THE FACTS

About Smoking in the Northwest Territories

2001

Northwest Territories Health and Social Services

Contents

Preface

Using information from three social surveys, this report provides information about the pattern of smoking in the Northwest Territories. Smoking prevalence is presented according to age, sex, ethnicity, education levels, and community of residence. Along with information on prevalence, the report also looks at the extent of environmental tobacco smoke in homes, the age at which youth start smoking and some insights into the characteristics of adults who are thinking about quitting or have quit smoking. The report focuses on exploring patterns or differences that are likely to be meaningful for program planning purposes. Moreover, analyses are primarily descriptive in nature and casual interpretations cannot be drawn from any associations described herein.

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Introduction

Tobacco is the only consumer product that when used as intended causes disease, disability and death. Society pays the price, with higher health care spending, lost productivity, more suffering and lost of life as smokers die prematurely.[1] This major public health problem is very difficult to solve because tobacco a powerfully addictive substance, and because there is a long delay between starting to smoke tobacco and dying because of it. There are many reasons why people start to smoke. However, soon after initiation, smoking becomes an intractable habit and smokers have great difficulty quitting. People's addiction to tobacco and the time delay lead to the perception that smoking is not really very dangerous. But it is.

The health risks associated with smoking are numerous. Compared with non-smokers, people who start smoking when they are teenagers and continue to smoke are twice as likely to die prematurely. And many of these deaths occur during the most productive years of adulthood: 40 to 60 years of age. Smoking accounts for about 20% of all deaths among Canadians.[2] It is estimated that smoking accounts for an estimated one quarter of all deaths in the Northwest Territories.[3] This means that between 1991 and 1997, smoking accounted for about 250 deaths, making it the number one preventable cause of death in the NWT, followed by accidents and suicides. However, the population is rapidly aging and if smoking rates remain high in the NWT, the number of smoking attributable deaths can be expected to increase significantly in the next ten to twenty years.

Cigarette smoking is known to adversely affect nearly every system and function of the human body. Smoking is not only the leading cause of preventable death; it is also the leading cause of preventable early ill health and disability. The chances of suffering health problems attributable to smoking are great, and those chances increase both with the length of time the person smokes and with the amount smoked.

Smoking is the cause of at least 85% of cases of lung cancer and a major cause of cancers of the mouth, throat, bladder and esophagus. It is also a major risk factor for cancer of the kidney, pancreas and cervix. Smoking is the leading cause of all pulmonary disease including emphysema and chronic bronchitis. It increases a person's risk of developing heart disease. It also increases the risk of stokes, diabetes mellitus, peptic ulcers, back pain and various other diseases and conditions. Smokers also suffer more frequent and more severe respiratory infections than do nonsmokers.[4]

Tobacco use also negatively impacts the health of non-smokers, especially children. Other people's smoke, called environmental tobacco smoke (ETS), is dangerous to unborn babies, children and adults. Maternal

[1] Kaiserman MJ. *The Cost of Smoking in Canada 1991*. Chronic Diseases in Canada 1997; 18,1: 13-19.

[2] Ellison LF, Morrison HI, De Groth M, Villeneuve PJ. *Health Consequences of Smoking Among Canadian Smokers: An Update.* Chronic Diseases in Canada 1999; 20,1: 36-39.

[3] Government of the Northwest Territories, Department of Health and Social Services. *The NWT Health Status Report 1999.* Yellowknife 1999.

[4] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You.* American Council on Science and Health 1996.

smoking during pregnancy can cause slower growth of the fetus and premature birth, and newborn infants exposed to ETS have higher rates of sudden infant death. Children exposed to ETS suffer more acute respiratory infection and hospitalization. They are also more likely to suffer chronic middle ear effusions and middle ear infections. Children's lives and well being are also affected by the smoking behaviour of others as a result of smoking-caused fires. Non-smoking adults who are exposed to ETS have more respiratory infection, lung cancer and heart disease than non-smokers who are not exposed to other people's tobacco smoke do.[5] (A more detailed discussion of the health consequences of smoking can be found in Appendix A.)

Objective of the Report

Given that tobacco use is a major public health hazard it is clear that an assessment of the extent and nature of smoking is needed to inform public health strategies in the Northwest Territories. Improvements in public health can be obtained by even modest reductions of large health risks such as tobacco use. Policies and programs to reduce tobacco use are more likely to be implemented and more likely to be effective if there is recent local evidence on the pattern of tobacco use by various sectors of the population. A description of smoking prevalence can also be used to evaluate the performance of programs and services directed toward smoking prevention and cessation.

Using information from three social surveys, this report provides information about the pattern of smoking in the Northwest Territories. Smoking prevalence is presented according to age, sex, ethnicity, education levels, and community of residence. Along with information on prevalence, the report also looks at the extent of environmental tobacco smoke in homes, the age at which youth start smoking and some insights into the characteristics of adults who are thinking about quitting or have quit smoking. The report focuses on exploring patterns or differences that are likely to be meaningful for program planning purposes. Moreover, analyses are primarily descriptive in nature and casual interpretations cannot be drawn from any associations described herein.

