

## 7.0 HUMAN HEALTH

### 7.1 INTRODUCTION

Human health exists as a continuum from fully integrated physical, emotional, spiritual and social functioning to complete dysfunction and death. Measures of human health vary with respect to how the measure will be used in order to improve a particular aspect of health status. Each measurement is conceptualized with respect to how it will be implemented into programming to improve health.

In this component of the NWT SOE report, the focus is on measures of human health and its relationship to environmental quality. The World Health Organization (WHO) reflects on this relationship in its definition of environmental health and human health:

***“Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social, and psychosocial factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can potentially affect adversely the health of present and future generations.”***

In keeping with the WHO definition and the objectives of the NWT CIMP and Audit, the areas of human health which have been chosen for the human health valued components are those measures collected on the population through various data collection mechanisms (Statistics Canada and the NWT Bureau of Statistics). These measures of health are generally accepted as signals of disease occurrence and of risk factors affecting disease occurrence which potentially point toward assessing, correcting, controlling, and preventing adverse outcomes. In order to quantify these measures and to follow them in temporal sequence statistical samples representative of the population must be collected on a regular and systematic basis. Collection of data on vital events (births and deaths), demographics (age and sex), and residence (geographic distribution) of the reported events, allows rates to be calculated and compared to referent population when appropriate. Data collection also involves the acquisition of information on acute and chronic diseases occurring throughout life stages, as well as on the important determinants of health (income, education, employment, health care events and access) which have a significant impact on the expression of specific health states in the population.

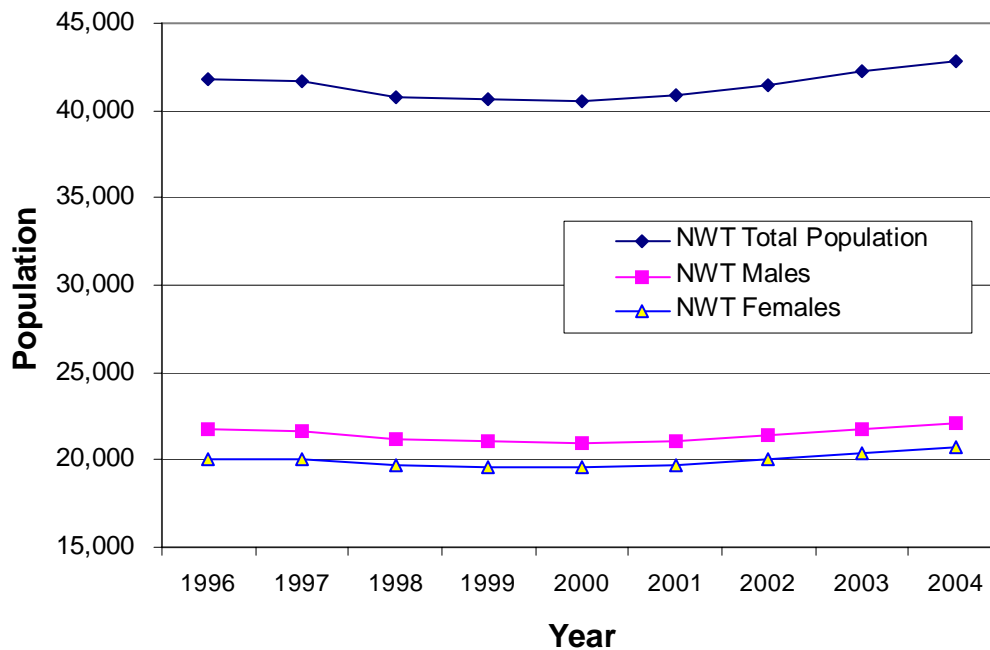
The focus of this component of the SOE is measures of health as denoted above, and not on the collective wellness of the community which requires the analysis of different kinds of data specific to the society’s social and ethnical values.

## 7.2 HUMAN HEALTH INDICATORS

The provision of health services in the NWT is the responsibility of the Government of the Northwest Territories. Approximately 42,000 people live in the Northwest Territories with 45% of the population living in Yellowknife (i.e., 19,056 based on the 2004 NWT Community Population Estimates produced by the NWT Bureau of Statistics). The remainder of the population is spread amongst twenty eight other communities, several of which are only accessible by air. A summary of 2004 population estimates by community and ethnicity is provided in Table 7A.1-1 (Attachment 7A).

As demonstrated on Figure 7.2-1, there are approximately 2,000 more males than females in NWT. The relative proportions have remained fairly consistent since 1996 but the total population has shown an increasing trend since 2000 as seen from Figure 7.2-1. The proportion of First Nations and non-First Nations peoples is approximately the same as indicated on Table 7.2-1.

**FIGURE 7.2-1**  
**POPULATION OF NORTHWEST TERRITORIES BY SEX, 1996-2004**



Source: Northwest Territories Bureau of Statistics

**TABLE 7.2-1**  
**POPULATION ESTIMATES BY ETHNICITY, 2000-2004**

Year	Total	Aboriginal	Non-Aboriginal
2004	42,810	21,414	21,396
2003	42,206	21,306	20,900
2001	41,489	21,110	20,379
2000	40,822	20,893	19,929

Source: NWT Bureau of Statistics

In order to formulate a list of potential indicators (measures) of the human health valued component (VC), a literature search was carried out to seek information existing on the health of the NWT population and interviews were carried out with key informants (health specialists) knowledgeable about the data collection and reports on the NWT.

A web-based search using key terms (Canadian Aboriginal Health, NWT Health Status, and NWT statistics) identified a number of data sources, policy papers (e.g., Stout and Kipling 1999) and reports (e.g., Health Canada 2003) which assisted in focusing on potentially important health measures that could be of concern and be followed prospectively to measure progress in specific areas. A search on PubMed generated many recent publications on research being carried out among Aboriginals (First Nations and Inuit) in the NWT and throughout Canada which identify current health challenges. A large amount of population-based data is collected as well as information from special surveys. Much of these data are disseminated by the Northwest Territories Health and Social Services Department and the Northwest Territories Bureau of Statistics. There were areas of data collection distinctly missing. While data for sexually transmitted infections (STIs), suicides, and teen pregnancies are available by community for the NWT, Stout and Kipling (1999) point noted examples of missing data; disability and injury prevention, early pregnancies, mental health status, and attitudes towards sexuality and reproduction.

Insights into approaches to gather relevant and useful information to assess aboriginal health have emerged from the partnerships forged by University of Manitoba and First Nations. Some of these can be applied to the NWT in giving direction to data gathering (Elias *et al.* 2004) in some important areas where data are scarce such as those identified by Stout and Kipling in 1999. Aboriginal leadership, governance, and participation, as well as cultural relevance of chosen health components in making policy for change in health status in their settlement areas have been identified as important by a number of publications (Smylie *et al.* 2004) and need to be considered in making recommendations for data gathering in areas where data are lacking.

Interviews with key health specialists comprised the second approach to select indicators in order to obtain information from their experience in following health status in the NWT. Interviewees who collect, collate, and analyze population data were in the best position to provide credible information on the integrity of the data and the usefulness of the data as a reflection of good indicators of progress in health status, in the evaluation of intervention programs, and the ability to track trends over time (longitudinal data) and thus track what progress has been made.

Telephone interviews were carried out with the Medical Officer of Health and with various policy and statistics officials within NWT departments<sup>30</sup>. Informed interviewees provided population data and sources of data on the web, all of which were readily accessible.

Health specialists also discussed the limits of the data, including issues of small population size of most communities, small number of outcomes measured in small communities, and subsequently the inability to obtain stable rates of certain health outcomes, and completeness of the data. They also provided information on risk factor surveys and prevalence surveys of specific important chronic diseases such as diabetes.

In addition to interviews, data readily available on the internet were also reviewed. All this information collectively provided a list of potential indicators. A summary of the potential indicators and the rationale for their selection is provided on Table 7.2-2. Some of the chosen indicators are illustrated as examples of how particular health outcomes can be followed over time to determine health status in the population, and by inference, the potential impact of the environment on the population. Among the potentially useful indicators, only those with the most useful data records are discussed in Section 7.2.2.

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<sup>30</sup> (Personal Communications with) Dr. Andrew Langford, Mr. David Stewart, Ms Gay Kennedy, Mr. Vincent Tam

**TABLE 7.2-2  
 RATIONALE FOR SELECTION OF CANDIDATE INDICATORS OF HUMAN  
 HEALTH**

<b>Potential Measures of Human Health Component</b>	<b>Potential Indicators*</b>	<b>Rationale</b>
<b>Population Demographics</b>	<ul style="list-style-type: none"> <li>• Population data</li> <li>• Age/sex distribution</li> <li>• Migration (emigration and immigration)</li> <li>• Life expectancy</li> <li>• Potential years of life lost (PYLL)</li> </ul>	<ul style="list-style-type: none"> <li>• Essential for monitoring health of population change</li> <li>• Denominator data essential for deriving rates for comparison with other jurisdictions</li> <li>• Life expectancy reflects survival of population, improvement in life expectancy reflect improvements of determinants of health</li> <li>• PYLL is an index of premature mortality with more weight given to younger people</li> </ul>
<b>Perinatal Health</b>	<ul style="list-style-type: none"> <li>• Birth rates</li> <li>• Fertility rate</li> <li>• Birth weights</li> <li>• Birth Defects</li> <li>• Breast feeding rates</li> <li>• Infant mortality rate</li> </ul>	<ul style="list-style-type: none"> <li>• Birth/fertility rates are important indicators of the health of the population</li> <li>• Low birth weight reflects many complex factors, such as nutrition, prenatal care, age of mother, and others.</li> <li>• Infant mortality is an important measure of health of children</li> <li>• Breast feeding is associated with lower rates of enteric disease, allergies, and other illnesses in children later in life, so are a potentially a valued health component to follow.</li> </ul>
Mortality	<ul style="list-style-type: none"> <li>• Leading causes of death by age and sex</li> <li>• Death rates by age and sex</li> <li>• Causes of death by disease:                             <ul style="list-style-type: none"> <li>- Cancer</li> <li>- Cardiovascular</li> <li>- Injuries/poison</li> <li>- Suicides/homicides</li> <li>- Others</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Rates and causes of mortality are important indicator of the health status of the population</li> <li>• Cancer, cardiovascular diseases and injuries/poison are leading causes of death in the NWT</li> </ul>

