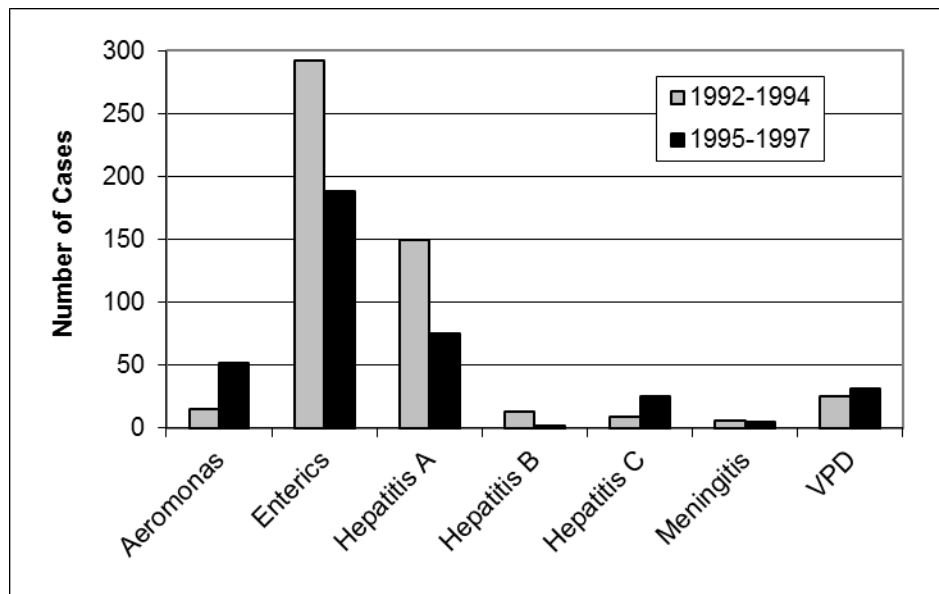


3. Reportable Communicable Diseases

a) Selected Notifiable Diseases

Specified communicable diseases are reportable to the Medical Health Officer through *The Public Health Act*. There is a surveillance program for many of these diseases and the Population Health Unit of the Keewatin Yatthé and Mamawetan Churchill River Health District monitors trends in these diseases in northern Saskatchewan.

SELECTED REPORTED NOTIFIABLE DISEASES, FOR MAMAWETAN CHURCHILL RIVER HEALTH DISTRICT, 1992 TO 1997



Aeromonas and 'Enteric' diseases include those that may be water or food-borne illnesses or passed from person to person, infecting the gastrointestinal tract. They include diseases caused by parasites (giardia, amoeba, cryptosporidium) and those caused by bacteria (campylobacter, shigella, salmonella and yersinia). An outbreak of shigella contributed to the large numbers of enteric infections in 1992-94. Aeromonas has been grouped separately from the other 'enterics' because it has become more easily recognized by lab testing more recently and so the increase in rate may be artificial – i.e. due to increased diagnosis and reporting because of testing capability rather than a true increase in disease.

Hepatitis A has been a common illness in northern Saskatchewan in the past, with outbreaks circulating through communities every few years. An immunization program was begun in communities experiencing new outbreaks in 1996, using a newly licensed vaccine. As a result the number

of cases in the Mamawetan Churchill River Health District dropped from 41 in 1995 to 26 in 1996 and 8 in 1997. The only case to be reported in the first half of 1998 occurred in January.

Hepatitis A has been a significant communicable disease in northern Saskatchewan, averaging about 61 cases per year (ranging from 6 in 1988 to 138 in 1992). Since the start of the new hepatitis A vaccine program in northern Saskatchewan, we have had only 1 case in 1998 up to July.

Hepatitis C first became reportable in the early 1990s. The main risk factor for new infections is injection drug use (IDU) with sharing of equipment such as needles, but it could also come from such things as tattooing and body piercing, if done under less-than-sterile conditions. Blood transfusions were a major factor for infections prior to the early 1990s.

RISK FACTORS IDENTIFIED AMONG HEPATITIS C CASES, MCRHD, 1992 TO 1997 (N=33)		
	n	%
IDU	16	48.5
Hemophilia	2	6.1
Blood Recipient	5	15.2
Others	15	45.5

In the above chart, an individual may have had more than one risk factor, so the total risk factors identified add up to more than the number of clients with hepatitis C.

AGES OF REPORTED HEPATITIS C CASES, MCRHD, 1992-97				
0-14	15-24	25-44	45-64	Total
3	7	15	8	33

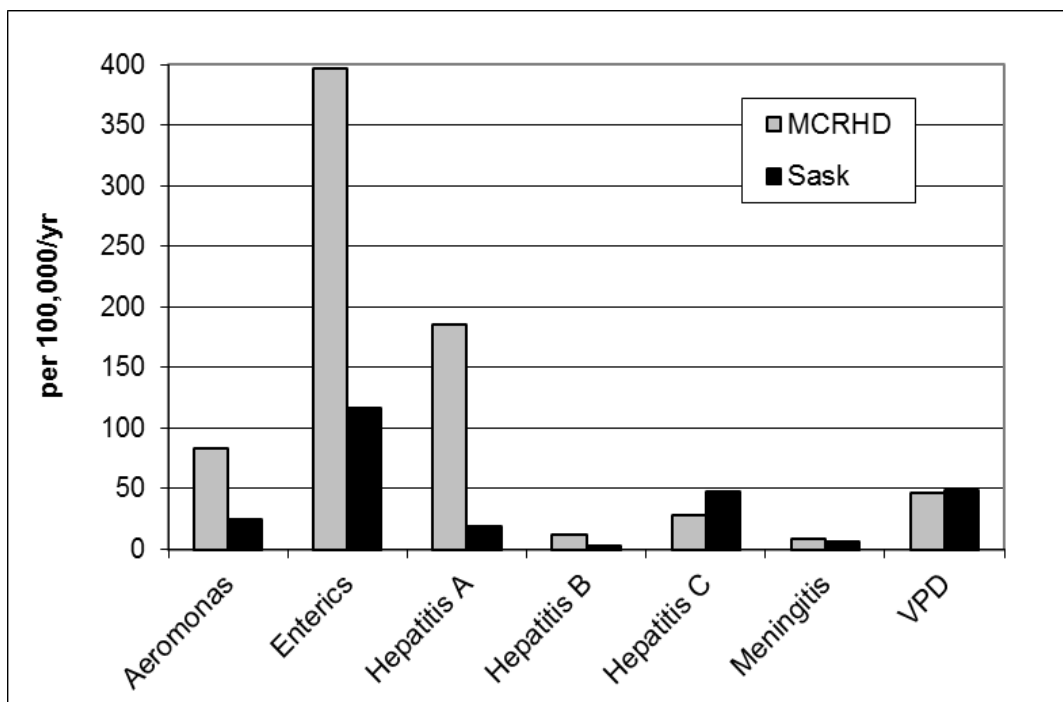
In northern Saskatchewan, injection drug use is the most common risk factor for hepatitis C.

Meningitis: Diseases classified under meningitis include all forms of meningitis as well as meningococcal septicemia (a blood infection caused by a bacteria that can also cause meningitis).

Vaccine preventable diseases (VPD) in this report refer to measles, mumps, pertussis and rubella. An outbreak of rubella (German measles) which started in 1991 and northern continued into 1992 and 1993 and increased numbers of pertussis in 1995-97 contributed to the large numbers of vaccine-preventable diseases in the past 6 years throughout Saskatchewan. A program to immunize adolescent boys who had not previously been eligible for rubella vaccine and the introduction of a second dose of Measles and Rubella vaccine has been successful in keeping the number of new rubella cases to one in the last 4 years. In 1997 a new pertussis vaccine was introduced, with the benefits of being more effective, causing fewer side effects, and thus we hope will be more acceptable to parents.

The higher rates of aeromonas, enteric diseases and hepatitis A among Mamawetan Churchill River Health District residents in comparison to other Saskatchewan residents reflect the life circumstances of many people, which include crowded living conditions, inadequate water and sewage systems, as well as a more communal lifestyle.

COMMUNICABLE DISEASE RATES IN MCRHD COMPARED TO THE PROVINCE, 1992-97*



The MCRHD rates for aeromonas are based on an average for 1994-97; Saskatchewan rates are based on an average for 1996-97.

😊 Aeromonas and other enteric disease diagnosed by laboratory are over three times greater in MCRHD than the provincial average. These illnesses are influenced by the availability of safe water to drink and wash.

😞 The rate of hepatitis A in northern Saskatchewan over the last decade has been 8 times greater than in southern Saskatchewan. The new vaccine program is likely to make a marked improvement.

b) Tuberculosis

Tuberculosis continues to be a concern in northern Saskatchewan. Saskatchewan is the province with the highest rate of tuberculosis in Canada and northern Saskatchewan has the highest rate in the province.

For 1985-87 (the last available time for info on TB by Census Division), northern Saskatchewan had the highest rate of tuberculosis of any census division in Canada.

The tuberculosis rate has remained relatively stable in northern Saskatchewan over the past few years. However, there have been major differences in individual communities on a year by year basis. Usually, once a case of TB has been found in one community, an intensive assessment of contacts turns up more cases. Over the next years that community will have a higher TB rate, followed by a reduction. Another community can be affected later. Thus caution is advised when assessing TB by area, health district, community, or by reserve status by a one year period only as rates change in these groups over the years.

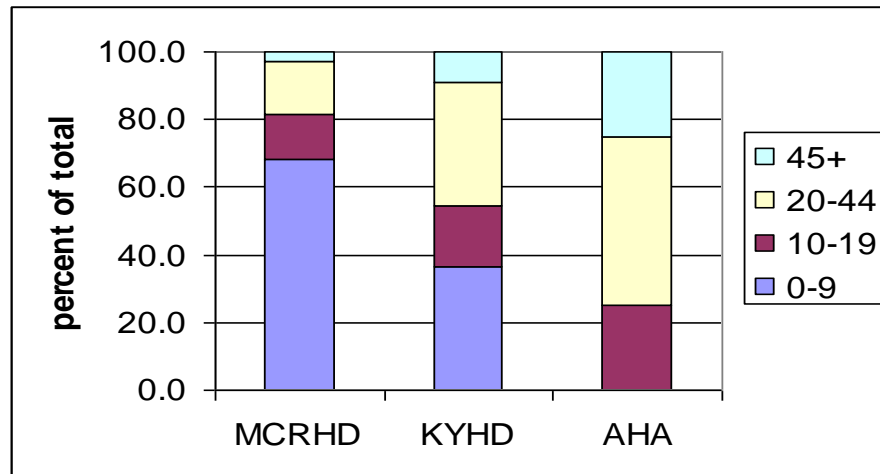
NEW ACTIVE TUBERCULOSIS CASES, NORTHERN SASKATCHEWAN, 1997				
	MCRHD	KYHD	AHA	Total
number	38	22	4	64
% on reserve	100.0	4.5	75.0	65.6
% treaty	100.0	27.3	100.0	75.0
% < 10 years old	68.4	36.4	0.0	53.1

(In addition there were 2 reactivated cases in MCRHD, 4 in KYHD and 1 in AHA, restarted on treatment in 1997.)