This report examines smoking only. Smokeless tobacco use is linked to a number of health problems including various cancers of the oral cavity, larynx and esophagus, along with gum disease and nicotine dependence. Smokeless tobacco comes in two main forms: chewing tobacco and snuff. The user either chews the tobacco leaf or plug or places a pinch of snuff between the gum and cheek. The nicotine and other chemicals from the tobacco are absorbed into the bloodstream through the tissues of the mouth.

The prevalence of smokeless tobacco use in the Northwest Territories is about 3% among adults and 3% among youth. Evidence suggests that those who use smokeless tobacco also smoke cigarettes. [6]

Organization of the Report

Conceptually the report takes a life-stages approach. It examines the extent to which individuals are exposed to tobacco smoke at various life stages starting from exposure in the womb, followed by some indication of exposure during childhood, and finally the extent to which youth and adults smoke. Chapter two looks at the extent to which women in the Northwest Territories smoke while pregnant. Maternal smoking adversely impacts on the healthy development of unborn children. The extent to which children in the Northwest Territories are

[5] United States Environmental Agency. *Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders.* Washington 1992.

[6] 1996 NWT Alcohol & Drug Survey and 1999 NWT School Tobacco Use Survey.

exposed to ETS in their homes is also examined.

Chapter three examines the smoking behaviour of youth. It provides important prevalence data for various groups along with other information such as the age youth begin smoking. Chapter four presents the smoking prevalence among adults. The data is presented according to age, sex, ethnicity, and community of residence and education levels. Chapter five examined some of the characteristics of adult smokers who are seriously thinking about quitting smoking along with some characteristics of those who have successfully quit. Chapter six concludes the report with a synthesis of the findings and highlights a number of important implications for prevention and cessation strategy development. Finally, Appendix A provides a more detailed discussion of the general health consequences of smoking and initiates the important task of analyzing the impacts smoking is having on the health of residents of the Northwest Territories.

Methodology

The information presented in this report is derived from three surveys: the 1999 Northwest Territories Labour Force Survey, the 1999 Northwest Territories School Tobacco Use Survey and the 1996 Northwest Territories Alcohol and Drug Survey.

The Northwest Territories Bureau of Statistics conducted the 1999 Labour Force Survey during the winter of 1999 in every community in the Territory. Several questions related to smoking were included in the questionnaire on behalf of the Department of Health and Social Services. Information was collected for a total of 6,410 persons 15 years of age an older living in 2,990 households. The requirement for statistically reliable estimates at the community level dictated sampling procedures. Random sampling procedures were used in ten communities where population size permitted. In all remaining communities, an attempt was made to survey all dwellings. Where an individual was not present, answers were accepted from other household members and designated has a proxy response. The survey results were weighted so that statistics were based on the estimated number of males and females for specific age categories and ethnic groups. As a result, the 1999 Labour Force Survey provides reliable community level information on the number of smokers and the number of households where at least one person regularly smokes inside the home.

Given the concern for underestimating smoking rates among younger persons due to proxy responses,[7] this report selected for individuals 18 years of age and older, the age when the purchase of tobacco products is legal and people's smoking behaviour would be more well known by other household members.[8] The estimates provided are based on information for 6,035 individuals 18 years of age and older living in 2,990 households.

Where the 1999 NWT Labour force Survey was used to describe individuals who were seriously considering quitting, the results were based on non-proxy responses. While proxy responses tend to be accurate when measuring observed status and behaviours, they are not appropriate when measuring people's attitudes. Distributions based on

[7] Millar WJ. *Smoking Prevalence Among Canadian Adolescents: A Comparison of Survey Estimates.* Canadian Journal of Public Heath 1985; 76: 33-37.

[8] Whether self-reporting of smoking status is more valid than proxy reporting is subject to debate. Two possible sources of discrepancy from using proxy measures; (1) recent quitters can sometimes be categorized as current smokers by a proxy, and (2) occasional smokers can sometimes be categorized as former or never smokers rather than current smokers by a proxy response. These two sources of discrepancy can cancel each other out unless quit rates are extremely low. In which case, proxy reporting may underestimate the proportion of current smokers.

non-proxy responses were used to produce adjusted population estimates for each variable of interest.

The 1999 School Tobacco Use Survey was carried out with the assistance of the Territorial Regional Education Authorities and staff of the participating schools. Questionnaires were sent to a total of 46 schools (any school with grades 4 up to 12). A total of 38 schools responded for a school response rate of 83%. While students over the age of 17 responded to the survey, this report focuses on those between the ages of 10 and 17. Since youth of this age are more likely to be still attending school, the results should present a better estimation of all youth of this age.