**TABLE 7.2-2 (Cont'd)**  
**RATIONALE FOR SELECTION OF CANDIDATE INDICATORS OF HUMAN HEALTH**

Potential Measures of Human Health Component	Potential Indicators*	Rationale
Morbidity	<ul style="list-style-type: none"> <li>• Leading causes of morbidity</li> <li>• Causes of death by disease:                             <ul style="list-style-type: none"> <li>- Cancer</li> <li>- Cardiovascular</li> <li>- Injuries/poison</li> <li>- Asthma</li> <li>- Diabetes</li> <li>- Depression</li> <li>- Infectious diseases</li> <li>- Sexually transmitted diseases</li> <li>- Others</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Rates and causes of morbidity are important health status of the population</li> <li>• Changes in the rates may be due to environmental exposures (e.g., changes in asthma may be due to environmental tobacco smoke, air pollution, others.)</li> <li>• The prevalence of diabetes is high among First Nations people</li> </ul>
Social Determinants	<ul style="list-style-type: none"> <li>• Family size and composition</li> <li>• Percent of lone parent families</li> <li>• Dependency ratio</li> <li>• Employment rate</li> <li>• Percent of families with income less than \$30K, more than \$75K</li> <li>• Income</li> <li>• Education</li> <li>• Housing and community characteristics</li> <li>• Violent crime rate</li> <li>• Juvenile crime rate</li> <li>• NWT shelter admissions</li> </ul>	<ul style="list-style-type: none"> <li>• The notion that health is wealth does not consider important social determinants which contribute to health such as food security, social networks, social exclusion and discrimination, poor housing, etc. Some of these determinants are related to wellness and social integration. The ones considered in this section are enumerated population measures in data bases.</li> <li>• Socioeconomic status indicators (e.g., education/income etc) provides a proxy measure of health status</li> <li>• Dependency ratio provides an estimate of burden of care on the working-age population.<sup>31</sup></li> </ul>

<sup>31</sup> Dependency ratio is defined as the population of those under 15 divided by the population age 15 to 64, multiplied by 100.

**TABLE 7.2-2 (Cont'd)**  
**RATIONALE FOR SELECTION OF CANDIDATE INDICATORS OF HUMAN HEALTH**

<b>Potential Measures of Human Health Component</b>	<b>Potential Indicators*</b>	<b>Rationale</b>
<b>Personal Health Practices and Risk Factors</b>	<ul style="list-style-type: none"> <li>• Smoking rate</li> <li>• Youth smoking rate</li> <li>• Alcohol consumption</li> <li>• Substance abuse</li> <li>• Physical inactivity</li> <li>• Obesity</li> </ul>	<ul style="list-style-type: none"> <li>• Smoking is a major contributor to fatal diseases such as cancer, cardiovascular, and others.</li> <li>• Age of smoking initiation is an important predictor of future behaviour. High smoking rates among youth may be indicator of high smoking rates in adulthood.</li> <li>• Heavy alcohol consumption is related to liver diseases and others, and is also often linked to other socio-economic indicators such as violence and injuries.</li> <li>• Moderate level of physical activity is associated with good health. Conversely, physical inactivity is conducive to obesity which in turn is a risk factor for diabetes and other diseases.</li> </ul>
<b>Environmental Factors</b>	<ul style="list-style-type: none"> <li>• Drinking Water and Sewage disposal</li> <li>• Proportion of population with distributed potable water</li> <li>• Proportion of population with adequate sewage disposal</li> </ul>	<ul style="list-style-type: none"> <li>• Access to potable drinking water is related to waterborne disease. Availability of potable drinking water provides an appropriate level of prevention of the burden of waterborne disease morbidity and mortality.</li> <li>• Proper sewage disposal will prevent the contamination of the environment and particularly, of water sources used for drinking and bathing. Fecal transmissions of viral and bacterial infectious diseases are also prevented with proper waste disposal which is a measure of preventive practices in the community.</li> </ul>

For general consistency with the presentation of material for the other valued components, the following questions are addressed for the key indicators of human health (population demographics, perinatal health and population mortality):

- What is being measured?
- What does it mean?
- What are the information gaps?

Whereas seven questions were addressed for other valued components, the list was reduced to three key questions for the key indicators of the human health valued component. As insufficient information is available to address other indicators in this manner, only a general discussion of the available information is presented.

### **7.2.1 HH Indicator – Population Demographics**

Important trends in population demographics include total population and age distribution, life expectancy and birth rate.

#### ***i) What is being measured?***

Data on population births, deaths including infant mortality, and life expectancy are available through Statistics Canada (Vital Statistics data base) and on-line for NWT via the Bureau of Statistics. These data are collected for the whole population and are considered of good quality. Although regional data is available, small numbers and high population mobility makes analysis at the regional level less meaningful. Infrequent events are reported as aggregated to the community being examined due to privacy issues. Data are also available by First Nations and non First Nations status.

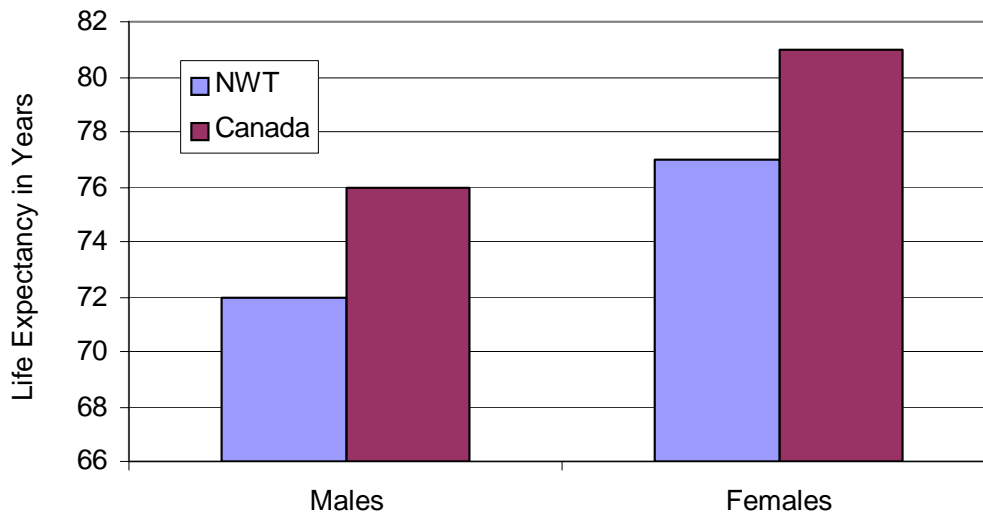
#### ***ii) What does it mean?***

Historically, birth rates in First Nations communities were higher than they are now, and infant mortality was higher and life expectancy was lower than non-First Nations people. Improvements in life expectancy reflect better infant survival, as well as improvements in determinants of health such as income, education, access to health care, and premature mortality due to accidents, better nutrition, etc. Improvements in infant mortality and premature death from accidents and suicide will impact on life expectancy considerably.



For the NWT, life expectancy at birth compared to the rest of Canada is about 4 years lower for both males and females (Figure 7.2-2).

**FIGURE 7.2-2**  
**LIFE EXPECTANCY AT BIRTH, NORTHWEST TERRITORIES AND CANADA, 1997**



Source: Northwest Territories Bureau of Statistics.

Life expectancy at birth has improved among the First Nations population in Canada. In 2000, it rose to 68.9 years for males and 76.6 years for females, slightly lower than for the whole of the NWT population, an increase from 1980 of 13.1% and 12.6%, respectively (Health Canada 2003). Hence, measures of life expectancy and its major contributors over time would be good indicators of a valued health component for both the NWT population as a whole and for the Aboriginal population.

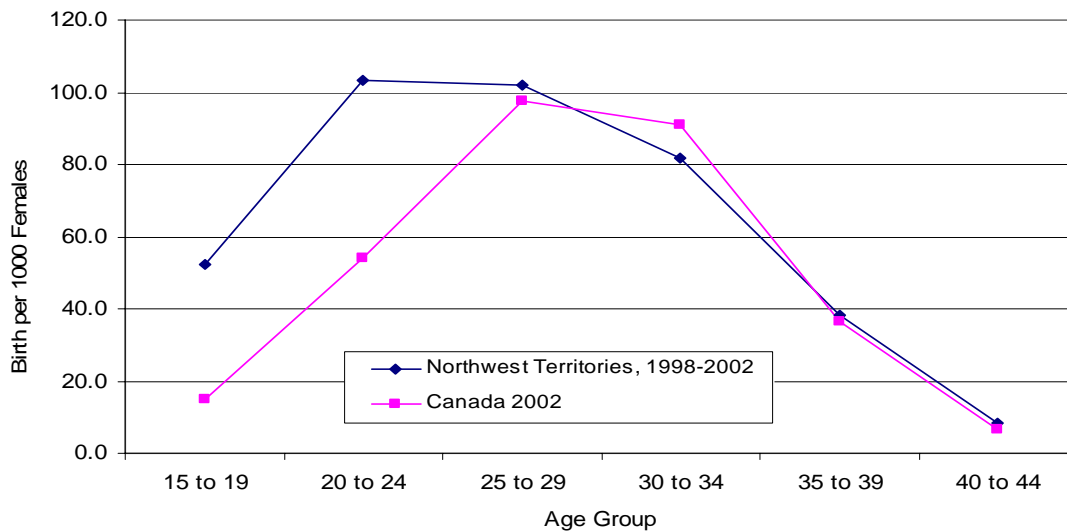
Birth rates and death rates both contribute to population growth rate. Although the value of the natural rate of increase in population is affected by both birth rate and death rate, the recent history of the human population has been affected more by declines in death rates than by increases in birth rates.<sup>32</sup> Better nutrition, greater access to medical care, improved sanitation and more widespread immunization contribute significantly to this population growth, while decreases in infant mortality affect life expectancy at birth. Improvements in all of these factors, and data to monitor the changes, contribute to the evaluation of valued health components.