In Saskatchewan for 1996:

- ⊗ There were 112 new cases of TB reported.
- ⊗ Metis had the highest rate of TB at 108 per 100,000 followed by First Nations at 84 per 100,000 with a provincial rate of 11 per 100,000.
- ⊗ Northern Saskatchewan had 57% of the new TB cases (with about 2.3% of the population).

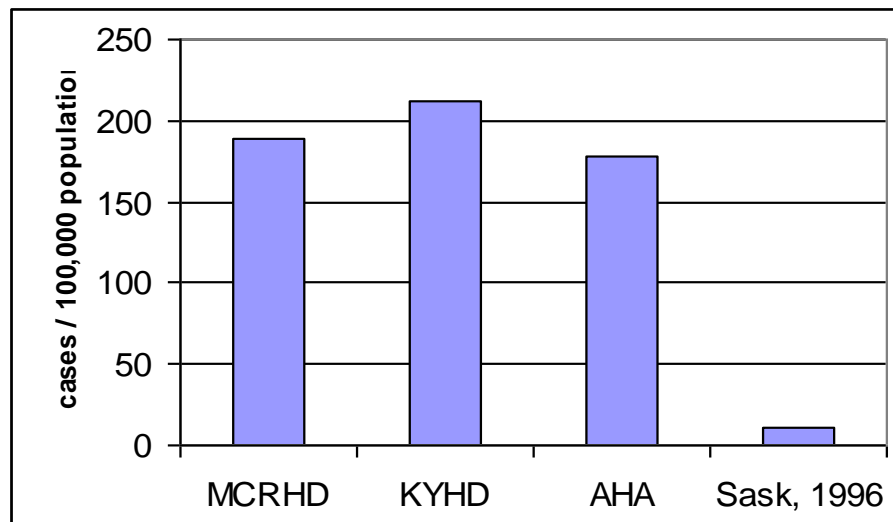
PROPORTION OF NEW TUBERCULOSIS CASES BY AGE GROUP
FOR NORTHERN HEALTH DISTRICT AREAS, 1997



Over 60% of the cases of tuberculosis in the MCRHD are in children below the age of ten years.

The rate of new cases of tuberculosis is almost 18 times greater for MCRHD than the provincial rate.

RATE OF NEW ACTIVE TUBERCULOSIS CASE, BY HEALTH DISTRICT,
1997 COMPARED WITH SASKATCHEWAN, 1996



c) **Sexually transmitted infections**

Gonorrhea and chlamydia cases represented 96 % of all sexually transmitted infections that were reported in the Mamawetan Churchill River Health District in 1997. The ages of gonorrhea and chlamydia cases in northern Saskatchewan ranged from 13 to 63 years, with 72.3 % of MCRHD cases being between the ages of 15 and 24 years. Other infections reported included genital herpes, syphilis, and human papilloma virus infection.

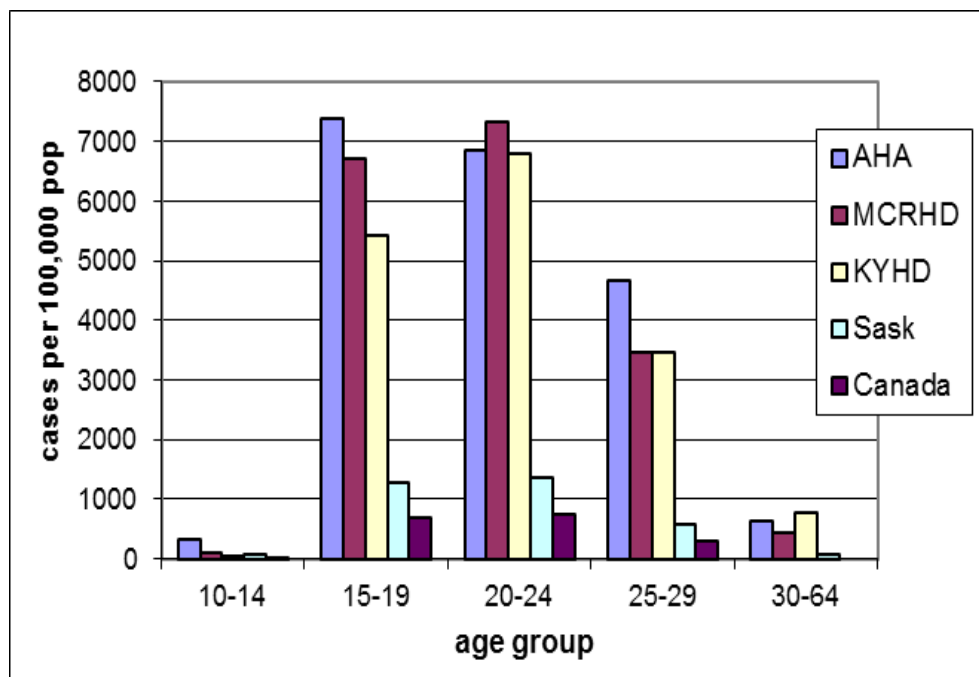
The numbers of chlamydia and gonorrhea cases reported for each community and age group are shown in the following table. Once cases are diagnosed and confirmed by laboratory testing, they are all reported into the surveillance system. However, more than half of gonorrhea and chlamydia infections can be without symptoms, particularly in women. The numbers of cases that are reported depends not only on numbers of actual infections, but also on the amount of screening that is done by physicians and primary care nurses.

1997 Reported Chlamydia and Gonorrhea Cases, By Age Group, MCRHD						
	10-14	15-19	20-24	25-29	30-64	Total
Total	8	125	120	57	29	339

Undiagnosed or untreated chlamydia infections can stay on for months and be passed on to sexual contacts. As stated in Health Canada's *Sexually Transmitted Disease Surveillance in Canada, 1995 Annual Report*, "For females, complications resulting from untreated or under-treated chlamydia can be severe: ectopic pregnancy (30%), pelvic inflammatory disease (25%-65%) and infertility. Vertical transmission [mother to child] of chlamydia is the primary pathogen responsible for infant infectious conjunctivitis (40%) and infant pneumonia (73%)." Regarding gonorrhea, the report states, "Approximately 20 % of affected women will have uterine invasion resulting in endometritis, salpingitis or pelvic peritonitis. If not treated or under-treated, pelvic inflammatory disease and infertility can result." In addition to the actual cost to the health care system and to the health of individuals, the high numbers of chlamydia and gonorrhea cases represent a real risk for the devastating effects of other sexually transmitted infections such as HIV and hepatitis B. Cervical cancer can be also be thought of as a sexually transmitted disease because of the factors contributing to the development of this cancer.

The following chart compares the 1997 age-specific rates for gonorrhea and chlamydia for each of the northern health districts with the corresponding 1995 rates for Saskatchewan and Canada. The 1997 age-specific rates for Saskatchewan and Canada were not available, but the rate for these diseases for all age-groups combined decreased in Saskatchewan from 267.8 cases per 100,000 population in 1995 to 259.1 cases per 100,000 in 1997. The Canadian rate for the 30 to 64 age group was not available. The Canadian rate may not be as good a comparison as the Saskatchewan rate because of the variable efficiency of reporting systems in different provinces.

**AGE-SPECIFIC RATES OF GONORRHEA AND CHLAMYDIA: 1997
NORTHERN HEALTH DISTRICTS' RATES COMPARED WITH 1995
SASKATCHEWAN AND CANADIAN RATES**

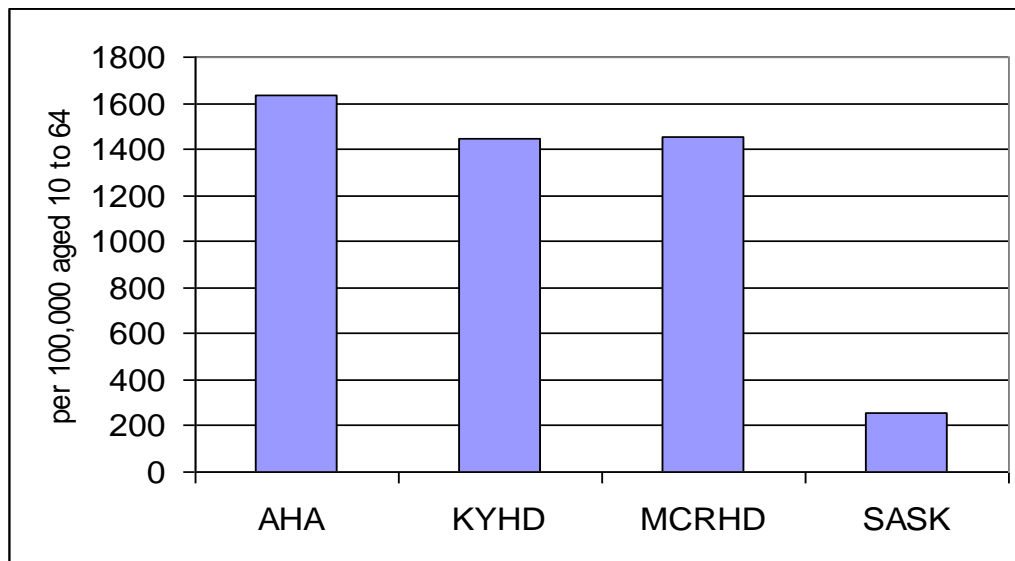


Source: Northern Health Services Branch data for the northern districts; CD Control, Saskatchewan Health preliminary data for Saskatchewan; Health Canada, Sexually Transmitted Disease Surveillance in Canada 1995 Annual Report, 1997.

The 20-24 year age group in the Mamawetan Churchill River Health District had the second highest reported rate of 7319.6 cases per 100,000, which was over 5 times the 1995 Saskatchewan rate and almost 10 times the 1995 Canadian rate for the same age group.

The age-standardized rates for chlamydia and gonorrhea were 6.3 times higher for communities within the Athabasca basin and 5.6 times higher for the Keewatin Yatthé and the Mamawetan Churchill River health districts than for Saskatchewan in 1997. The age groups at greatest risk are the 15-24 year olds.