Out of a target population of approximately 5,180 students aged 10 to 17 years, a total of 3,006 students participated in the survey representing a student response rate of 58%. The Northwest Territories Department of Education, Culture and Employment provided administrative statistics relating to the school population. This data was used to calculate sample weights that were applied to the results to estimate the total school population by ethnic group, age and sex. The survey provides reliable estimates at a regional level.

The aggregate characteristics of the sample approximate the population characteristics for all listed variables except age. Students between 15 and 17 were under-represented in the sample. It is possible that these students are more likely to be absent from school when the questionnaire was administered. It is also possible that they were less willing to take part in the survey. From an administrative perspective, it would be difficult to ensure complete coverage of the participating schools because of absenteeism rates that vary on any given day. However, if students who smoke are more likely to be absent from schooling, the prevalence of smoking may be underestimated in the school population.

The 1996 Northwest Territories Alcohol and Drug Survey was conducted during the winter of 1996. The population sampling rates for the survey were determined by the requirement for statistically reliable estimates by sex, ethnic group and age category at the territorial level. A total of 881 persons 15 years of age and older were interviewed. Weighting of the statistical file was carried out based on the estimated numbers of males and females for specific age categories and ethnic groups. The survey provides more detailed information about the smoking behaviour of adults and is primarily used to calculate quit rates for different segments of the territorial population.

Data Analysis

There are two ways to produce the rates when calculating survey results: you can either exclude or include respondents who did not answer the question at hand but who were classified as respondents to the overall survey. By excluding those that did not state an answer, you reduce the total population figure and essentially make an assumption about what those people would have stated as an answer (i.e., their smoking status is distributed in the same way as for people providing an answer). However, including the “not stated” responses provides a more accurate picture of what people actually said, and does not make an assumption about what people who did not state anything may have said. There is no hard and fast rule about using one method or another.

In this report, the decision was made to illustrate the real level of stated responses rather than inferring that those who did not state an answer may have has the same distribution as other respondents. In most cases in the 1999 NWT Labour Force Survey and the 1999 School Tobacco Use Survey, the percentage of not stated responses was approximately 2%. If the not stated responses were excluded, the overall

percentage of smokers would increase by about 1% in these two surveys.

All sample survey estimates have some degree of sampling error attached to them. It is unlikely that the sample will perfectly reflect the total population. The magnitude of the sampling error is, in part, a function of sample size: a large sample typically has a smaller sampling error. If the sample size on which an estimate is based is too small, the estimate may be unreliable. The basis for measuring the potential size of inaccuracies of this kind is the standard error of the estimate derived from the survey results.

Because estimated proportions can have differential error, depending on the size of the subgroups examined, it is important for survey reports to qualify the reliability of estimates. One common means of comparing the precision of different estimates based on different sample sizes and different types of measures is the coefficient of variation (CV). It is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percentage of the estimate. If the CV is less than 16.5%, data is presented without qualification. Where the CV is between 16.5% and 33.3%, the estimate has moderate sampling variability and the result should be used with caution. If the CV is greater than 33.3%, the estimate has high sampling variability and should not be used or used only with extreme caution.

It should be noted that the CVs calculated for this report are approximate measures. The approximate CVs were produced using the coefficient of variation formula based on a simple random sample. However, both the 1999 NWT Labour Force Survey and the 1996 NWT Alcohol and Drug Survey used a more complex sample design. In effect, the CV calculations did not take into account a factor called the Design Effect created by the sample design utilized in these surveys. Moreover, the 1999 School Tobacco Use Survey was not based on a probability sample and possible bias due to non-response cannot be taken into account by the CV estimates. Re-weighting various groups to minimize possible influences of non-response bias was not carried out for the analysis in this report. As a result of these issues, the calculated CVs provide an approximate indication of estimate reliability only. The calculations are useful in that they indicate where proportions and/or the subgroups on which proportions were based resulted from a small number of responses. Anyone with questions about the sampling variability of estimates presented in this report can contact the Research and Analysis Unit at the Department of Health and Social Services, Government of the Northwest Territories.

Standardization

Since smoking behaviour is influenced by age – for example, younger adults are more likely to be smokers than are older adults - whenever possible, age-specific data are presented with another variable. In a number of other instances, age adjusted estimates using the direct standardization method were presented to compensate for any possible confounding influence of age on the estimates. Where age adjusted estimates were calculated the 1999 Northwest Territories population was used as the standard population. The possible influence of other factors was not taken into account in the report.

Table Entries

Most table entries are percentages that add up to 100% across the rows. However, since whole numbers are presented, some rounding error may occur, and total may not equal 100% exactly. All entries are weighted to reflect the estimated distribution among the entire Northwest Territories population. Missing data are reported in the tables. Calculations that would exclude missing data are therefore possible.