<sup>32</sup> Human Population Growth <http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/P/Populations.html>

The total fertility rate (TFR) can be used as an estimate of the fertility growth factor in a population, e.g., whether the childbearing population is replacing itself or not. A TFR of 2 or above indicates that, on the average, couples are producing at least two children to replace themselves. When the TFR exceeds 2 for an extended period, the next generation of childbearing age will probably be larger than the present population of that age if all other factors affecting the population, such as death rates and migration, remain constant. This means that the population will be growing steadily from within. In 2002 the fertility rate in women under 29 years of age in the NWT was nearly double in First Nations as the rest of Canada (Figure 7.2-3). In 1999, the First Nations birth rate was 23.0 births per 1,000 population, two times the comparable rate for Canada. Births to women under age 19 were high in the NWT including First Nations. Over half (58%) of First Nations women who gave birth in 1999 were under 25 years of age. This represents an area of importance to follow over time as improvements in education, employment and other determinants are associated with lower birth rates in this age group and may be considered as a positive attribute. However, these characteristics are generally associated with lower fertility, and lower rate of population replacement.

Lower fertility associated with older age with first child may indicate lack of population replacement which could be of concern, and therefore worth following as a valued health component. Figure 7.2-3 also points out that proportionally more births occur in NWT to women under 19 years of age than at older ages. This is a significant difference which may reflect many characteristics of the population including educational opportunities for women, control of fertility and reproduction, socio economic status, in general, and/or others factors. These factors need to be examined further.

**FIGURE 7.2-3  
AGE-SPECIFIC FERTILITY RATE**



Source: NWT Bureau of Statistics

**iii) *What are the information gaps?***

Information on population demographics was found to be relatively complete with no obvious gaps. However, there is the matter of confidential issues relating to small numbers.

**7.2.2 HH Indicator - Perinatal Health**

Birth/fertility rates are important indicators of the health of the population. Low birth weight reflects many complex factors, such as nutrition, prenatal care, age of mother, and others. Infant mortality is an important measure of health of children. Breast feeding is associated with lower rates of enteric disease, allergies, and other illnesses in children later in life, so are a potentially a valued health component to follow.

**i) *What is being measured?***

The GNWT Department of Health and Social Services, through its Vital Statistics, routinely monitors birth outcomes and calculates rates (e.g., birth, fertility, infant mortality). Information is available by region and community. A breastfeeding survey was conducted in 1993.

**iii) *What does it mean?***

The NWT experiences higher rates of infant mortality, nearly twice that of Canada as a whole (11 vs. 5.5 per 1000 live births). In 1999, the First Nations infant mortality rate was 8.0 deaths per 1,000 live births, or 1.5 times higher than the Canadian infant mortality rate of 5.5. However, infant mortality rate has been steadily declining in First Nations peoples (Health Canada 2003).

NWT experienced higher rates of high birth weight babies than the rest of Canada and slightly lower rates of low birth weight babies (Table 7.2-3). The First Nations and the Canadian populations had similar proportions of births with low birth weight in 1999; however, almost twice as many First Nations births were classified as high birth weight in the same year (Health Canada 2003).

**TABLE 7.2-3  
 NUMBER PER 1000 BIRTHS OF LOW (<2500 GRAMS) AND HIGH (4000+ GRAMS)  
 BIRTH WEIGHTS FOR NORTHWEST TERRITORIES AND CANADA**

Year	Low Birth Weight per 1000 births		High Birth Weight per 1000 Births	
	NWT	Canada	NWT	Canada
2002	49.2	57.3	177.8	131.9
2001	32.6	55.4	207.2	136.2
2000	52.2	55.7	210.1	137.6
1999	59.2	56.3	168.4	133.3
1998	57.9	57.6	163.2	130.1
1997	36.1	57.8	169.2	123.4
1996	50.4	57.6	191.6	124.4
1995	44.2	58.4	170.9	120.0
1994	52.0	57.7	205.4	122.5
1993	48.9	56.8	135.7	124.4
1992	49.9	54.9	152.2	126.5
1991	43.5	55.4	165.0	121.8
1990	41.6	55.4	167.4	123.2
1989	50.4	55.5	142.7	121.6
1988	48.3	56.6	169.6	120.0
1987	52.6	55.3	145.8	119.0
1986	68.8	55.0	126.7	115.4
1985	43.8	55.7	181.3	112.6
1984	59.4	55.4	132.1	111.9
1983	53.5	56.0	134.2	110.1
1982	62.3	56.9	141.0	109.3
1981	47.0	58.9	104.4	104.0

iii) *What are the information gaps?*

Birth defect reporting at birth is not mandatory but is being considered now as part of the birth defects monitoring system. Breast feeding rates are currently being measured and will be available in the future.

**7.2.3 HH Indicator – Population Mortality**

Population Mortality measures the crude mortality, age and sex specific mortality, and major disease specific mortality by age and sex – by region if numbers are large enough to permit analysis.

**i) What is being measured?**

The GNWT Department of Health and Social Services, through its Vital Statistics, routinely collects information regarding deaths and calculates death rates by cause.

**ii) What does it mean?**

The crude mortality rate for the NWT was approximately 4 deaths per 1,000 population for 2001 (Table 7.2-4). The four major causes of death for the NWT were cancer, circulatory disease, accidents (including suicides), and respiratory diseases.

**TABLE 7.2-4  
MORTALITY RATES PER 1,000 POPULATION IN NWT**

<b>2001</b>	<b>1996</b>	<b>1991</b>	<b>1986</b>
4.0	3.6	3.6	4.2

*Source: Northwest Territories Bureau of Statistics*

The four leading causes of death for First Nations were injury and poisoning, circulatory diseases, cancer and respiratory diseases. For each of the causes of death, the rate has decreased when compared with the 1991 to 1993 period, from 22.4% for cancer to 40.9% for respiratory diseases, such as pneumonia and bronchitis (Health Canada 2003).

The crude mortality rate for First Nations males was 1.3 times higher than the rate for First Nations females in 1999. The rate difference is largely attributable to higher rates among males for injury and poisoning (147 deaths per 100,000 among males and 68 among females) and to circulatory disease (98 deaths per 100,000 among males and 72 among females) (Health Canada 2003).

Age-specific death rates in 1999 were higher in First Nations males than females for almost all age groups. The largest difference between the sexes occurs in the 5 to 9 and 20 to 24 age groups (Health Canada 2003).

Table 7.2-5 demonstrates that the mortality rate for infants (males and females) is much higher in the NWT than in the rest of Canada. Similarly, higher death rates occur in most age groups for males, and modest differences exist for females. Reasons for this need to be examined further, and more specific data needs to be collected to be able to implement preventive action to improve these rates.

**TABLE 7.2-5  
 DEATHS PER 1000 POPULATION**

Age (Years)	Males		Females	
	NWT Avg. (98-02)	Canada 2002	NWT Avg. (98-02)	Canada 2002
0	14.2	5.8	8.3	4.9
1 – 14	0.3	0.2	0.2	0.1
15 – 24	2.1	0.7	0.5	0.3
25 – 44	1.8	1.2	0.8	0.7
45 – 64	5.8	5.6	4.2	3.5
65+	57.1	51.4	43.1	42.5

Source: Northwest Territories Bureau of Statistics

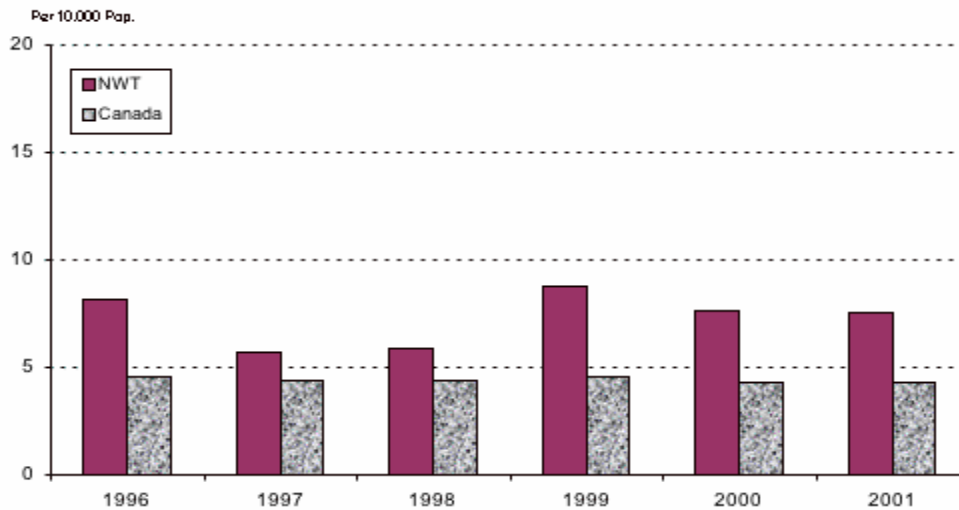
With respect to First Nations people, the most common cause of death for those aged 1 to 44 was injury and poisoning. Among children under 10, deaths were primarily unintentional (accidental). Suicide and self-injury were the leading causes of death for youth and adults up to age 44. For First Nations aged 45 and older, circulatory diseases were the most common causes of death. These trends parallel the Canadian population as a whole (FPT 1999). Motor vehicle collisions were a leading cause of death in all age groups (Health Canada 2003).