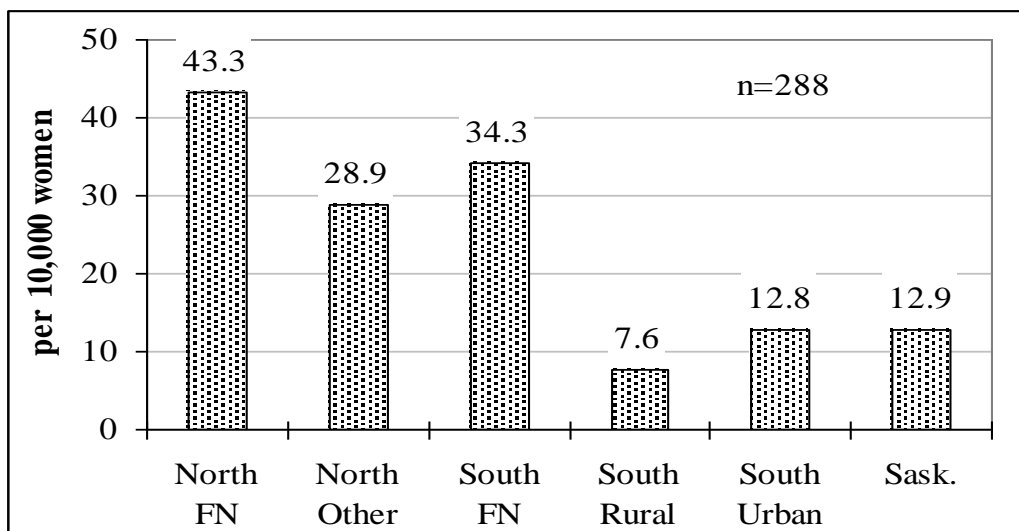
AGE-STANDARDIZED RATES OF CHLAMYDIA AND GONORRHEA FOR THE NORTHERN HEALTH DISTRICTS AND SASKATCHEWAN, 1997



Source: Northern Health Services Branch data for the northern health districts, preliminary CD Control data for Saskatchewan
Note: Rates were age-standardized to the 1997 Saskatchewan population

Pelvic infection, infertility and ectopic pregnancy are seen as a few of the consequences of sexually transmitted infections with major impacts on an individual's health as well as on the costs of hospitalization, medication and surgery. The rates of ectopic pregnancies in northern Saskatchewan are significantly higher than in southern Saskatchewan.

AGE-STANDARDIZED RATE OF ECTOPIC PREGNANCY PER 10,000 WOMEN AGED 15 - 44, 1992/93



Source: Stockdale D. The Study of Obstetric Hospitalization Rates of Northern Saskatchewan Women and Saskatchewan Registered Indian Women in 1992/93

d) HIV infections

In Saskatchewan, HIV infections are reported to Saskatchewan Health without the inclusion of names (non-nominally). In 1997, about 50% of Saskatchewan cases had Injection Drug Use as a risk factor compared with 12.2% in 1992.

The numbers of HIV infections among Aboriginal people in Saskatchewan and the proportion of the total cases reported each year who are Aboriginal have grown over the last several years, as shown in the following table and charts. The age distribution for Aboriginal HIV cases was slightly younger (13.5% over age 39 years) than for non-Aboriginal cases (22.8% over age 39).

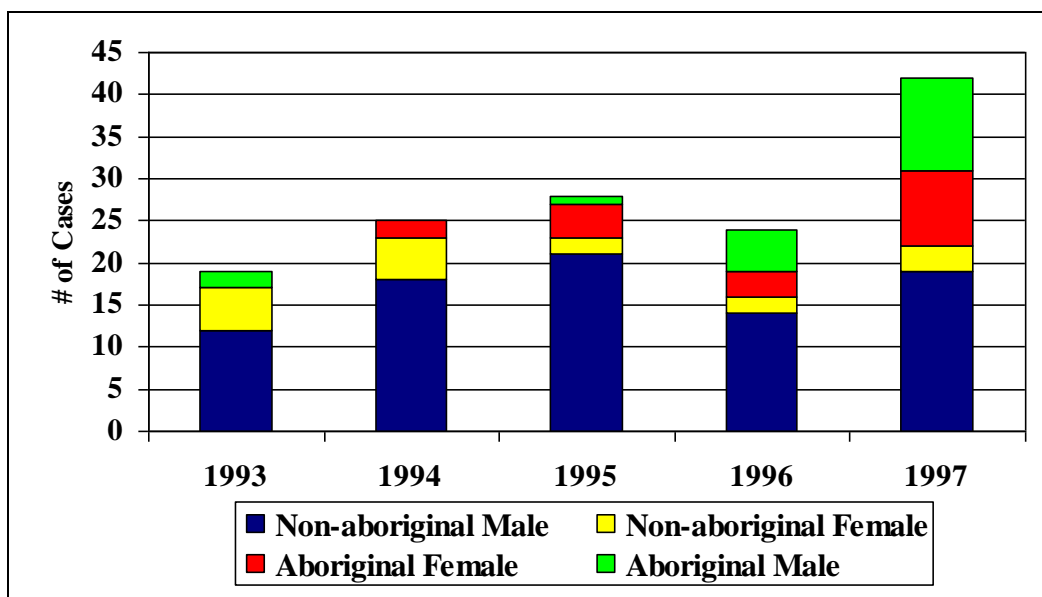
NUMBER OF REPORTED HIV CASES IN SASKATCHEWAN,
BY ETHNIC ORIGIN AND YEAR REPORTED

	1995	1996	1997
Aboriginal	7	9	20
Caucasian	4	13	15
Other	4	2	5
Not Stated	13	-	2
Total	28	24	42

Source: Saskatchewan Health data

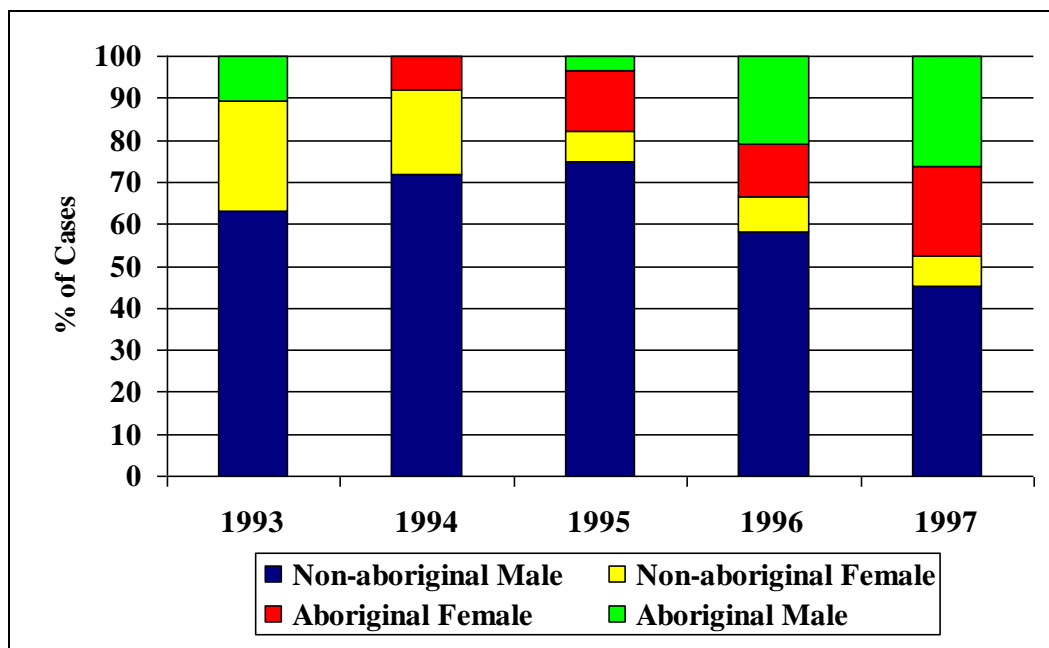
Note: Numbers of HIV cases reported for Aboriginal people include First Nations, Métis and non-status Indian people.

TOTAL REPORTED HIV CASES IN SASKATCHEWAN, 1993 TO 1997



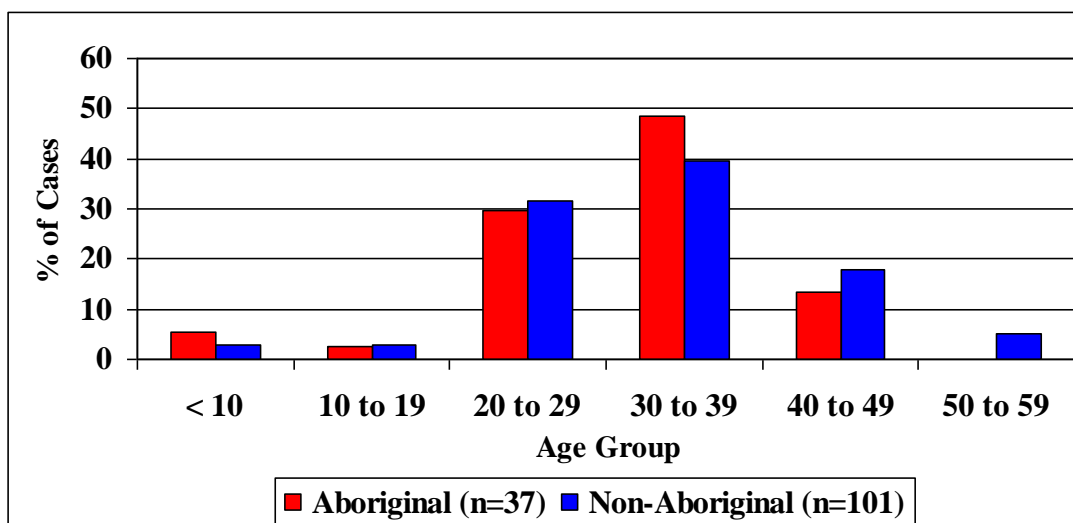
Source: Hudson, S, MD. The Epidemiology of HIV in Aboriginal People in Saskatchewan. (Saskatchewan Health data)

PROPORTION OF REPORTED HIV CASES, SASKATCHEWAN 1993 TO 1997, BY GENDER & ETHNICITY



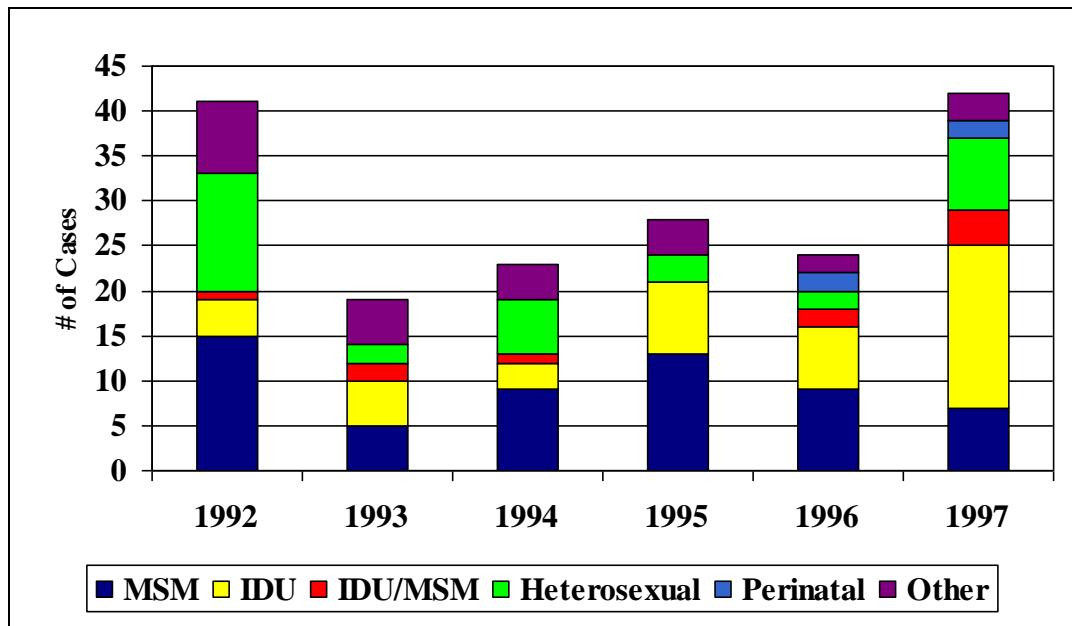
Source: Hudson, S, MD. The Epidemiology of HIV in Aboriginal People in Saskatchewan. (Saskatchewan Health data)