Notes on the Tables and Figures

* Moderate sampling variability (approximated CV between 16.5% and 33.3%); interpret with caution.

\# High sampling variability (approximated C.V. > 33.3%) interpret with **extreme** caution.

\- Zero or too small to be expressed

… Data not available

Key Finding – Smoking in the NWT

- A high percent of women between 18 and 44 (considered childbearing years) in the Northwest Territories are current smokers. In the Northwest Territories, an estimated 42% of women between the ages of 18 and 44 indicated they are current smokers, compared with 28% in Canada.

- Not only do a larger percentage of women of childbearing years in the Northwest Territories smoke compared to women in Canada, smokers who become pregnant are less likely to quit. In the Northwest Territories, 69% of the women, who indicated they were smoking at the time of their last pregnancy, continued to smoke. This means that 31% stopped smoking when they became pregnant. In Canada, 49% of the women who indicated they were smoking at the time continued to smoke during the pregnancy and 51% indicated they stopped smoking.

- A number of surveys indicate that a large number of Northwest Territories residents are regularly exposed to the hazards of ETS. Respondents to the 1996 National Population Health Survey were asked if a household member smokes regularly inside the house. In the Northwest Territories 56% indicated that this is the case, compared to 34% in Canada.

- Within the Northwest Territories, while there are large differences between communities. Results from the 1999 NWT Labour Force Survey indicate that regular smoking occurs in an estimated 41% of the households in Yellowknife, 54% in the regional centres of Fort Smith, Hay River and Inuvik, and 61% for all other smaller communities combined. It is evident that large numbers of people are exposed to ETS in their households.

- The large number of smoking households in many communities has meant that a large number of NWT children less than 15 years of age are regularly exposed to ETS at home. Nearly half (48%) of all children under the age of 15 in the Northwest Territories live in a home where smoking occurs regularly. The degree to which children are exposed to tobacco smoke at home varies between communities.

- In Yellowknife, about 39% of children under 15 are regularly exposed to ETS at home. In the regional centres of Fort Smith, Hay River and Inuvik, approximately 50% of children less than 15 years of age live in households where someone smokes on a regular basis. The extent of exposure to ETS at home for children increases to about 56% in the other communities in the Territories. In some communities over 70% of children are regularly exposed to ETS at home.

- The extent of the smoking problem among youth in the Northwest Territories is highlighted when smoking status is compared with national figures. Youth in the Northwest Territories are more than twice as likely as are their

Canadian counterparts to be current smokers. An estimated 31% of youth between 12 and 14 in the NWT smoke, compared to 85 in Canada.

- A large number of youth in the NWT indicated they are former smokers, which suggests they had experimented with smoking. Evidence suggests that those who experiment are more likely to smoke later on.

- In the Northwest Territories, the risk of smoking initiation climbs sharply from ages 12 to 15 years making this period critical in the adoption of smoking. At age 12 about 10% are current smokers, by the age of 15, an estimated 50% smoke. By the age of 15 the shift from experimenting to becoming a current smoker or stopping has occurred. It appears that 11 and 12 year olds are experimenting with smoking and 13 and 14 year olds are making choices about whether to continue.

- Females between 13 and 17 are more likely to be current smokers than are males.

- Ethnicity is an important factor related to smoking behaviour among youth. Aboriginal youth are about three times more likely than non-Aboriginal youth to be current smokers. This difference is evident for all age groups. An estimated 8% of Aboriginal children between 10 and 12 currently smoke, compared with 1% of non-Aboriginal children in this age group. Among Aboriginal youth between the ages of 13 and 14, an estimated 37% indicate they smoke, compared to 10% of non-Aboriginal youth. At 66%, the current smoking rate among Aboriginal youth between 15 and 17 is extremely high. Meanwhile, the rate among non-Aboriginal youth in this age group is 24%.

- Smoking prevalence is higher in smaller communities in the Northwest Territories. An estimated 17% of the youth between 10 and 17 years of age in Yellowknife are current smokers, compared to 28% in the regional centres of Hay River, Fort Smith and Inuvik, and 39% in the other smaller communities. The difference between communities is even more evident among the youth between 15 and 17 years of age. In the smaller communities, 74% are current smokers compared to 47% in the regional centres and 32% in Yellowknife.

- The problem is getting worst, the prevalence of smoking among youth increased from 24% in 1994 to 27% in 1999.

- A large proportion of adults in the Northwest Territories smoke, the prevalence is nearly twice the Canadian rate and needs to be considered a major public health issue. There are approximately 12,000 individuals 18 years of age and older who are current smokers living in the Northwest Territories. This represents 42% of the population in this age group. Meanwhile an estimated 25% of person 18 years of age and older in the general Canadian population are current smokers.

- An estimated 37% of Northwest Territories residents 45 years of age and older are current smokers, compared to 18% in the general Canadian population. This is the age group where the negative health effects of smoking are the most prevalent. Smoking related illness and mortality will take a huge toll on the population of the Territories unless a large number of adults are able to quit.