With respect to death from accidents, suicide, and homicide for the NWT and Canada, the NWT has shown higher rates from 1996 to 2001, as seen in Figure 7.2-4. First Nations age groups up to age 65 are at increased risk, compared with the Canadian population. First Nations males are at higher risk than females. The greatest disparity with the Canadian rates is for females aged 15 to 24 and aged 25 to 39 (approximately eight and five times the Canadian rates, respectively) (Health Canada 2003). Specific rates for small communities in NWT may not be shown due to privacy issues.

**iii) What are the information gaps?**

Information on population mortality was found to be relatively complete with no major gaps identified.

**FIGURE 7.2-4**  
**DEATH RATES FROM ACCIDENTS, SUICIDES AND HOMICIDES PER 10,000**  
**POPULATIONS FOR CANADA AND NORTHWEST TERRITORIES**



Source: Northwest Territories Bureau of Statistics

## 7.2.4 HH Indicator - Population Morbidity

Morbidity refers to the relative incidence of disease. Rates and causes of morbidity are important measures of the health status of the population. Changes in the rates may be due to environmental exposures (e.g., changes in asthma may be due to environmental tobacco smoke, air pollution, others). In this section, health statistics on “Infectious Diseases” and for “Diabetes and Hypertension” are discussed separately.

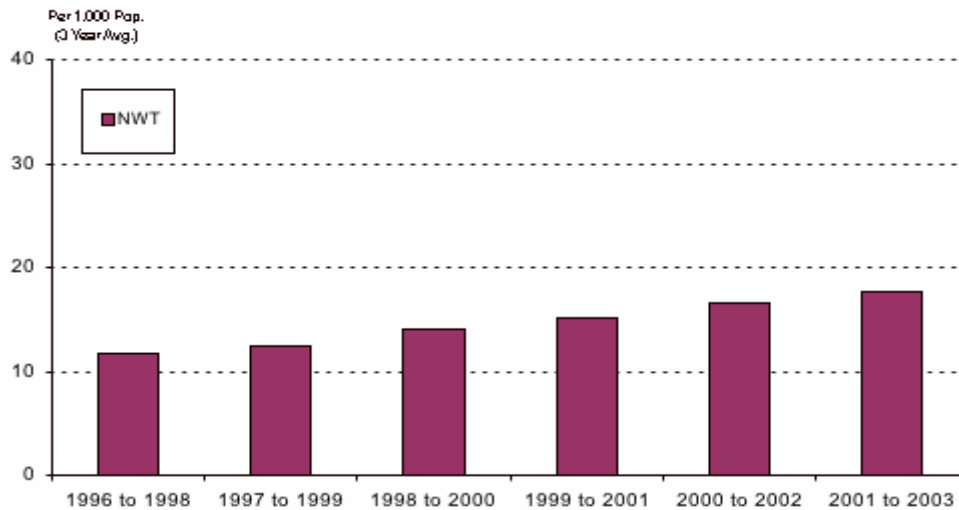
### 7.2.4.1 Infectious Diseases (*Sexually Transmitted Diseases, Tuberculosis*)

At the time of preparation of this section, specific data on Infectious Diseases and especially vaccine preventable diseases were not found for the NWT; therefore, the Survey of Inuit and First Nations Health report was consulted. In 1999, First Nations people across Canada experienced a disproportionate burden of many infectious diseases compared to other Canadians as a whole. These include pertussis (3 times higher), Chlamydia (7 times higher), hepatitis A (5.3 times higher) and shigellosis (almost 20 times higher) (Health Canada 2003). The proportion of Canada's total AIDS cases contracted by Aboriginal people in Canada climbed from 1.0% in 1990 to 7.2% in 2001 (Health Canada 2002). Given that about half the population in the NWT is First Nations, these statistics indicate there is a need to focus on preventive and follow up actions in these health areas, which are considered good indicators of preventable

population adverse health experiences. Over that same period, the tuberculosis rate among First Nations people remained 8 to 10 times than seen in the Canadian population as a whole (Health Canada 2003). This is not the case however, for the NWT population as a whole.

A specific breakdown of infectious diseases in the NWT by First Nations and non-First Nations peoples was not found. Reporting from regions of immunization status and communicable disease may be inconsistent. However, data on sexually transmitted diseases (STDs) in the NWT can be seen in Figure 7.2-5. The rise in STD may be attributed to better detection and reporting as well as a potential real increased rate from 1996 to 2003. Gaps exist where people do not seek hospitalization or health care as that is where reporting originates.

**FIGURE 7.2-5**  
**SEXUALLY TRANSMITTED INFECTION RATE PER 1,000 POPULATIONS (3-YEAR AVERAGE) FOR THE NORTHWEST TERRITORIES**



Source: Northwest Territories Bureau of Statistics

#### 7.2.4.2 Diabetes and Hypertension

**Diabetes prevalence** - Health Canada has used several approaches to determine the impact of diabetes on the Canadian population. National population health surveys carried out every two years, longitudinal surveys, diagnosis specific hospital discharge information, and the Aboriginal Peoples Health Survey (1991) provide an insight into diabetes morbidity and mortality. The surveys suffer from several shortcomings in that they constitute self reports, do not capture undiagnosed pre-diabetes, do not differentiate Type I or Type II diabetes, or may miss diabetes as an underlying cause of death.<sup>33</sup> Often, small numbers do not adequately represent the

<sup>33</sup> Public Health Agency of Canada. Diabetes in Canada. National Statistics and Opportunities for Improved Surveillance, Prevention, and Control. [http://www.phac-aspc.gc.ca/publicat/dic-dac99/d14\\_e.html](http://www.phac-aspc.gc.ca/publicat/dic-dac99/d14_e.html)



communities of interest. The NWT participates in the National Diabetes Surveillance System and has good data on diabetes prevalence. The Canadian Community Health Survey, conducted regularly in the NWT by Statistics Canada, also asks respondents about diabetes and other chronic health conditions.

***Hypertension prevalence*** - There is no central database available for hypertension, and no prevalence studies. As a major risk factor for cardiovascular mortality, this is an area that should be explored for NWT populations.

***Dental Caries*** - Dental health measures are not collected systematically in the NWT. Dental decay rates for Aboriginal children in Ontario are two to five times higher than rates among non-Aboriginal children. They are far less likely to be decay-free (Health Canada 2003). Similar data could be developed for the NWT.

The incidence of asthma is enumerated by prevalence surveys.

## **7.2.5 HH Indicator - Personal Health Practices and Risk Factors**

Factors that increase the risk of adverse health effects include smoking, alcohol and substance abuse, obesity and physical inactivity.

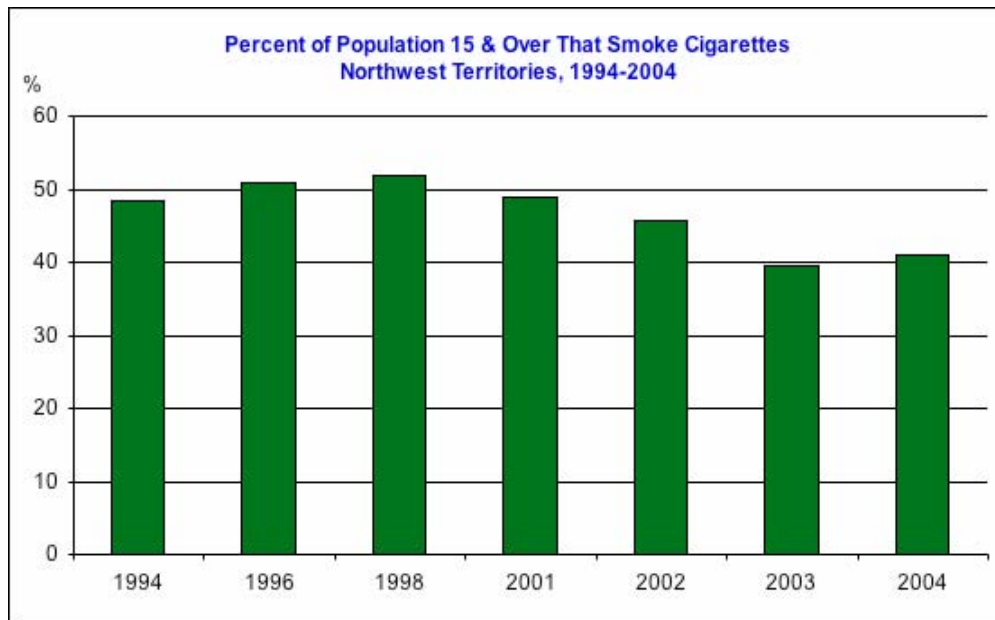
***Smoking*** - Smoking rates for the Northwest Territories have been collected in a variety of household surveys for persons 15 years and over from 1994 to 2004. A summary of these data is provided in Figure 7.2-6.

A reduction in the smoking rate would be desirable for the NWT population as smoking is a risk factor for respiratory and cardiovascular disease as well as cancer. Periodic surveys can capture this information.