NEWLY REPORTED HIV CASES Age Distribution of Cases Saskatchewan 1993 - 1997



Source: Hudson, S, MD. The Epidemiology of HIV in Aboriginal People in Saskatchewan. (Saskatchewan Health data)

NEWLY REPORTED HIV CASES IN SASKATCHEWAN,
BY EXPOSURE/RISK CATEGORY, 1992 TO 1997



Source: Hudson, S, MD. The Epidemiology of HIV in Aboriginal People in Saskatchewan. (Saskatchewan Health data)

4. Maternal-Child Health Indicators

The health of mothers and infants is an important aspect of the health of the community as it often reflects the health of the future. Various measures are used to compare the health status between areas including the Infant Mortality Rate (IMR), low birth weight rate, preterm birth rate, as well as such information as the rate of births, pregnancy or fertility, birth complications, Caesarian section rates and the rate of births to single teenage mothers.

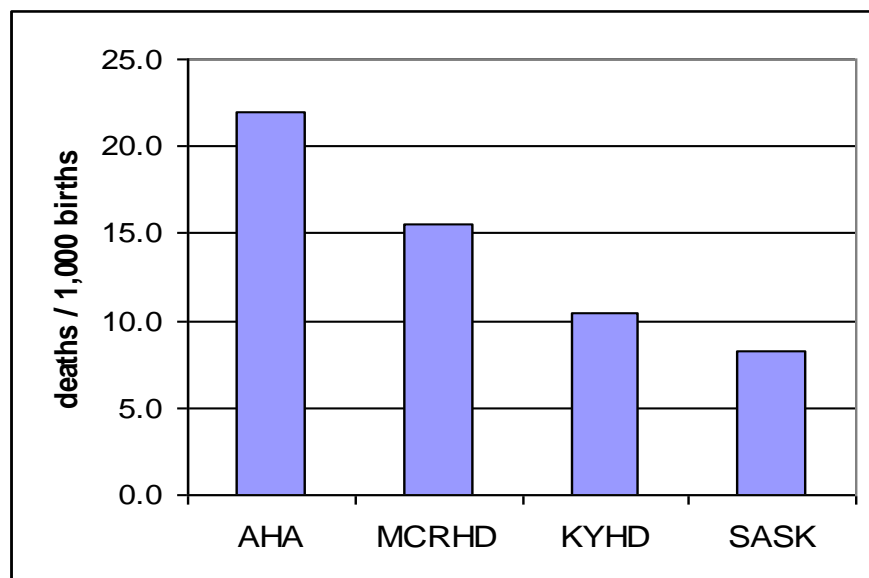
SELECTED CHARACTERISTICS OF LIVE BIRTHS: NORTHERN HEALTH DISTRICT AREAS 1989-94

	Northern Health Districts	Saskatchewan
Number of live births / year	812	17,896
Low-birth weight (% of live births)	4.9%	5.2%
High-birth weight (% of live births)	18.7%	13.4%
Preterm live births (% of live births)	6.9%	6.3%
Births to single teenage mothers (% of live births)	25.4%	9.9%

Source: Saskatchewan Institute on Prevention of Handicaps; Critical Issues, 1997

a) Infant Mortality Rate

INFANT MORTALITY RATE FOR NORTHERN HEALTH DISTRICT AREAS AND SASKATCHEWAN, 1992-96



Source: Sask Health data

There have been marked improvements in the infant mortality rate in northern Saskatchewan over the last decades. The northern Saskatchewan rate in the early 1950's was between 110-160 per 1,000 live births (compared to about 33 for the province) and around 60 per 1,000 in 1960 (with a provincial rate of about 24).

There has been about a ten-fold reduction in infant mortality in northern Saskatchewan since the early 1950s. However, there continues to be a increased rate of infant deaths in northern Saskatchewan with rates ranging from 2.7 times the provincial rate in AHA area, almost twice the provincial rate in the MCRHD, and 1.27 times the provincial rate in the KYHD.

b) Low Birth Weight

Birth weight is seen as an important indicator of the health status of the population. The WHO considers that the proportion of births of 2500 grams or over is an essential overall indicator in monitoring progress toward attaining a better state of health. (CIHI; Community Health Indicators).

The proportion of births considered to be low is slightly less in the northern districts (4.9%) than in the province as a whole (5.2%). For Canada as a whole, the proportion is 5.5% (1991). Thus, for this indicator it appears that the north is faring better. This needs to be interpreted with caution in light of the higher incidence of high birth weight in the north (18.7% in the north compared to the provincial average of 13.4%) and the research linking high birth weight and diabetes.

The low-birth weight rate in northern Saskatchewan has been decreasing from 7.2% in 1975. It has been lower than the provincial rate since 1983.

LOW BIRTH WEIGHT RATE – 1992-96

Health Area	Low birth weight rate
MCRHD	4.4
KYHD	5.2
AHA	3.8
Provincial Average	5.2
Range of All Health Districts	3.2 to 6.3
Source: Saskatchewan Health Data	

c) High Birth Weight

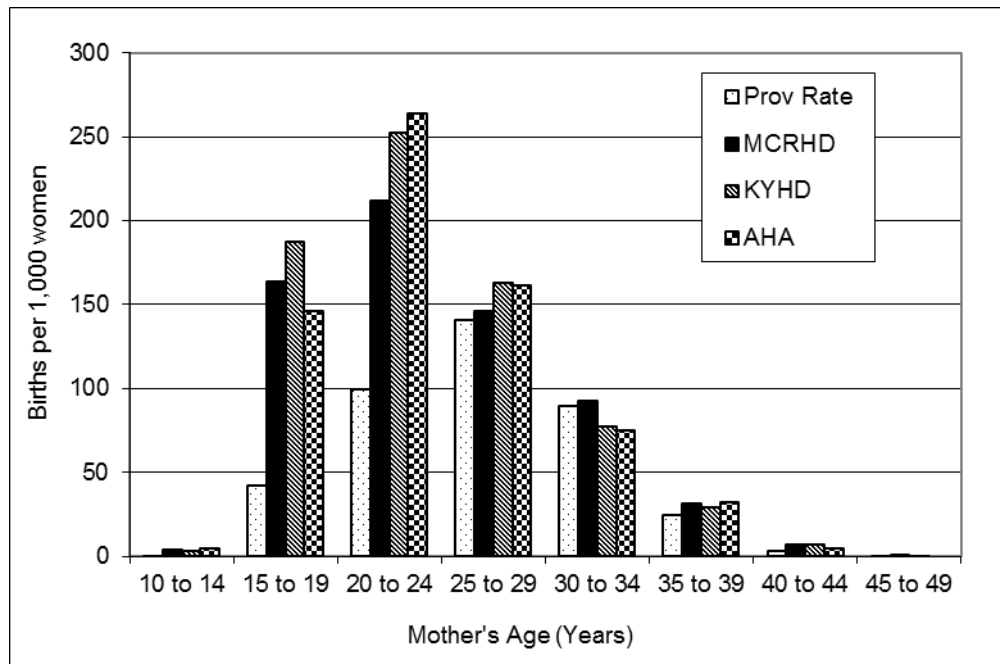
The proportion of live births, considered as high weight (over 4000 grams), is higher in the northern health districts (18.7%) compared to the province as a whole (13.4%).

d) Birth Rate by Mothers' Age

In most age groups the birthrate is higher in the Mamawetan Churchill River and Keewatin Yatthé Health Districts and the Athabasca area than the provincial average rate except in the 30 to 34 year age group. The widest gap in the fertility rate between the northern health district areas and the other health districts is in the 10 – 14 year age group (5.8 times the provincial rate); followed by the 45 – 49 year age group (5.6 times the provincial rate); and the 15 – 19 year age group (4.0 times the provincial rate).

In northern Saskatchewan, the rate of births in 10 – 14 year old girls is 5.8 times the provincial rate, and for 15 – 19 year olds, is 4.0 times the provincial rate.

**AVERAGE ANNUAL BIRTH RATES, BY MOTHER'S AGE, 1992 - 1996:
NORTHERN HEALTH DISTRICTS COMPARED WITH SASKATCHEWAN**



Source: Sask. Health Data; Rates Based on 1997 population.

e) Adolescent pregnancy

Adolescent pregnancy rates are usually compared looking at the number of births by mother's age between 15 and 19 years. In 1991, the provincial rate for teen births for 15- 19 years old mothers was 45 and rate for those age 10 to 14 was 0.86 (Sask Health, Advisory Committee on Family Planning). The rates in northern Saskatchewan are significantly higher. Of particular concern is the number of births in the 10 to 14 year old girls.

Preliminary Vital Statistics data forward to Northern Health Services Branch from 1992 – 1996 showed that 48% of mothers aged 15 – 19 were 15 to 17 years old and 52% were 18 – 19 years old.

BIRTHS TO ADOLESCENT MOTHERS IN THE NORTHERN SERVICE AREA FOR THE 5 YEAR PERIOD: 1992-96

Health District	number		rate per 1,000 / yr	
	10 to 14	15 to 19	10 to 14	15 to 19
MCRHD	20	644	3.8	163.8
KYHD	10	390	3.6	187.7
AHA	4	79	4.9	146.3
Total North	34	1,113	3.9	169.9
Sask.	133	8,166	0.7	42.7

Prenatal, maternity, and infant care are important issues in northern Saskatchewan because of the increased birth rate and the higher infant mortality rate. Other indicators to look at prenatal and maternity care include such things as the admissions to hospital for prenatal complications of pregnancy, obstetrical complication rates and the C-Section rate (useful for obstetrical services planning).

f) Antenatal complications

Hospitalization rates for antenatal complications are influenced by physician practice patterns, availability of hospital bed and alternative health care services, severity of illness exacerbated by not using ambulatory services, the incidence of underlying illness, access to social and family support, parity, gestational age, and other demographic and socio-environmental factors.