- Overall, men are slightly more likely (43%) than women (40%) to be current smokers. Meanwhile among young adults (those between 18 and 24 years of

age, women are just as likely to smoke as their male counterparts (45%).

- There is considerable variation among communities within the Northwest Territories in the proportion of the adult population who are current smokers. Paulatuk has the highest smoking rate (73%) followed by Aklavik, Tuktoyaktuk and Lutselke (68%); Fort Good Hope (66%); and Tsiigehtchic, and Fort Resolution (65%). Meanwhile the lowest smoking rates are in Kakisa (19%), Yellowknife (31%) and Hay River (33%). In general, smoking prevalence tends to be higher in smaller communities in the Territory.

- Since the vast majority of the population in smaller communities in the Northwest territories is made up of Aboriginal peoples, it is not surprising that smoking rates are higher among these groups than they are among the non-Aboriginal population. An estimated 56% of Aboriginal persons in the Northwest Territories over the age of 17 are current smokers, compared with 31% of non-Aboriginal persons. The discrepancy remains even when differences in age structure are taken into account. Smoking prevalence is higher among Aboriginal persons in every age group.

- While smoking prevalence among Aboriginal peoples in the Northwest Territories is high when compared to Non-Aboriginal residents, the rates are similar to those found among Aboriginal peoples throughout Canada (approximately 60%).

- Smoking prevalence varies between the different aboriginal groups within the Territories. The highest rates are found among Inuvialuit and Inuit where an estimated 65% of adults currently smoke. Smoking prevalence among First Nations is also very high - 56% of those 18 years and older. Metis are slightly less likely to be smokers, 49% of adults are smokers.

- While being Aboriginal is a predictor of being a smoker, it is important to point out that socioeconomic status is also strongly related to smoking prevalence. In general, smoking rates tend to be higher among people with lower socioeconomic status. Education is used here as an indicator of socioeconomic status. It affects income levels as well as employment status.

- In the Northwest Territories, ethnicity is closely associated with socioeconomic status. Aboriginal people tend to have less education and lower levels of income than do Non-Aboriginal people. For example, 51% of the Aboriginal population over the age of 17 years has less than high school education with no certificates or diplomas, compared to 9% of the Non-Aboriginal population. Approximately 2% of the adult Aboriginal population has a university degree, compared to 25% of the Non-Aboriginal population.

- The inverse relationship between smoking prevalence and educational level is strongly apparent in the 18 to 24, 25 to 34 and 35 to 44 age groups. For example, in the 25 to 34 year age group, current smoking rates range from a high of 65% among persons with less than grade nine to 11% among persons with a university degree.

- To evaluate the effects of differences in education levels on smoking prevalence free from any distortion caused by age, age-standardized smoking rates were calculated using the 1999 population of the NWT.[9] Aboriginal and Non-Aboriginal persons with less than grade nine or some high school but no diploma

[9] It is important to point out that the age-standardized rates may not equal the true proportions in the population for each education category.

are more than two times more likely to smoke than are persons with a university degree. For example, 61% of Aboriginal and 60% of Non-Aboriginal adults with less than grade nine, smoke, compared with 23% of Aboriginal and 14% of Non-Aboriginal adults with a university degree (age-standardized rates). However, the difference between Aboriginal and Non-Aboriginal smoking rates remains high for persons with a high school diploma and for those with another type of diploma or certificate.

- A large number of adults in the Northwest Territories smoke. If there is any good news, it is that a large percentage of these are seriously considering quitting and a number actually quit.

- An estimated 43% of current adult smokers indicated they are seriously considering quitting. Women are more likely to be contemplating quitting than are men (47% vs. 40%). Women between 18 and 24 are the most likely to be thinking about quitting (56%).

- Aboriginal adult smokers are less likely (38%) to be seriously considering quitting smoking within the next six months than are non-Aboriginal smokers (52%). The difference holds for all age groups but is greatest among adults less than 35 and the smallest among those between 35 and 44 years of age.

- The percentage of smokers who are considering quitting within the next six months is influenced by the highest level of schooled achieved. Persons with lower levels of education were less likely to be thinking about quitting in the near future. An estimated 27% of persons with less than grade nine were contemplators, compared to 48% of persons with a high school diploma, and 49% of those with a university degree (age adjusted rates).

- Along with educational attainment, community of residence appears to be associated with people's expressed motivation to quit smoking. Adult smokers living in Yellowknife (58%) are more likely to be thinking about quitting than are smokers living in the regional centers of Fort Smith, Hay River and Inuvik (44%). Meanwhile, adult smokers living in the smaller communities are least likely to be thinking about quitting smoking (33%). This pattern was observed in all age groups.