***Alcohol and Substance Abuse*** - Figure 7.2-7 indicates the differences in the incidence of heavy alcohol use for Canada and the NWT with the NWT experiencing higher use of alcohol (incidence of heavy use being just one measure of alcohol use). Heavy use of alcohol is associated with adverse health outcomes, accidents as well as family and social adverse impacts. A detailed profile of alcohol consumption in the NWT is provided in Table 7.2-6.

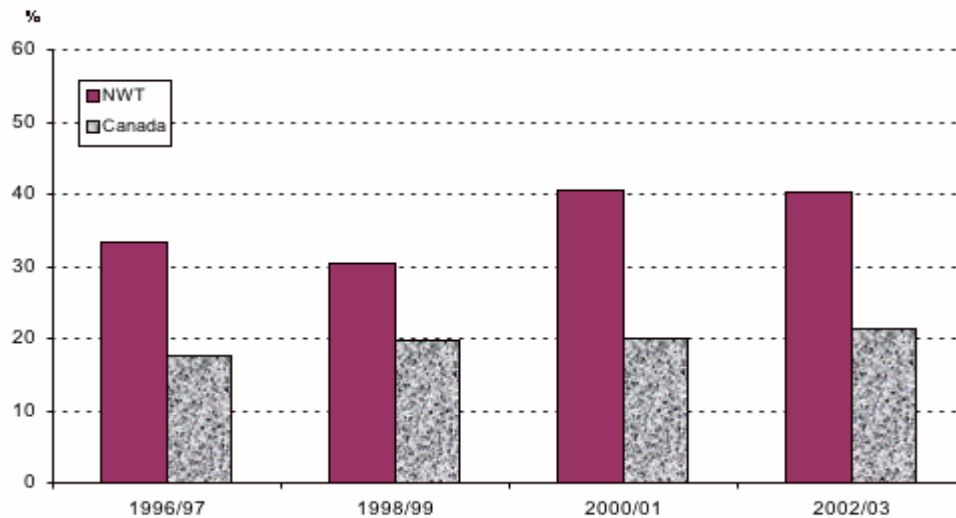
***Obesity and Physical Inactivity*** - Obesity and physical inactivity are important risk factors for cardiovascular disease and premature mortality. This is an important health indicator whose data collection can be enhanced. There is some information in the health status report (National population health survey), but this is difficult to extract for NWT communities. A larger sample is needed to better identify the extent of this health problem in NWT and its communities.

**FIGURE 7.2-6**  
**PERCENT OF POPULATION 15 YEARS AND OVER THAT SMOKE CIGARETTES**  
**IN NORTHWEST TERRITORIES 1994-2004**



Source: Northwest Territories Bureau of Statistics

**FIGURE 7.2-7**  
**INCIDENCE OF HEAVY ALCOHOL USE FOR CANADA AND NORTHWEST TERRITORIES**



Source: Northwest Territories Bureau of Statistics

**TABLE 7.2-6**  
**PROFILE OF ALCOHOL CONSUMPTION IN THE NORTHWEST TERRITORIES**

	Total	%	Current Drinker	%	Former Drinker	%	Never Drank	%
Persons 15 Yrs. & Over	30,431	100.0	23,748	78.0	5,247	17.2	1,295	4.3
Males	15,892	100.0	12,783	80.4	2,555	16.1	461	2.9
Females	14,539	100.0	10,965	75.4	2,692	18.5	834	5.7
15-24	6,413	100.0	5,383	83.9	477	7.4	454	7.1
25-39	11,466	100.0	9,639	84.1	1,588	13.8	223	1.9
40-59	9,602	100.0	7,102	74.0	2,186	22.8	314	3.3
60 Yrs. & Over	2,743	100.0	1,444	52.6	971	35.4	303	11.0
Employed	21,371	100.0	17,345	81.2	3,372	15.8	590	2.8
Not Employed	9,023	100.0	6,365	70.5	1,876	20.8	705	7.8
Less than Grade 9	3,542	100.0	2,101	59.3	1,117	31.5	324	9.1
Grade 9 - 11	7,843	100.0	6,133	78.2	1,288	16.4	370	4.7
High School Diploma	6,147	100.0	4,991	81.2	927	15.1	229	3.7
Trades Cert. Or Diploma	2,258	100.0	1,805	79.9	419	18.6	18	0.8
College Cert. Or Diploma	4,867	100.0	3,945	81.1	686	14.1	188	3.9
University Degree	5,455	100.0	4,599	84.3	690	12.6	166	3.0
Less than \$20,000	11,054	100.0	7,881	71.3	2,287	20.7	834	7.5
\$20,000 - \$39,999	5,838	100.0	4,785	82.0	838	14.4	167	2.9
\$40,000 - \$59,999	5,257	100.0	4,325	82.3	757	14.4	159	3.0
\$60,000 or more	6,594	100.0	5,437	82.5	1,084	16.4	73	1.1
Aboriginal	14,037	100.0	9,880	70.4	3,431	24.4	658	4.7
Males	7,013	100.0	5,122	73.0	1,557	22.2	266	3.8
Females	7,024	100.0	4,758	67.7	1,874	26.7	392	5.6
Non-Aboriginal	16,087	100.0	13,715	85.3	1,713	10.6	611	3.8
Males	8,698	100.0	7,558	86.9	945	10.9	195	2.2
Females	7,389	100.0	6,157	83.3	768	10.4	416	5.6
Yellowknife	13,355	100.0	11,438	85.6	1,406	10.5	495	3.7
Males	6,913	100.0	6,034	87.3	739	10.7	124	1.8
Females	6,442	100.0	5,404	83.9	667	10.4	371	5.8
Aboriginal	2,659	100.0	2,022	76.0	585	22.0	36	1.4
Non-Aboriginal	10,671	100.0	9,416	88.2	797	7.5	458	4.3
Regional Centers	7,335	100.0	5,426	74.0	1,503	20.5	358	4.9
Males	3,863	100.0	2,963	76.7	786	20.3	114	3.0
Females	3,472	100.0	2,463	70.9	717	20.7	244	7.0
Aboriginal	3,467	100.0	2,407	69.4	754	21.7	306	8.8
Non-Aboriginal	3,737	100.0	2,966	79.4	696	18.6	27	0.7
Rest of Communities	9,739	100.0	6,883	70.7	2,338	24.0	441	4.5
Males	5,115	100.0	3,786	74.0	1,030	20.1	222	4.3
Females	4,624	100.0	3,097	67.0	1,308	28.3	219	4.7
Aboriginal	7,912	100.0	5,451	68.9	2,093	26.5	316	4.0
Non-Aboriginal	1,677	100.0	1,332	79.4	220	13.1	125	7.5

Source: 2002 Northwest Territories Alcohol and Drug Survey

### **7.2.6 HH Indicator - Social Determinants**

The notion that health is wealth does not consider important social determinants which contribute to health such as income distribution, food security, social networks, social exclusion and discrimination, poor housing, education, etc. Some of these determinants are related to wellness and social integration. The ones considered in this section are enumerated population measures in databases.

Some of the enumerated data include family size and composition, lone parent families, dependency ratio, employment rate, families with income less than \$30,000 or more than \$75,000, education, housing and community characteristics, violent crime, juvenile crime and shelter admissions.

A lower proportion of the population in the NWT than in the rest of Canada has not attained secondary school education (see Table 7.2-7 High School Graduation Rate). There has been some improvement in the past 10 years with some closing of the gap between NWT and the rest of Canada, a trend that needs to be followed as it is associated with better opportunities for employment, higher lifetime earnings, and better health status.

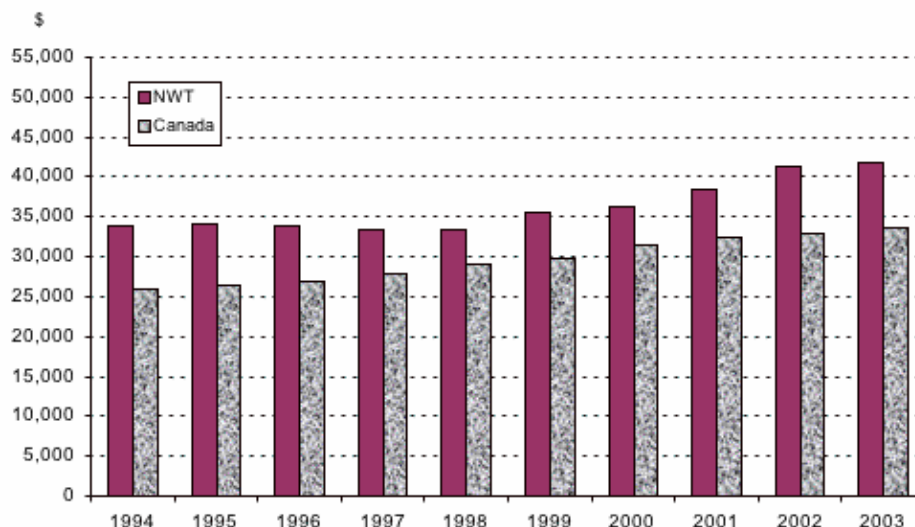
**TABLE 7.2-7  
HIGH SCHOOL GRADUATION RATE FOR THE NORTHWEST TERRITORIES AND  
CANADA, 1994-2001**

<b>Community</b>	<b>1994-95</b>	<b>1995-96</b>	<b>1996-97</b>	<b>1997-98</b>	<b>1998-99</b>	<b>1999-00</b>	<b>2000-01</b>
Canada	77.4	76.6	75.9	75.2	76.1	76.6	75.9
NWT	37.5	33.6	37.0	38.8	42.2	38.8	44.6

*Source: NWT data – NWT Education, Culture & Employment; Canadian data – Statistics Canada  
Rates expressed as graduates per 100 eligible students.*

Interestingly, high school graduation rate is lower in the NWT than in Canada but the average employment income is higher for the NWT than the rest of Canada (Figure 7.2-8). For specific communities, family income is also quite high. In 2002, the average family income in Yellowknife was over \$100,000 (see Table 7.2-8). This statistic questions the adage that “wealth is health”, a relationship seen in developed countries. However, discrepancies in this relationship in the NWT as compared to Canada merits investigation with respect to what factors actually contribute to the differences, and indicate areas of intervention to close that gap.