Northern women had higher age-standardized rates of antenatal episodes of care per 100 pregnancies in comparison with southern rural women, who had the lowest rate of 21.9 antenatal episodes per 100 pregnancies in 1992-93.

AGE-STANDARDIZED ANTENATAL HOSPITALIZATION RATES, SASKATCHEWAN, 1992-93

	Age-Standardized Rate (episodes per 100 pregnancies)
North First Nations	28.3
North Other	32.2
South First Nations	44.1
South Rural	21.9
South Urban	26.2

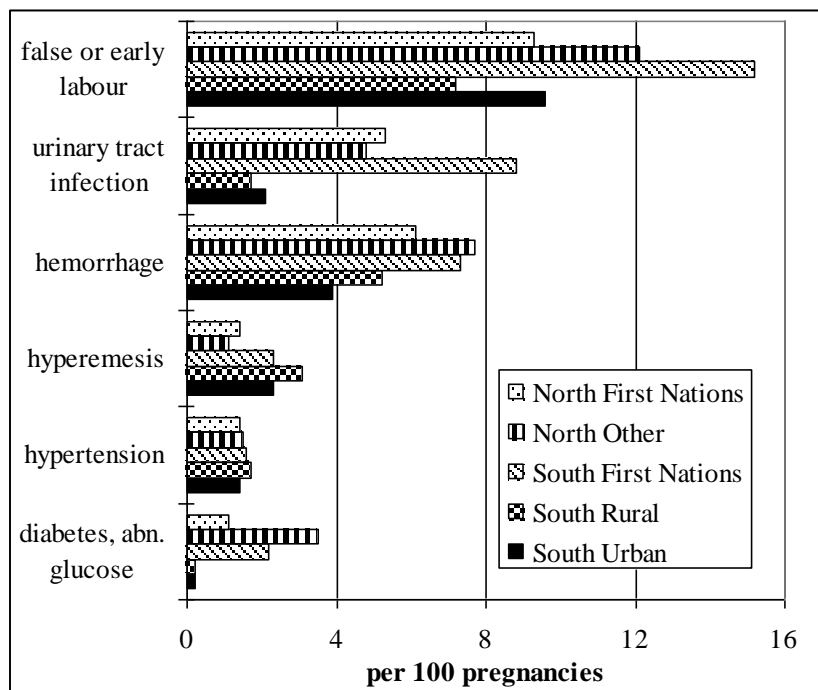
Among the antenatal hospitalizations which may be considered potentially preventable, northern First Nations women had significantly higher hospitalization rates for diabetes or abnormal glucose and for urinary tract infection per 100 pregnancies than southern rural women in 1992-93, as shown in the following chart.

Northern other than First Nations women had significantly higher rates of antenatal episodes for diabetes or abnormal glucose per 100 pregnancies compared to southern rural women. They also had significantly higher rates for urinary tract infection, hemorrhage of pregnancy, and false or early labour than southern rural women.

Both groups of northern women had similar antenatal hospitalization rates for hypertension and significantly lower rates for hyperemesis (excessive vomiting) in comparison with southern rural women in 1992-93.



**CRUDE RATES OF ANTENATAL HOSPITAL EPISODES,
SASKATCHEWAN, BY DIAGNOSIS AND STUDY GROUP, 1992/93**



Source: Stockdale D. The Study of Obstetric Hospitalization Rates of Northern Saskatchewan Women and Saskatchewan Registered Indian Women in 1992/93

Also of interest but not shown above, diagnoses for infectious diseases occurred in 17 antenatal hospital episodes of care in Saskatchewan in 1992-93, all for northern or First Nations women, giving a rate of 5.5 hospitalizations per 1,000 pregnancies.

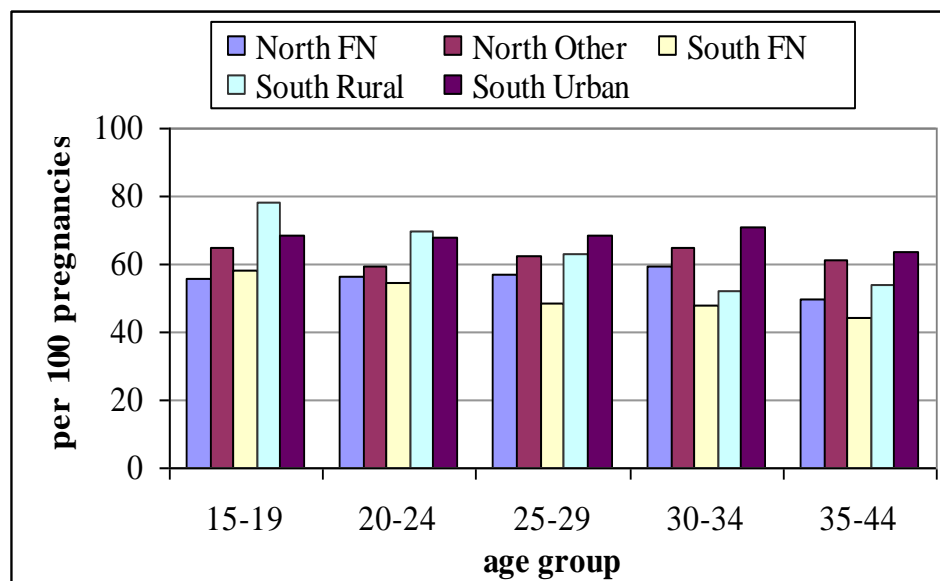
g) Complications in Labour and Delivery

The diagnostic group of Complications Of Labour And Delivery (ICD-9 660.0-669.9, Canadian List Number 150) includes deliveries with difficult labour, umbilical cord complications, obstetric trauma, postpartum hemorrhage, retained placenta or membranes, and complications of the administration of anesthetic or other sedation. The age-standardized hospitalization rates for this diagnostic group were significantly lower for first Nations women (56.7 episodes per 100 deliveries for northern FN; 50.4 per 100 deliveries for southern FN) in comparison with southern rural women (62.2 episodes per 100 deliveries). Northern other than First Nations women had 62.3 episodes with complications per 100 deliveries.

Hospitalization rates for the specific diagnoses of obstruction, abnormal forces of labour and long labour per delivery were significantly lower for both northern and southern First Nations women in comparison to southern rural women in 1992-93. However, rates of umbilical cord problems, obstetric trauma and the group of postpartum hemorrhage, retained placenta, anesthetic and other complications per pregnancy were similar for northern and First Nations women compared with southern rural women.

The difference in age-specific hospitalization rates of labour and delivery complications between northern women and southern rural women were greatest in the age groups of 15 to 19 years and 20 to 24 years, with rates being lower for northern women as shown below.

AGE-SPECIFIC RATES OF LABOUR AND DELIVERY COMPLICATIONS IN SASKATCHEWAN, BY STUDY GROUP, 1992/93



Source: Stockdale D. The Study of Obstetric Hospitalization Rates of Northern Saskatchewan Women and Saskatchewan Registered Indian Women in 1992/93

Over 35% (372/1043) of deliveries for northern women occurred in northern hospitals and over 93% of northern women delivered at the hospital to which they were first admitted in 1992/93. Between six and seven percent of northern women were transferred once before delivery in comparison to 3.9 percent of southern rural women and one percent of southern urban women. However, inpatient transfers represent an incomplete picture of emergency transfers at the time of delivery, since admissions to outpatient departments are not counted as separations in the hospitalization data. The proportion of northern women, and possibly for southern First Nations women and southern rural women, who travel to southern or out of province hospitals during labour would be higher than estimated in this study.

The rates of delivery episodes with labour and delivery complications at regional and base hospitals (60.1 to 70.0 per 100 deliveries) may reflect the fact that they assist a higher proportion of high risk deliveries. Although an “acceptable” rate of labour and delivery complications per delivery or transfers at the time of delivery has not been established, the lower rates of these complications at rural and northern hospitals (53.2 to 56.1 per 100 deliveries) may reflect their success in referring high-risk deliveries to larger centres.

h) Cesarean Sections

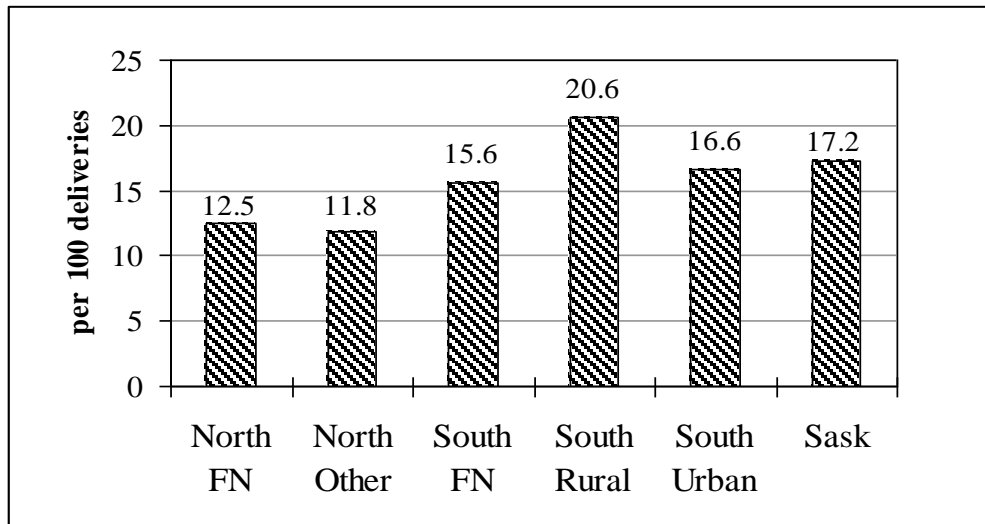
The number and rates of Cesarean sections for northern women can be compared to those in southern Saskatchewan. The appropriate rate of C-Sections for northern Saskatchewan women is uncertain though the 1986 National Consensus Conference on Aspects of Cesarean Birth issued guidelines aimed at reducing unnecessary surgical intervention in deliveries and Helewa suggested strategies to lower the Canadian rate to 12%. (SOGC 1995;17:237-46).