- Aboriginal smokers 25 years and older living in Yellowknife are more likely to indicate they are seriously considering quitting smoking, than are Aboriginal smokers living in the regional centers and in the smaller communities (70%, 42%, and 29% respectively). The same pattern can be seen among non-Aboriginal smokers in this age group where an estimated 56% in Yellowknife, 50% living in the regional centers and 38% living in the smaller communities indicated they think about quitting

- Once addicted, most smokers are unable to successfully quit at their first attempt. Many adult smokers often attempt quitting repeatedly over many years. Current smokers who tried to quit without success made an average of four attempts.

- In 1996, approximately 7,300 adults in the Northwest Territories were former smokers. This represents 26% of the population aged 18 and older. It is apparent that while a large number of adults in the Territories smoke, a large number have also been able to quit.

- One way to gauge how successful residents of the Northwest Territories

are at quitting smoking is to calculate quit rates – the proportion of successful quitters among all those who have ever smoked (current and former smokers combined). In 1996, the quit rate among Territorial adults was 37%, compared to 50% among Canadian adults in 1999.

- The overall rate of successful quitting is similar for men (36%) and women (38%). Not surprisingly quit rates tend to increase with age. An estimated 26% of young adults between 18 and 24 indicate they had successfully quit compared to 33% of those between 25 and 43 years. Persons between 35 and 44 have a quit rate of 35%, and 50% of those 45 years of age and older had quit smoking.

- Aboriginal adults have a lower quit rate (26%) than non-Aboriginal adults (48%). Results from the 1996 Alcohol and Drug Survey also show that 25% of persons with less than a high school education who have ever smoked, successful quit. Meanwhile, an estimated 64% of ever smokers with a university degree, 42% of those with some other post secondary education, and 37% of those who had completed high school had successfully quit smoking.

- As in the case for smoking prevalence, the difference in quit rates between Aboriginal and non-Aboriginal adults is related to differences in their socioeconomic status. When level of education is taken into account, some of the differences in quit rates between Aboriginal and non-Aboriginal adults decrease.

Chapter 2

Exposure to Environmental Tobacco Smoke

Introduction

Maternal smoking during pregnancy can have adverse effects on the health of the fetus and the outcome of the pregnancy. The fetus can also be adversely affected if the expectant mother is a nonsmoker regularly exposed to environmental tobacco smoke (ETS). While the fetus does not directly breathe in smoke, it is exposed to many of the 4,000 chemicals found in tobacco smoke that cross the placental barrier after being absorbed by the mother. Exposure to both carbon monoxide and nicotine has a negative impact on the healthy development of the fetus by depriving the unborn baby of much needed oxygen and other nutrients.[10]

Given our cold climate, people in the Northwest Territories spend a great deal of time indoors, during the winter months. As a result, the quality of indoor air can have a significant impact on our health. Without proper ventilation, indoor air can become contaminated. The most harmful and widespread contaminant of indoor air is tobacco smoke. The toxins found in cigarette smoke not only permeate the surrounding air, but also enter the bodies of nonsmokers who breathe in the environmental tobacco smoke (ETS), posing serious health risks. Studies have shown that there is a link between regular exposure to ETS and disease.[11]

Smoking During Pregnancy

Pregnant women do not usually become smokers. Rather, women who smoke become pregnant. And the powerful addiction compels them to continue smoking even though they may know that they are damaging their own health and the health of their unborn child.[12] In the Northwest Territories, an estimated 42% of women between the ages of 18 and 44 indicated they are current smokers, compared with 28% in Canada. Smoking prevalence increases to 58% among Aboriginal women of childbearing age. Meanwhile, 29% of non-Aboriginal women in this age group smoke.[13]

Not only do a larger percentage of women of childbearing years in the Northwest Territories smoke compared to women in Canada, smokers who become pregnant are less likely to quit. Results from the 1996 Alcohol and Drug Survey shows that 66% of women in the Northwest Territories, who indicated they were smoking at the time of their last pregnancy, continued to smoke. An estimated 29% stopped smoking when they became pregnant. In Canada, 47% of the women who indicated they were smoking at the time continued to smoke during the pregnancy and 49% indicated they stopped smoking.

[10] Health Canada. *The effects of tobacco smoke and second-hand smoke in the prenatal and postnatal periods: a summary of the literature*. Ottawa: Minister of Supply and Services Canada, 1995.

[11] Wiebel FJ. *Health Effects of Passive Smoking*. The Tobacco Epidemic. Basel Karger, 1997; 28: 107-121.

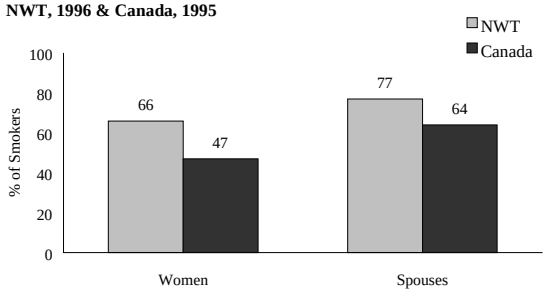
[12] Health Canada. *Smoking and Pregnancy: A Woman's Dilemma*. Ottawa: Minister of Supply and Services Canada, 1995.