**FIGURE 7.2-8**  
**AVERAGE EMPLOYMENT INCOME FOR CANADA AND NWT, 1994-2003**



Source: NWT Bureau of Statistics

**TABLE 7.2-8**  
**AVERAGE FAMILY INCOME BY COMMUNITY IN THE NWT, 1999-2002**

Community	Year			
	2002	2001	2000	1999
Northwest Territories	\$87,143	\$80,225	\$71,864	\$70,463
Aklavik	51,141	51,606	44,781	42,625
Deline	49,757	50,564	39,523	43,492
Fort Good Hope	52,231	50,762	46,877	40,400
Fort Liard	58,773	55,273	52,671	48,800
Fort McPherson	57,248	49,352	43,274	40,740
Fort Providence	50,243	47,591	41,795	42,443
Fort Resolution	45,807	43,893	36,377	34,286
Fort Simpson	71,632	65,062	61,514	59,717
Fort Smith	77,935	72,156	64,977	66,429
Hay River	85,307	80,763	73,079	67,662
Holman	54,770	46,527	39,344	38,330
Inuvik	85,280	77,417	67,644	67,094
Lutselk'e	53,300	44,650	41,863	37,067
Norman Wells	104,895	97,953	94,994	93,747
Paulatuk	..	48,267	42,183	..
Rae Edzo	57,139	54,871	43,219	42,700
Rae Lakes	55,571	55,743	42,457	40,443
Tsiigehtchic	45,760	..	37,240	..
Tuktoyaktuk	58,733	53,604	38,736	41,519
Tulita	50,036	49,780	46,550	40,950
Wha Ti	53,464	45,427	44,109	43,480
Wrigley	..	..	53,200	..
Yellowknife	106,953	97,377	88,295	86,737

Source: Small Area Data Division, Statistics Canada

### **7.2.7 HH Indicator - Environmental Factors**

Environmental factors that have been shown to most directly affect human health include the adequacy of potable water and sewage treatment systems. One of the potential consequences of inadequate water supplies is the contraction of waterborne gastrointestinal illness.

**Drinking Water** - All communities in the NWT have access to potable drinking water except for Colville Lake which is a small community of about 135 people in the Sahtu Region. Colville Lake does not have a formal/organized water supply and treatment system and is on a permanent boil water advisory. People get their water from the lake for daily uses. A small centrally located water tank does provide some chlorinated water (by batch chlorination) to some residents. However, because of the new turbidity guideline, Colville Lake will be getting a new water supply and treatment (filtration) system in a year or two. Other communities that do not currently have a filtration system but are using surface water as their raw water source will also be upgraded to include filtration in the near future.

The delivery system in most small communities (Hamlets and Bands) is by truck with the exception of Rae/Edzo (Tlicho Settlement Area) and Ft. McPherson (Gwich'in Settlement Area) which have both piped and trucked water delivery systems (Tam 2005).

**Sewage Disposal** - All communities in the NWT have a sewage collection/disposal/treatment system except for Colville Lake.

Most homes/buildings in small NWT communities have sewage holding tanks, which are pumped out regularly by sewage trucks. The waste water is then disposed of in lagoons for natural treatment. Some communities utilize wetland treatment instead of lagoons. Only one community (Ft. Simpson) has advanced treatment using mechanical/chemical/biological processes prior to river discharge.

Rae/Edzo and Ft. McPherson have both piped and trucked waste water disposal systems (Tam 2005).

## **7.3 CONCLUSION AND DISCUSSION**

Population-based data from census and vital statistics are the most complete sources of data available for the NWT and are considered to be of good quality. These data can be separated by age, sex, and place of residence, and many by First Nations and Non-First Nations ethnic status. Birth outcome patterns can be examined by age of mother, birth weight, presence of birth defect, and place of residence as well as First Nations status. The systematic and continuous collection

of these data allows for meaningful comparisons over time. Good data are also available for many social determinants (education, employment, income, family income) and life style risk factors (smoking, alcohol and substance abuse).

In addition to census and vital statistics data, the NWT Bureau of Statistics and Health and Social Services Departments reports results of surveys which monitor the health status of the residents of Northwest Territories. Examples of these include the Alcohol and Drug Survey and health status reports which review data on a periodic basis (5 years) when meaningful rates are more likely to result for smaller communities. The NWT also has a cancer registry established in the early 1990s. This person-oriented database will provide more continuous and systematic collection of cancer incidence and mortality in the Territory.

Most areas lack data related to chronic diseases, a problem also common to other areas of Canada. Data gaps include information on major chronic diseases such as musculoskeletal (mobility disorders), neurological and degenerative (dementias), hypertension and stroke, and diabetes. Birth defects are not well documented for the NWT. With some enhancements, it appears that most outcomes of value can be tracked in the NWT and in regions despite small populations in some communities. Reporting of communicable diseases and of immunization of children is not complete. Means of improving data collection on chronic diseases needs to be examined.

Despite the excellent efforts in gathering meaningful data in the NWT, there are intrinsic challenges in the collection, analysis, and dissemination of these data. Health outcomes in small communities can be measured, but reporting them may result in breach of confidentiality because of small numbers of cases which apply. Also, with few outcomes, rates on a year by year basis are unstable and one may not draw useful conclusions if following them over time.

Overall, most health characteristics considered worth tracking longitudinally are well documented. Longitudinal tracking can provide a good picture of where resources may be best put in order to make the most important interventions and contributions to the improvement of health status. One important indicator not specifically mentioned above is the routine tracking of health status by public health agencies and the documentation of changes in environmental factors such as drinking water supply and sewage management. This important activity, which serves to provide an objective measure of population health change over time, is scheduled to be reported to the public sometime in 2005 (Corriveau 2005).

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**ATTACHMENT 7A**  
**POPULATION DEMOGRAPHICS**

**TABLE 7A.1-1**  
**COMPONENTS OF POPULATION CHANGE IN NWT BY TIME PERIOD (JANUARY 1, 2001 TO OCTOBER 1, 2004)**

Year	Period	Beginning Population	Ending Population	Births	Deaths	Inter-provincial Migration			Net International	Error of Closure
						In	Out	Net		
2004	Jan-Sep	42,629	42,925	498	134	2,183	2,335	-152	84	-
	Jul-Sep	42,810	42,925	155	48	654	660	-6	14	-
	Apr-Jun	42,585	42,810	177	44	790	731	59	33	-
	Jan-Mar	42,629	42,585	166	42	739	944	-205	37	-
2003	Jan-Dec	41,791	42,629	637	172	2,664	2,439	225	148	-
	Oct-Dec	42,362	42,629	142	40	510	418	92	73	-
	Jul-Sep	42,206	42,362	151	48	907	884	23	30	-
	Apr-Jun	41,964	42,206	178	43	678	605	73	34	-
	Jan-Mar	41,791	41,964	166	41	569	532	37	11	-
2002	Jan-Dec	41,107	41,791	635	169	2,724	2,511	213	5	-
	Oct-Dec	41,674	41,791	142	39	491	465	26	-12	-
	Jul-Sep	41,489	41,674	151	47	924	818	106	-25	-
	Apr-Jun	41,239	41,489	177	42	640	533	107	8	-
	Jan-Mar	41,107	41,239	165	41	669	695	-26	34	-
2001	Jan-Dec	40,646	41,107	613	163	2,405	2,444	-39	90	-40
	Oct-Dec	41,144	41,107	147	37	389	525	-136	-11	-
	Jul-Sep	40,822	41,144	162	44	971	832	139	65	-
	Apr-Jun	40,638	40,822	160	34	595	541	54	20	-16
	Jan-Mar	40,646	40,638	144	48	450	546	-96	16	-24

*Note:* Net International represents the net total of all Immigrants, Emigrants, Returning Canadians, Non-Permanent Residents and Individuals Temporarily Abroad. Error of Closure represents the difference in population change as measured by the individual components of growth and that observed using 2001, 1996 and 1991 census based population estimates.

*Source:* Statistics Canada, Demography Division.

**TABLE 7A.1-2  
 POTENTIAL YEARS OF LIFE LOST (<75 YEARS) IN NORTHWEST TERRITORIES (1999-2002)**

Cause	Year			
	2002	2001	2000	1999
Total	2,861	2,587	2,570	3,328
Infectious & Parasitic Diseases	35	54	76	38
Neoplasms	717	426	463	582
Endocrine, Nutritional & Metabolic Diseases & Immunity Disorders		54	11	87
Diseases of Blood and Blood Forming Organs		-	70	-
Mental Disorders	25	104	123	49
Diseases of Nervous System & Sense Organs		59	7	26
Diseases of the Circulatory System	205	289	82	330
Diseases of the Respiratory System	81	86	57	34
Diseases of the Digestive System	81	112	108	15
Diseases of the Genito-Urinary System	57	-	5	32
Complications of Pregnancy, Childbirth & the Puerperium		-	-	-
Diseases of the Skin and Subcutaneous Tissue		-	-	-
Diseases of the Musculo-Skeletal System & Connective Tissue		13	-	-
Congenital Anomalies	497	-	-	75
Conditions Originating in the Perinatal Period	75	150	375	375
Symptoms, Signs & Ill-Defined Conditions	160	118	35	250
Accidents (Including Suicides)	928	1,122	1,158	1,435

Source: Prepared by NWT Bureau of Statistics, November 2004

Notes:

1. Potential Years of Life Lost is defined as the difference in years between an average life expectancy (75 years) and the age at which a person dies.
2. The small number of total deaths in the Northwest Territories may cause some variation in the data.
3. The data provided in this table use the ICD-9 classification of cause of death. As of 2000, Statistics Canada began using ICD-10, therefore, to display ICD-10 data in the ICD-9 categories, Diseases of the Nervous System, Diseases of the Eye and Diseases of the Ear were aggregated into Diseases of the Nervous System and Sense Organs. For other differences between ICD-9 and ICD-10, please contact the NWT Bureau of Statistics.