NUMBER AND RATES OF CESAREAN SECTION IN SASKATCHEWAN, 1992-93

	# Deliveries	# CS	Crude Rate
North FN	643	77	12.0
North Other	400	46	11.5
South FN	1721	249	14.5
South Rural	4370	900	20.6
South Urban	7720	1290	16.7
SASK.	14854	2562	17.2

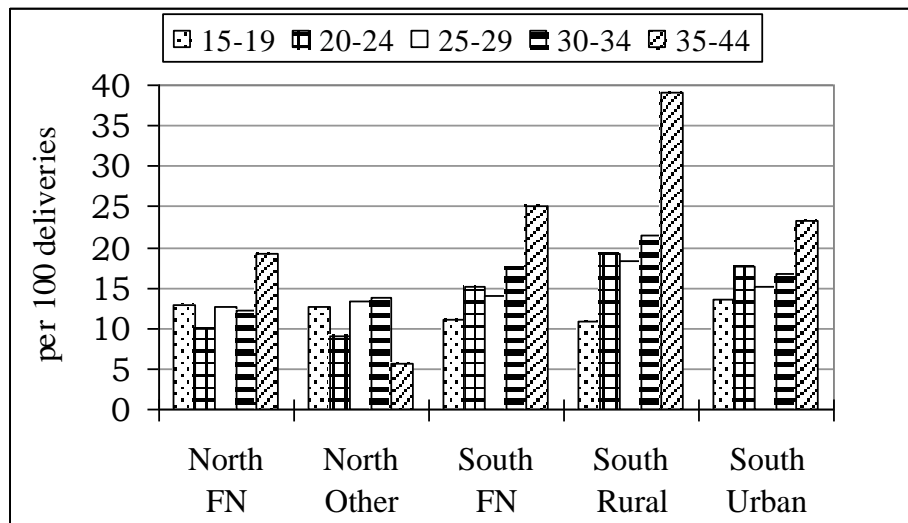
Source: Stockdale D. The Study of Obstetric Hospitalization Rates of Northern Saskatchewan Women and Saskatchewan Registered Indian Women in 1992/93

AGE-STANDARDIZED RATES OF CESAREAN SECTION, 1992/93



Source: Stockdale D. The Study of Obstetric Hospitalization Rates of Northern Saskatchewan Women and Saskatchewan Registered Indian Women in 1992/93

AGE-SPECIFIC RATES OF CESAREAN SECTION, SASKATCHEWAN, 1992/93



Source: Stockdale D. The Study of Obstetric Hospitalization Rates of Northern Saskatchewan Women and Saskatchewan Registered Indian Women in 1992/93

D. THE USE OF HEALTH SERVICES

Health consequences can be assessed by looking at health indicators that assess disability and the use of services (utilization information) including the use of hospitals, medication, etc. Some of the information will be available from health surveys and some through service use reports from various health programs. For this health status report, the utilization information will be limited to a few programs in the health care area with further information added as we continue the process of needs assessment and program planning.

Health service utilization data such as present hospital use, physician use, etc. can be used as information for planning for service delivery bearing in mind that there are multiple influences on utilization. These factors include things such as health status and health needs; community expectations and demands; service accessibility, acceptability, and appropriateness; the availability and use of other family and community supports; as well as other factors.

1. Hospital Use

This section will primarily look at the numbers or rates of hospital use by residents in northern Saskatchewan. Some information on hospital use was presented in the health status section of this report where we could get a sense of health status by looking at the types of conditions or diseases which required hospitalization.

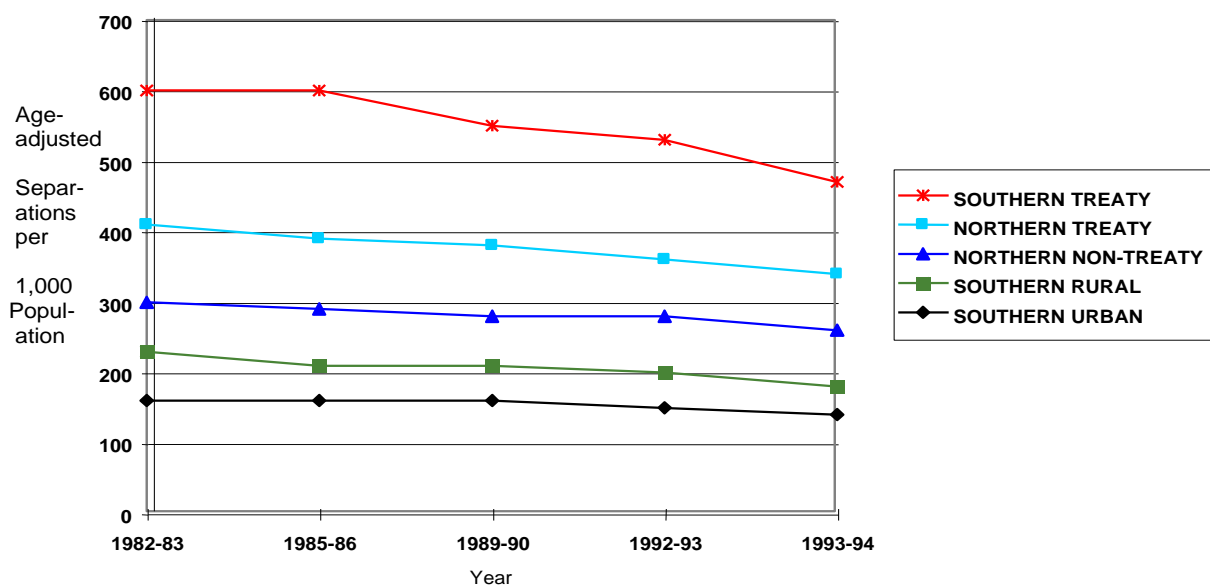
Hospital use can be assessed from two perspectives, both of which are useful in health planning:

- ⌘ the population-based perspective: looking at the use of hospitals by the total population of an area no matter where they were hospitalized (e.g. hospitalization rate for all First Nations in northern Saskatchewan health district area; or, causes for hospitalization for people of one health district); and
- ⌘ the institution-based perspective: looking at the use of a particular hospital no matter where the clients come from (e.g. numbers of obstetrical deliveries at one hospital, average number of patients in the hospital at one time, etc.)

a) Population Based Hospitalization Rates

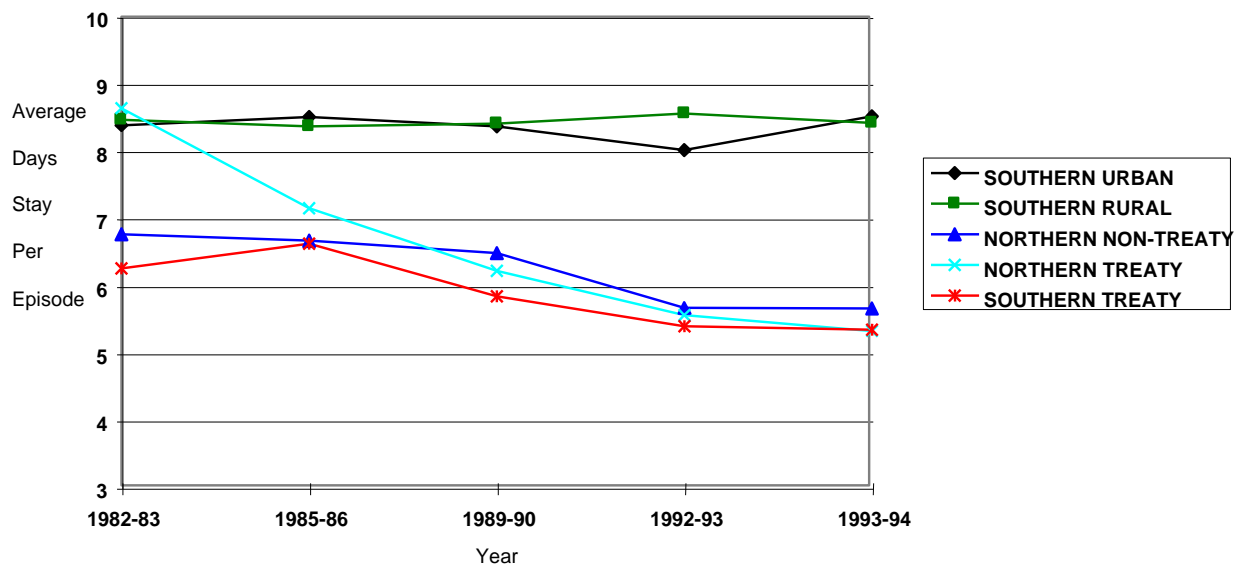
The hospitalization rates for First Nations people and northerners are higher than that of southern rural or urban populations. There is a gradual reduction of the rates of admission over the period of 1982-94 for northerners and First Nations as well as southern rural and urban people in the province. The rate of hospitalization is for northern First Nations remains over twice that of the southern urban population though it is less than the rate for southern First Nations. This information is for the period up until 1993-94 and there may be some differences in the rates since changes have been made in the institutional care system in the province.

TREND OF AGE-ADJUSTED SEPARATIONS PER 1,000 POPULATION
BY STUDY GROUP – ALL CAUSES 1982 - 1994

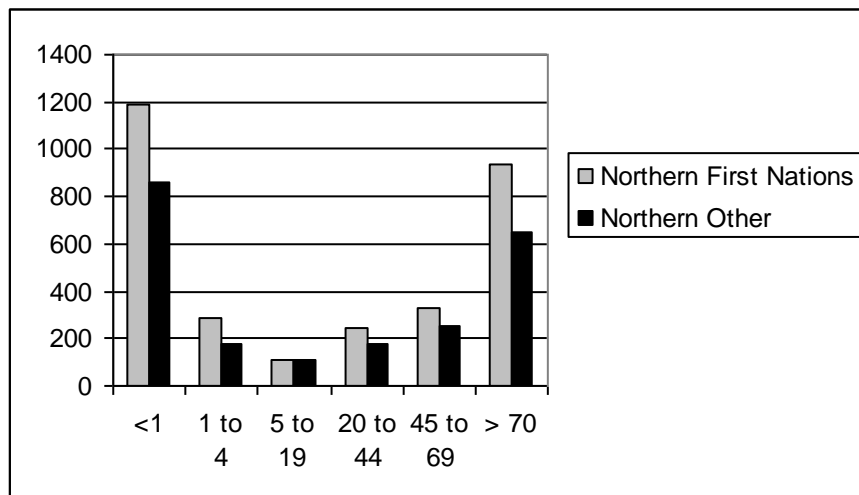


Though the hospitalization rates are higher, the average lengths of stays in hospital are shorter for First Nations people and northerners than the southern rural and urban populations.