[13] 1999 NWT Labour Force Survey (provided by the NWT Bureau of Statistics) and the 1999 Canadian Tobacco Use Survey (microdata file).

A 1993 survey of breastfeeding practices suggests that the percentage of NWT women smokers who quit when they become pregnant may in fact be much smaller. The survey targeted all mothers of infants born during 1993. It included a number of questions related to the mother's smoking bahaviour before, during and after the pregnancy. The target population during that year was 786 mothers in the current NWT (excluding the community of Holman). Responses were received from 592 individuals. Approximately 51% of respondents indicated they smoked before pregnancy and 47% said they smoked during pregnancy. This means that just 8% of smokers quit during their pregnancy. It appears that very few women smokers quit if they become pregnant.[14]

Figure 2.1

Women & Spouses who Continued to Smoke During a Pregnancy
NWT, 1996 & Canada, 1995



Sources: 1996 NWT & 1995 Canadian Alcohol and Drug Surveys, provided by NWT Bureau of Statistics

Studies have shown that women are more likely to quit early in their pregnancy if they live with nonsmokers.[15] Moreover, regardless of the influence that smoking by spouses of pregnant women may have on the smoking behaviour of the women themselves, the fetus can be adversely affected by second hand smoke. Results from the 1996 Alcohol and Drug Survey reveal that an estimated 77% of men in the Northwest Territories continued to smoke while their spouse or partner was pregnant, compared with 64% in Canada.

Exposure to ETS at Home

A number of surveys indicate that large proportions of Northwest Territories residents are regularly exposed to the hazards of ETS. Respondents to the 1996 National Population Health Survey were asked if a household member smokes regularly inside the house. In the Northwest Territories 56% indicated that this is the case, compared to 34% in Canada. Moreover, as outlined above, the magnitude of the problem in the north may be compounded by the fact that given the colder climate residents likely spend more time indoors than do people in southern Canada.

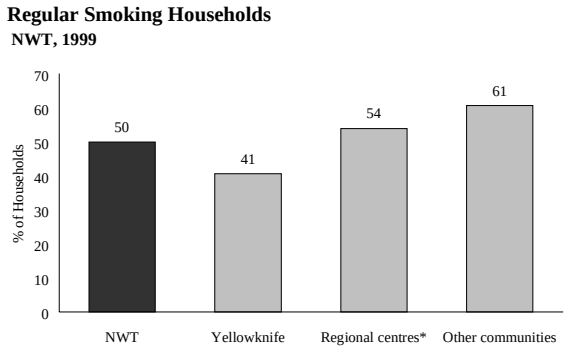
The 1999 NWT Labour Force Survey provides regional and community level information on ETS in homes. In this survey respondents were asked if anyone smoked inside the dwelling on a daily basis, a weekly basis or a few times per year. Households where someone smoked inside on a daily or weekly basis can be considered regular smoking households.

An estimated 50% of households in the Northwest Territories fit this description. There are large differences between communities. Regular smoking occurs in an estimated 41% of the households in Yellowknife, 54% in the regional centres of Fort Smith, Hay River and Inuvik, and 61% for all other smaller communities combined. There were also large differences between the smaller communities. The percentage of smoking households ranged from a high of 82% in Colville Lake and Jean Marie River, and 78% in Aklavik and Wekweti to a low of 36% in Holman and about 40% in Kakisa and Trout Lake.

[14] Government of the Northwest Territories, Department of Health and Social Services. *Database on Breastfeeding: Survey of Infant Feeding Practices from Birth to Twelve Month.* Yellowknife, 1996.

[15] Health Canada. *Smoking and Pregnancy: A Woman's Dilemma.* Ottawa: Minister of Supply and Services Canada, 1995.

Figure 2.2



Source: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics

* Regional Centres include Fort Smith, Hay River & Inuvik

Children Exposed to ETS at Home

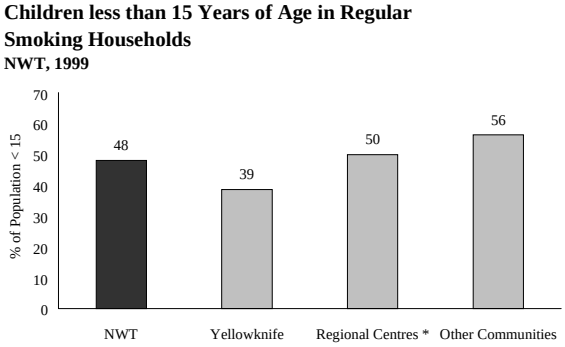
Infants and young children are particularly vulnerable to the effects of ETS exposure, and the home is the most important site of such exposure. Since they are still growing physically and mentally, the harmful effects of ETS will have a larger impact and can have long-term implications for their health in adulthood. Younger lung tissue is more vulnerable to insult and is subject to damage at lower concentrations of tobacco smoke. Young children have smaller airways and they breathe more rapidly. This means they inhale more air and more pollutants relative to their total body weight. Moreover, their immune system is less mature; they are less able to complain; they are less able to remove themselves from exposure.[16]