**TABLE 7A.1-3  
CENSUS POPULATIONS, FEMALES POPULATION AGED 15 TO 44, AVERAGE BIRTH AND FERTILITY RATES**

Year	Population				Females (15 - 44)				Average Birth Rate				Average Fertility Rate			
	2001	1996	1991	1986	2001	1996	1991	1986	2001	1996	1991	1986	2001	1996	1991	1986
Total NWT	37,360	39,672	36,405	33,830	9,175	10,165	9,630	8,910	17.9	21.1	23.6	24.8	72.7	82.3	89.3	94.1
Inuvik Region	8,536	9,447	8,852	8,714	1,990	2,225	2,145	2,230	19.2	24.9	27.4	29.0	82.3	105.9	113.2	113.2
Aklavik	632	727	801	763	125	135	175	170	15.2	21.2	28.5	26.7	76.8	114.1	130.3	120.0
Colville Lake	102				15				27.5				186.7			
Deline	536	616	551	532	130	145	110	120	20.1	31.8	29.8	4.1	83.1	135.2	149.1	18.3
Fort Good Hope	549	644	602	562	120	135	120	110	18.9	24.8	33.6	33.5	86.7	118.5	168.3	170.9
Fort McPherson	761	878	759	760	160	180	160	180	16.8	23.9	25.6	24.2	80.0	116.7	121.3	102.2
Holman	398	423	361	303	105	120	100	85	16.1	34.5	27.7	26.4	61.0	121.7	100.0	94.1
Inuvik	2,894	3,296	3,206	3,389	730	880	865	990	21.4	25.4	25.1	27.9	84.7	95.2	92.9	95.6
Norman Wells	666	798	627	627	150	210	185	170	18.3	22.1	21.4	18.5	81.3	83.8	72.4	68.2
Paulatuk	286	277	255	193	60	50	50	45	14.7	24.5	40.0	32.1	70.0	136.0	204.0	137.8
Sachs Harbour	114	135	125	158	25	35	25	35	26.3	19.3	33.6	20.3	120.0	74.3	168.0	91.4
Tsiigehtchic	195	162	144	108	50	45	15	25	21.5	25.9	25.0	16.7	84.0	93.3	240.0	72.0
Tuktoyaktuk	930	943	918	929	215	200	220	215	19.6	21.6	29.8	40.0	84.7	102.0	124.5	173.0
Tulita	473	450	375	332	95	95	95	75	15.6	24.0	33.6	27.7	77.9	113.7	132.6	122.7
Fort Smith Region	28,824	30,225	27,553	25,116	7,185	7,940	7,480	6,680	17.5	19.7	22.2	23.2	70.0	75.0	81.7	87.3
Detah	182	190	150	131	45	45	30	20	11.0	11.6	12.0	7.6	44.4	48.9	60.0	50.0
Fort Liard	530	512	485	395	130	120	115	80	20.8	22.3	30.9	18.7	84.6	95.0	130.4	92.5
Fort Providence	753	748	645	588	165	175	145	130	18.1	23.3	27.6	20.4	82.4	99.4	122.8	92.3
Fort Resolution	525	536	515	447	110	100	120	100	16.8	19.4	29.1	7.2	80.0	104.0	125.0	32.0
Fort Simpson	1,163	1,257	1,142	987	270	325	290	260	15.6	21.6	21.2	28.6	67.4	83.7	83.4	108.5
Fort Smith	2,185	2,441	2,480	2,460	495	610	635	645	14.8	18.4	19.9	20.4	65.5	73.4	77.8	77.8
Hay River	3,510	3,611	3,253	3,006	825	880	840	780	18.2	20.2	23.1	25.3	77.6	82.7	89.3	97.4
Hay River Rsrv	269	253	216	180	50	60	45	45	0.9	0.8	1.9	1.1	5.0	3.3	8.9	4.4
Lutselk'e	248	304	286	273	55	60	70	45	40.3	21.7	32.9	26.4	181.8	110.0	134.3	160.0
Nahanni Butte	107				25				18.7				80.0			
Rae Lakes	274	256	252	183	45	45	55	40	22.6	28.9	22.2	16.4	137.8	164.4	101.8	75.0
Rae-Edzo	1,552	1,662	1,521	1,378	335	380	315	280	30.4	30.8	31.8	25.8	140.9	134.7	153.7	127.1
Wekweti	131	135	127	119	30	30	20	20	18.3	14.8	14.2	23.5	80.0	66.7	90.0	140.0
Wha Ti	453	418	392	345	90	90	65	75	22.5	22.5	31.1	27.8	113.3	104.4	187.7	128.0
Wrigley	165	167	174	161	25	35	40	30	19.4	26.3	21.8	21.1	128.0	125.7	95.0	113.3
Yellowknife	16,541	17,275	15,179	11,753	4,435	4,895	4,550	3,440	16.4	18.7	21.0	21.6	61.1	65.9	70.2	73.9

Notes: 1) Source: Statistics Canada, census data and vital statistics databases, prepared by NWT Bureau of Statistics.

2) Birth and Fertility rates represent the number of births per 1000 population and per 1000 females 15 to 44 respectively. For communities with small populations these rates should be used with caution.

3) Figures for unorganized areas and communities with populations less than 100 are not reported. These figures are included in Regional and Territorial totals.

**TABLE 7A.1-4**  
**INFANT MORTALITY PER 1000 LIVE BIRTHS IN NORTHWEST TERRITORIES AND CANADA (1981–2002)**

<b>Year</b>	<b>Northwest Territories</b>	<b>Canada</b>
2002	11.0	5.4
2001	4.9	5.2
2000	8.9	5.3
1999	12.1	5.3
1998	17.7	5.3
1997	6.9	5.5
1996	4.9	5.6
1995	9.2	6.1
1994	12.2	6.3
1993	7.2	6.3
1992	10.6	6.1
1991	7.7	6.4
1990	3.4	6.8
1989	8.6	7.1
1988	8.2	7.2
1987	13.1	7.3
1986	12.1	7.9
1985	10.9	8.0
1984	19.2	8.1
1983	19.0	8.5
1982	13.7	9.1
1981	12.7	9.6

Source: Prepared by NWT Bureau of Statistics, November, 2004

**TABLE 7A.1-5  
 LEADING CAUSES OF DEATH PER 10,000 POPULATIONS IN NORTHWEST TERRITORIES (1999-2001)**

Cause of Death	Canada Age-Sex Adjusted	NWT 5 Yr. Avg.	2001	2000	1999
All Causes Total	31.70	37.17	39.54	38.19	39.54
Infectious & Parasitic Diseases	0.53	1.07	0.49	1.71	1.46
Neoplasms	9.62	9.47	8.97	10.53	10.50
Endocrine, Nutritional & Metabolic Diseases & Immunity Disorders	1.21	1.07	1.94	0.49	1.46
Diseases of Blood and Blood Forming Organs	0.12	0.10	-	0.24	-
Mental Disorders	0.75	0.97	1.21	1.47	0.73
Diseases of Nervous System & Sense Organs	1.29	0.97	1.21	0.98	0.49
Diseases of the Circulatory System	9.25	7.91	7.76	6.61	9.52
Diseases of the Respiratory System	2.14	3.50	3.88	3.92	2.44
Diseases of the Digestive System	1.19	1.56	2.91	1.71	0.73
Diseases of the Genito-Urinary System	0.51	0.44	0.49	0.49	0.73
Complications of Pregnancy, Childbirth & the Puerperium	0.01	-	-	-	-
Diseases of the Skin and Subcutaneous Tissue	0.04	-	-	-	-
Diseases of the Musculo-Skeletal System & Connective Tissue	0.19	0.10	0.24	0.24	-
Congenital Anomalies	0.34	0.44	-	-	0.24
Conditions Originating in the Perinatal Period	0.44	0.78	0.49	1.22	1.22
Symptoms, Signs & Ill-Defined Conditions	0.63	1.70	2.43	0.98	1.22
Accidents (Including Suicides)	3.45	7.10	7.52	7.59	8.79
Suicides	1.13	2.09	1.94	1.71	3.66

Notes:

1. For comparability, Canadian death rates by cause were applied to the NWT population on July 1, 2001 to calculate adjusted Canadian rates.
2. The data provided in this table use the ICD-9 classification of cause of death. As of 2000, Statistics Canada began using ICD-10; therefore, to display ICD-10 data in the ICD-9 categories, Diseases of the Nervous System, Diseases of the Eye and Diseases of the Ear were aggregated into Diseases of the Nervous System and Sense Organs. For other differences between ICD-9 and ICD-10, please contact the NWT Bureau of Statistics.