TREND OF AVERAGE LENGTH OF HOSPITAL STAY PER EPISODE BY STUDY GROUP – ALL CAUSES 1982 - 1994

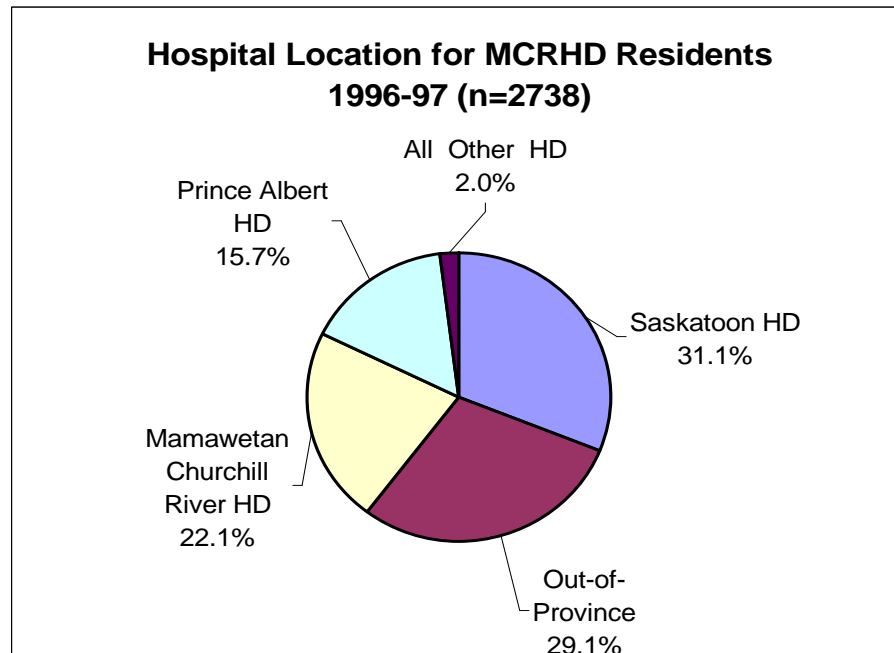


HOSPITALIZATION RATES IN NORTHERN SASKATCHEWAN BY AGE: 1992-93



The age groups that have had the highest hospitalization rates have been children less than one and elders over the age of 70 years.

LOCATION OF HOSPITALIZATION FOR RESIDENTS OF THE MCRHD



Source: Sask Health data

About 22.1% of the hospitalizations for MCRHD residents occur in hospitals in the MCRHD (La Ronge Health Center); 29.1% occur 'out-of-province' many of which would be in the Flin Flon Hospital; just over 30% in Saskatoon and just over 15% in Prince Albert. Some of the hospitalizations in Prince Albert, Saskatoon, and out-of-province would be for people living for short periods out of the MCRHD (e.g. students).

b) Institution Based

We can also use information on specific health institutions or facilities to assist with health plans. The one hospital in the MCRHD is the La Ronge Health Center though many MCRHD clients will utilized the Flin Flon Hospital as their primary hospital.

i) La Ronge Health Center

La Ronge Health Center has services for emergency care, acute care, long-term care and respite, addictions detoxification, as well as many other outpatient and ambulatory care services. This report will provide predominately an overview of the hospital statistics and further information could be made available in a subsequent report.

In the 1997-98 year, there were 7676 client visits to the emergency room at the La Ronge Health Center, 118 deliveries, 757 clients admitted to the hospital for acute care, 4 for long-term care and 29 for the Detox Unit.

UTILIZATION STATISTICS FOR THE LA RONGE HEALTH CENTER 1997-98

Service	Yearly Utilization for 1997-98
Emergency room visits	7676
Newborn delivered	118
Acute admissions	757
Long-term care admissions	4
Respite	4
Detox	29
Hostel	0

Source: La Ronge Health Center data

The average daily census for each of these programs is shown in the following table. The average daily census for the acute care aspect of the hospital is just over 10 (at about 60% average occupancy & 757 admissions); the long-term care program average daily census is almost 14 (at nearly 100% occupancy and 4 admissions last year).

LA RONGE HEALTH CENTER OCCUPANCY FOR 1997-98

Level of Care	Average Length of Stay	Average % Occupancy	Average Daily Census
Acute Care	4.67	58.07	10.45
Newborns	3.13	16.35	0.98
Long-term Care	462.50	98.73	13.82
Respite	15.27	69.45	1.39
Detox	10.26	50.07	2.00

2. Physician Utilization

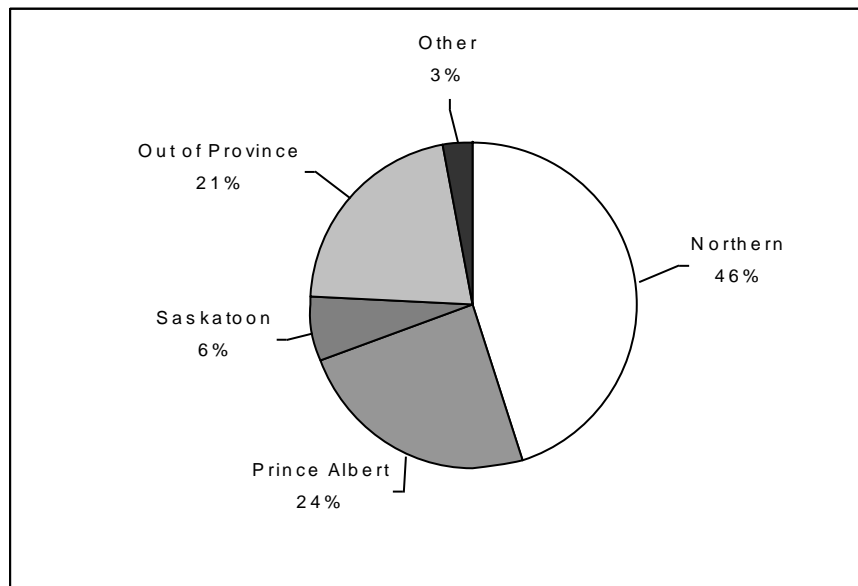
In the MCRHD, physicians are utilized as primary care providers as well as supporting the work of the primary care nurses. Physician service utilization can be influenced by need (health status), as well as by physician availability, fee mechanisms, the extent or degree of utilization of other services (e.g. primary care nurses, mental health workers, addiction workers,), the availability of other health care providers, physician practice patterns, clients expectations and demands as well as the processes developed to provide primary care.

For the health district as a whole, on the average each person has had 6.6 contacts with a physician over a year period. The following table shows the physician utilization numbers and rates for each community or band as well as the health district in which the service was provided. For the communities of Sandy Bay, Pelican Narrows and for some of the Peter Ballantyne Band, physicians travelling to Sandy Bay, Pelican Narrows and Deschambault would be using a Saskatchewan billing number and so would be included as a northern health district physician. There is considerable variation between the communities in the extent of physician utilization. In some communities, some of this variation may be explained by the availability of primary care nurses but not in all communities – there appears to be a combined influence by the availability and utilization of primary care nurses and the physician practice pattern (the way in which physicians work or are utilized in the process of primary care).

PHYSICIAN SERVICES BY COMMUNITY – 1996-97

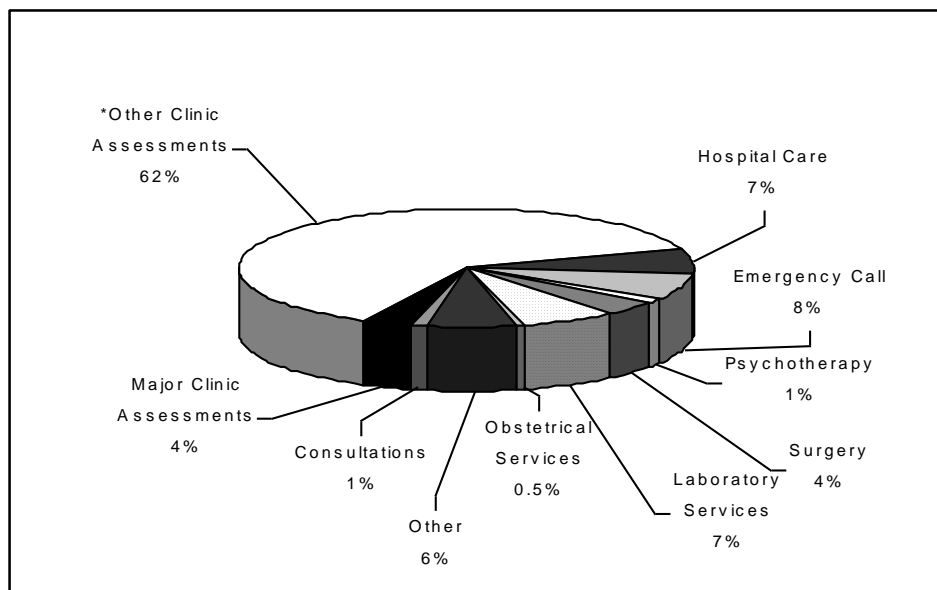
	Percentage of Physician Services by Location of Physician					Total Number of Physician Contacts	Rate of Physician Contacts per Population
	Northern (includes Manitoba MDs providing services in Sask	Prince Albert	Saskatoon	Out of Province	Other		
Peter Ballantyne Band	37.5	29.4	8.3	21.6	3.2	43383	10.1
Lac La Ronge Band	59.9	31.3	5.1	0.8	2.9	39614	7.8
Hatchet Lake Band	67.0	17.6	12.2	0.4	2.8	2707	2.6
Wollaston Lake	31.9	10.5	27.9	12.9	16.9	373	5.9
La Ronge	72.6	13.3	7.1	2.6	4.4	10963	4.6
Air Ronge	73.7	15.5	6.6	0.9	3.4	3544	4.8
Weyakwin	6.6	76.9	9.1	2.0	5.4	648	3.1
Pinehouse	72.9	21.3	3.8	0.4	1.6	2099	2.2
Southend	48.3	33.2	6.9	7.9	3.6	91	3.8
Stanley Mission	58.1	22.8	5.9	5.6	7.6	303	3.2
Timber Bay	1.8	92.7	4.4	1.0	0.0	384	5.1
Creighton	0.1	1.2	2.7	94.9	1.0	10522	5.6
Denare Beach	0.2	2.1	3.5	92.2	2.0	3471	5.3
Pelican Narrows	54.4	8.9	7.5	21.9	7.2	638	4.7
Sandy Bay	36.3	17.6	9.2	35.8	1.1	1738	3.9
Sturgeon Landing	0.0	5.0	7.5	80.0	7.5	40	2.1
Flin Flon Creighton Unorg.	0.0	1.5	5.1	92.6	0.7	2272	6.3
TOTAL						123090	6.6