**TABLE 7A.1-6  
 ALCOHOL CONSUMPTION IN THE NORTHWEST TERRITORIES (SOURCE: NWT ALCOHOL AND DRUG  
 SURVEY, 2002)**

	Total	%	Current Drinker	%	Former Drinker	%	Never Drank	%
Persons 15 Yrs. & Over	30,431	100.0	23,748	78.0	5,247	17.2	1,295	4.3
Males	15,892	100.0	12,783	80.4	2,555	16.1	461	2.9
Females	14,539	100.0	10,965	75.4	2,692	18.5	834	5.7
15-24	6,413	100.0	5,383	83.9	477	7.4	454	7.1
25-39	11,466	100.0	9,639	84.1	1,588	13.8	223	1.9
40-59	9,602	100.0	7,102	74.0	2,186	22.8	314	3.3
60 Yrs. & Over	2,743	100.0	1,444	52.6	971	35.4	303	11.0
Employed	21,371	100.0	17,345	81.2	3,372	15.8	590	2.8
Not Employed	9,023	100.0	6,365	70.5	1,876	20.8	705	7.8
Less than Grade 9	3,542	100.0	2,101	59.3	1,117	31.5	324	9.1
Grade 9 - 11	7,843	100.0	6,133	78.2	1,288	16.4	370	4.7
High School Diploma	6,147	100.0	4,991	81.2	927	15.1	229	3.7
Trades Cert. Or Diploma	2,258	100.0	1,805	79.9	419	18.6	18	0.8
College Cert. Or Diploma	4,867	100.0	3,945	81.1	686	14.1	188	3.9
University Degree	5,455	100.0	4,599	84.3	690	12.6	166	3.0
Less than \$20,000	11,054	100.0	7,881	71.3	2,287	20.7	834	7.5
\$20,000 - \$39,999	5,838	100.0	4,785	82.0	838	14.4	167	2.9
\$40,000 - \$59,999	5,257	100.0	4,325	82.3	757	14.4	159	3.0
\$60,000 or more	6,594	100.0	5,437	82.5	1,084	16.4	73	1.1
Aboriginal	14,037	100.0	9,880	70.4	3,431	24.4	658	4.7
Males	7,013	100.0	5,122	73.0	1,557	22.2	266	3.8
Females	7,024	100.0	4,758	67.7	1,874	26.7	392	5.6
Non-Aboriginal	16,087	100.0	13,715	85.3	1,713	10.6	611	3.8
Males	8,698	100.0	7,558	86.9	945	10.9	195	2.2
Females	7,389	100.0	6,157	83.3	768	10.4	416	5.6
Yellowknife	13,355	100.0	11,438	85.6	1,406	10.5	495	3.7
Males	6,913	100.0	6,034	87.3	739	10.7	124	1.8
Females	6,442	100.0	5,404	83.9	667	10.4	371	5.8
Aboriginal	2,659	100.0	2,022	76.0	585	22.0	36	1.4
Non-Aboriginal	10,671	100.0	9,416	88.2	797	7.5	458	4.3
Regional Centers	7,335	100.0	5,426	74.0	1,503	20.5	358	4.9
Males	3,863	100.0	2,963	76.7	786	20.3	114	3.0
Females	3,472	100.0	2,463	70.9	717	20.7	244	7.0
Aboriginal	3,467	100.0	2,407	69.4	754	21.7	306	8.8
Non-Aboriginal	3,737	100.0	2,966	79.4	696	18.6	27	0.7
Rest of Communities	9,739	100.0	6,883	70.7	2,338	24.0	441	4.5
Males	5,115	100.0	3,786	74.0	1,030	20.1	222	4.3
Females	4,624	100.0	3,097	67.0	1,308	28.3	219	4.7
Aboriginal	7,912	100.0	5,451	68.9	2,093	26.5	316	4.0
Non-Aboriginal	1,677	100.0	1,332	79.4	220	13.1	125	7.5

**TABLE 7A.1-7  
 PROFILE OF CIGARETTE SMOKERS IN THE NORTHWEST TERRITORIES (SOURCE: NWT ALCOHOL AND  
 DRUG SURVEY, 2002)**

	Total	%	Current Smoker	%	Former Smoker	%	Never Smoked	%
Persons 15 Yrs. & Over	30,431	100.0	13,894	45.7	6,302	20.7	10,236	33.6
Males	15,892	100.0	7,342	46.2	3,377	21.2	5,174	32.6
Females	14,539	100.0	6,552	45.1	2,925	20.1	5,062	34.8
15-24	6,413	100.0	3,831	59.7	456	7.1	2,126	33.2
25-39	11,466	100.0	5,349	46.7	1,911	16.7	4,207	36.7
40-59	9,602	100.0	3,732	38.9	2,941	30.6	2,929	30.5
60 Yrs. & Over	2,743	100.0	903	32.9	943	34.4	897	32.7
Employed	21,371	100.0	8,811	41.2	4,767	22.3	7,792	36.5
Not Employed	9,023	100.0	5,069	56.2	1,535	17.0	2,419	26.8
Less than Grade 9	3,542	100.0	1,628	46.0	992	28.0	921	26.0
Grade 9 - 11	7,843	100.0	4,985	63.6	1,249	15.9	1,609	20.5
High School Diploma	6,147	100.0	2,803	45.6	1,137	18.5	2,207	35.9
Trades Cert. Or Diploma	2,258	100.0	1,177	52.1	545	24.1	535	23.7
College Cert. Or Diploma	4,867	100.0	1,929	39.6	946	19.4	1,993	40.9
University Degree	5,455	100.0	1,174	21.5	1,356	24.9	2,926	53.6
Less than \$20,000	11,054	100.0	6,342	57.4	1,433	13.0	3,279	29.7
\$20,000 - \$39,999	5,838	100.0	2,761	47.3	1,304	22.3	1,772	30.4
\$40,000 - \$59,999	5,257	100.0	2,178	41.4	1,377	26.2	1,702	32.4
\$60,000 or more	6,594	100.0	1,827	27.7	1,841	27.9	2,925	44.4
Aboriginal	14,037	100.0	8,504	60.6	2,549	18.2	2,985	21.3
Males	7,013	100.0	4,383	62.5	1,210	17.3	1,421	20.3
Females	7,024	100.0	4,121	58.7	1,339	19.1	1,564	22.3
Non-Aboriginal	16,087	100.0	5,213	32.4	3,674	22.8	7,199	44.8
Males	8,698	100.0	2,858	32.9	2,114	24.3	3,727	42.8
Females	7,389	100.0	2,355	31.9	1,560	21.1	3,472	47.0
Yellowknife	13,355	100.0	4,668	35.0	2,941	22.0	5,748	43.0
Males	6,913	100.0	2,442	35.3	1,447	20.9	3,025	43.8
Females	6,442	100.0	2,226	34.6	1,494	23.2	2,723	42.3
Aboriginal	2,659	100.0	1,356	51.0	576	21.7	728	27.4
Non-Aboriginal	10,671	100.0	3,310	31.0	2,340	21.9	5,020	47.0
Regional Centers	7,335	100.0	3,225	44.0	1,722	23.5	2,388	32.6
Males	3,863	100.0	1,547	40.0	1,128	29.2	1,188	30.8
Females	3,472	100.0	1,678	48.3	594	17.1	1,200	34.6
Aboriginal	3,467	100.0	2,003	57.8	618	17.8	847	24.4
Non-Aboriginal	3,737	100.0	1,197	32.0	1,051	28.1	1,489	39.8
Rest of Communities	9,739	100.0	6,001	61.6	1,639	16.8	2,100	21.6
Males	5,115	100.0	3,353	65.6	802	15.7	961	18.8
Females	4,624	100.0	2,648	57.3	837	18.1	1,139	24.6
Aboriginal	7,912	100.0	5,145	65.0	1,356	17.1	1,410	17.8
Non-Aboriginal	1,677	100.0	705	42.0	283	16.9	689	41.1



**TABLE 7A.1-8  
 EDUCATIONAL ATTAINMENT IN THE NORTHWEST TERRITORIES**

	<b>Pop. 15 &amp; Older</b>	<b>%</b>	<b>Males</b>	<b>%</b>	<b>Females</b>	<b>%</b>
All Persons	29,506	100.0	15,541	100.0	13,965	100.0
Less than Grade 9	3,791	12.8	1,915	12.3	1,875	13.4
High School, No Diploma	5,639	19.1	2,942	18.9	2,697	19.3
High School Diploma	5,790	19.6	2,805	18.0	2,985	21.4
Other Certificate or Diploma	9,588	32.5	5,413	34.8	4,175	29.9
University Degree	4,129	14.0	2,127	13.7	2,001	14.3
Not Stated	570	1.9	338	2.2	232	1.7
All Aboriginal	13,507	100.0	6,866	100.0	6,641	100.0
Less than Grade 9	3,453	25.6	1,706	24.8	1,747	26.3
High School, No Diploma	3,919	29.0	2,005	29.2	1,914	28.8
High School Diploma	1,587	11.7	720	10.5	867	13.1
Other Certificate or Diploma	3,918	29.0	2,064	30.1	1,854	27.9
University Degree	237	1.8	128	1.9	109	1.6
Not Stated	392	2.9	242	3.5	150	2.0
All Non-Aboriginal	15,999	100.0	8,675	100.0	7,324	100.0
Less than Grade 9	338	2.1	209	2.4	129	1.8
High School, No Diploma	1,719	10.7	937	10.8	783	10.7
High School Diploma	4,202	26.3	2,085	24.0	2,118	28.9
Other Certificate or Diploma	5,670	35.4	3,349	38.6	2,322	31.7
University Degree	3,891	24.3	1,999	23.0	1,892	25.8
Not Stated	178	1.1	96	1.1	81	1.1

Prepared by NWT Bureau of Statistics, October 1999