LOCATION OF PHYSICIANS PROVIDING SERVICE TO MRCHD CLIENTS – 1996-97



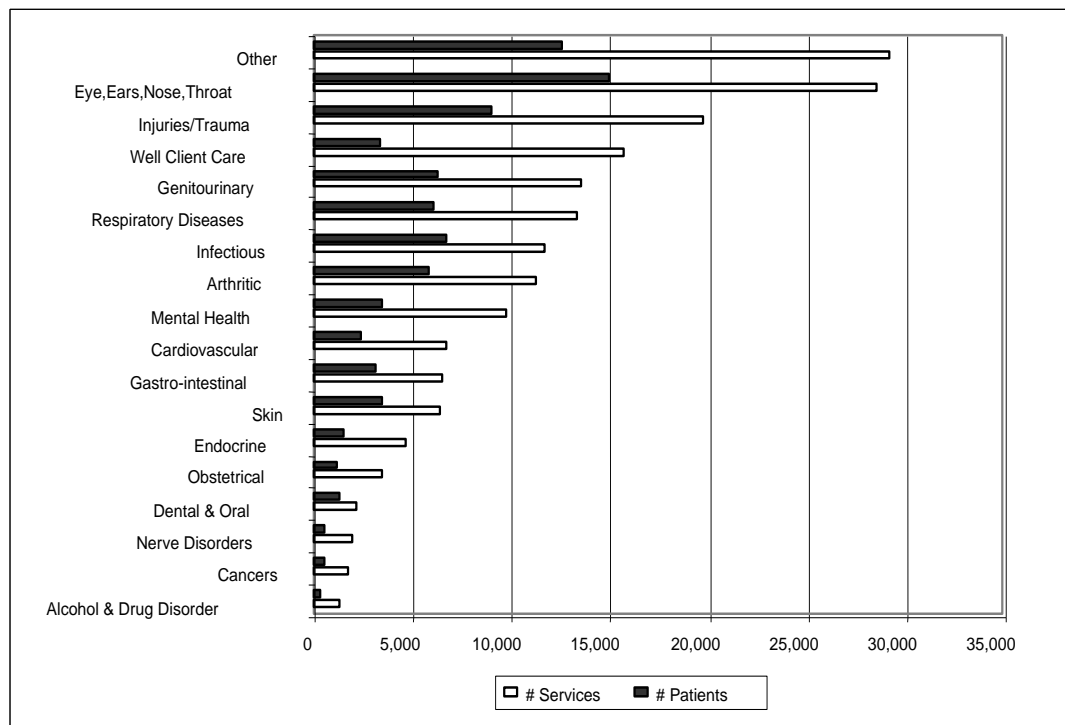
Of the physician services provided to MCRHD clients, almost half are provided by physicians in the MCRHD area (La Ronge and visiting physicians from Flin Flon), about a quarter from Prince Albert, and 6% from Saskatoon. 21% are from out of province physicians including other physicians from Flin Flon.

TYPES OF PHYSICIAN SERVICES FOR MCRHD CLIENTS - 1996-97



The majority of physician services provided to MCRHD clients are ‘other assessments’ which includes assessments (not including a major or complete assessments) such outpatient and ambulatory care-type services in doctors’ offices, health centers in the community and in the emergency department (unless the physician was called to come to the emergency department from outside of hospital then it would be classified as an ‘emergency call’). 8% of the visits were classified as emergency calls, 7% hospital care and 4% major or complete assessments. 1% were registered as for psychotherapy, though much of psychotherapy can be included in ‘other assessments’ so it would underestimate the extent of this service. Obstetrical services make up about 0.5% of physician visits but most of the prenatal visits and post-partum visits would be classified as ‘Other Clinic Assessments.’

DIAGNOSTIC GROUPS FOR PHYSICIAN ASSESSMENTS



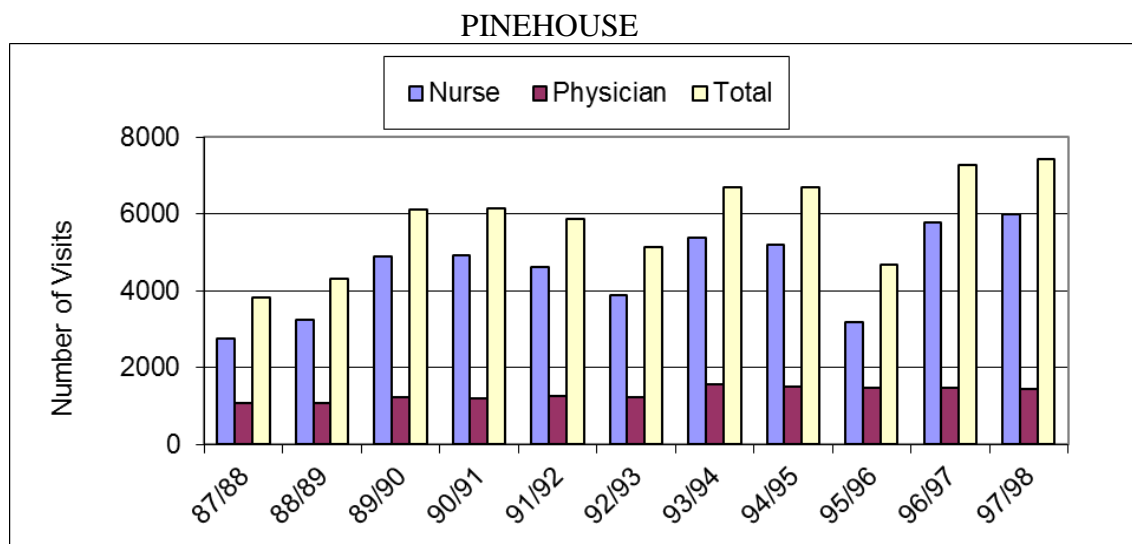
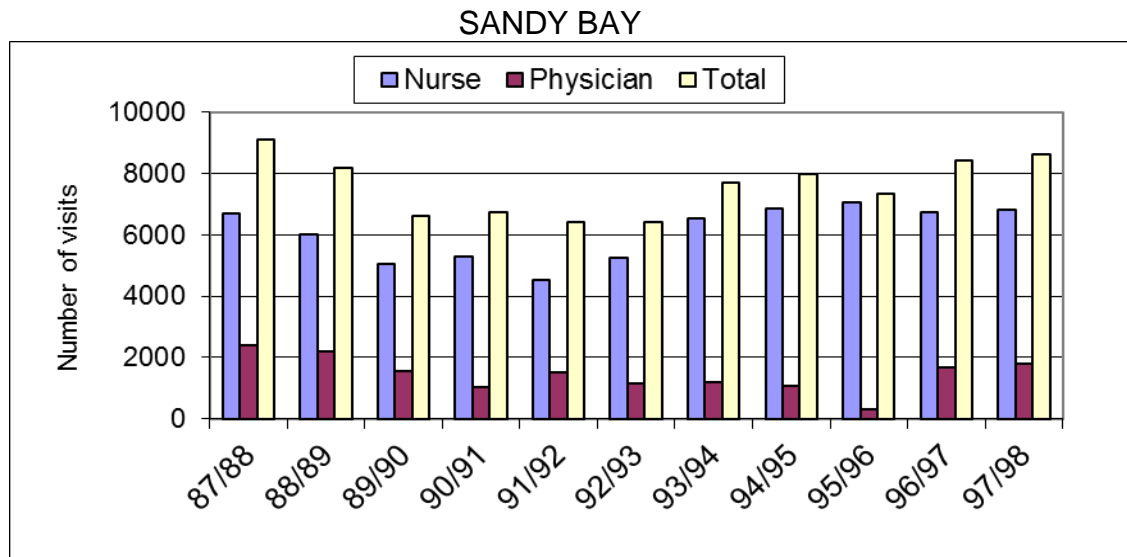
Source: Sask Health data

The above graph shows the breakdown of the types of conditions for which physician visits occur for MCRHD clients, the number of services provided, and number of individual patients seen for each condition for 1996-97. “Other” is made up of a variety of conditions including ill-defined conditions. The next most common diagnostic grouping for physician visits is for conditions of the eye, ear, nose, and throat followed by injuries and trauma and well client care.

3. Primary Care Nurse Utilization

Primary care nursing services are provided in a number of locations in the MCRHD including Pinehouse and Sandy Bay (under MCRHD); Montreal Lake (through the Montreal Lake First Nations), Stanley Mission (through the Lac La Ronge Indian Band), Southend, Pelican Narrows and Deschambault (through the Peter Ballantyne Cree Nation), and Wollaston (through the Hatchett Lake First Nation and Prince Albert Grand Council).

The following graphs show the numbers of clients seen in the Sandy Bay and Pinehouse Health Centers by primary care nurses and physicians. These numbers include the number of clients seen by physicians during “Doctors Day” at the Health Center (but not emergency or other visits to the doctor when the doctor is not in the health center) and the number of clients seen by primary care nurses (including during office hours and after hours and weekends). The number of clients seen by various health care providers can be influenced by the health needs but also by such things as the number and availability of providers (e.g. number of doctors clinics in the community per week, hours of clinic, the number of primary care nurses), how the primary care nurse and physician work together, expectations and demands of clients and the ‘practice style’ of the physician group. For example, the reduction in clients seen at the Sandy Bay clinics by physicians in 1995/96 may be partly a result of a reduced availability in physicians to provide clinics in Sandy Bay as well as a difference in the practice style of the physicians providing services. The increase in the number of clients seen in the Pinehouse Clinic by physicians may partially be due to increased numbers of physician clinics in Pinehouse because of the increased work-load of the clinics. The number of clients seen by primary care nurses in Sandy Bay this past year is nearly the same as the number ten years ago (despite an increase in the population). In Pinehouse the number of clients seen by the primary care nurses has increased (about doubling from 1987/98).



The following table provides information on the health care (nursing and physician) services provided in the communities in which primary care nursing services are provided.

SERVICES PROVIDED IN HEALTH CENTERS IN MCRHD COMMUNITIES OTHER THAN LA RONGE & CREIGHTON

Community	Physician Clinics per Week	Primary Care & Public Health Nurses
Sandy Bay	1	3
Pinehouse	1.5	3
Southend	1.5	4
Wollaston	1.5	3
Stanley Mission	2	4
Deschambault	1	3
Pelican Narrows	5	8

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STEPS TO A NEEDS ASSESSMENT PROCESS

Why:

- An importance process in community development
- Information base to make decisions
- Identify and resolve multiple viewpoints
- Raise community awareness
- Build commitment
- Shared vision – community based analysis of need
- Required reporting of needs assessment/health status

- 1) Common Understanding: Work from Health District's definition of health
- 2) Set Goals and Objectives of needs assessment: HD agreement on the Framework to Needs Assessment: Population Health Model – several available which includes health determinants (community development approach, health planning approach)
- 3) Develop mechanism or organization framework (e.g. Needs Assessment Committee)
- 4) Determine resource requirements
- 5) Strategies
- 6) Determine potential indicators
 - A. Demographic
 - B. Economic
 - C. Social
 - D. Physical
 - E. Health-related practices
 - F. Health status
 - G. Services/programs (availability/appropriateness/accessibility)
 - H. Satisfaction (client, community, provider)
- 7) Approaches:
 - Database analysis (e.g. vital stats, cancer, hospitalizations, TB, STD's,)
 - Using existing data sources: e.g. Statistics Canada, SERM, Social Services
 - Community consultation:
 - Focus groups
 - Key informant interviews
 - Public/Town hall meetings
 - Community forums
 - Telephone/paper surveys
- 8) Analysis

- 9) Interpretation of analysis: Extensive community discussion (could be done at several time intervals to prioritize indicators/review indicator information)
- 10) Goals and Objectives Developed Based on Needs Assessment
- 11) Program Planning/Implementation
- 12) Evaluation/Review
 - Annual Health Reports/Plans
 - Long-term approach to needs assessment