An estimated 48% of all children under the age of 15 in the Northwest Territories live in a home where smoking occurs regularly. In 1996/97, an estimated 33% of children in Canada under the age of 12 were regularly exposed to ETS in their home.[17] The degree to which children are exposed to tobacco smoke at home varies between communities.

In Yellowknife, about 39% of children under 15 are regularly exposed to ETS at home. In the regional centres of Fort Smith, Hay River and Inuvik, approximately 50% of children less than 15 years of age live in households where someone smokes on a regular basis. The extent of exposure to ETS at home for children increases to about 56% in the other communities in the Territories.

Again, there are large differences between the smaller communities with those north of Wrigley tending to have a larger percentage of children exposed to ETS at home on a regular basis. The highest rates occur in the community of Paulatuk (84%). In the area south of Wrigley, the extent of ETS exposure among children varied widely between communities. About 82% of the children in the community of Fort Resolution live in smoking households, compared to just 11% in Trout Lake and 30% in Detah.

Figure 2.3



Source: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics

* Regional Centres include Fort Smith, Hay River & Inuvik

Adults Exposed to ETS at Home

About 51% of the population 15 years of age and older live in household where smoking takes place on a regular basis. However, there were large differences between communities. In Yellowknife about 41% of the population live in households where smoking regularly occurs. In the regional centres of Fort Smith, Hay River and Inuvik, the percentage of the population 15 years

[16] DiFranza JR, Lew RA. *Morbidity and Mortality in Children Associated with the use of Tobacco Products by Other People*. Pediatrics 1999; 97,4: 560-568.

[17] Health Canada. *National Population Health Survey Highlights Smoking Behaviour of Canadians: cycle 2 Fact Sheets*, January 1999.

and older regularly exposed to tobacco smoke in their homes increases to about 55%.

In the smaller communities, approximately 62% of the population 15 years and older live in households where someone smokes inside on a regular basis. Within the northern part of the Territory, the percentage of the population 15 and older in smoking households ranged form a high of 79% in Aklavik and 75% in Paulatuk to a low of 33% in Holman.

Large differences between communities are also evident in the southern part of the Territory. Approximately 83% of the population 15 years of age and older in the community of Wekweti, and 81% in the community of Jean Marie River live in homes where smoking takes place on a regular basis. Meanwhile, Kakisa (46%), Rae Edzo (49%) and Detah (50%) have the lowest percentage of the population 15 and older living in households where someone smokes on a regular basis.

Conclusion

A pregnancy free from exposure to tobacco smoke provides the best chance for a healthy baby and mother. If a woman smokes when she becomes pregnant, the most effective way to protect the fetus is to quit. A woman who quits within the first three or four months of pregnancy lowers the chances of her baby being born premature or with health problems related to smoking. Moreover, expectant mothers who quit early in pregnancy may be more successful in staying smoke free than those who quit later.[18]

Initiatives to raise awareness and motivate behavioual change among pregnant women and their partners are needed to reduce the harmful effects of prenatal and postnatal exposure to tobacco smoke. Such programs should be part of a larger strategy that encourages youth not to start smoking and encourage women to quit smoking before they become pregnant. Smoking cessation programs should be accessible to pregnant women as a priority group.

The large number of exposed people, coupled with the evidence that ETS causes illness constitutes a substantial public health issue. The adverse health effects of ETS are not trivial. It is a serious hazard that can be easily avoided. Children in particular do not choose to breathe other people's tobacco smoke. Their right to grow up in an environment free from tobacco smoke should be safeguarded. Successfully eliminating children's involuntary exposure to tobacco smoke requires a comprehensive health promotion effort with two main thrusts: legislation and education.

Legislation encompasses all regulatory approaches to controlling where and when people can smoke. Education includes public information, debate and advocacy; all designed to encourage behaviour change. While legislation works to control exposure to tobacco in public spaces, it is of limited value in reducing exposure in private homes, where exposure is likely the greatest. Educational strategies, including education about the risks to children from ETS exposure and steps to eliminate exposure, will be more effective in these settings. Health care workers play an important role in any education strategy as they can counsel children about avoiding smoke and adults about the importance of smoke-free air for children.

The effectiveness of a public education campaign to curb exposure to ETS in homes can be seen in the community of Holman where for a number of years health care workers have encouraged smokers to smoke outside of their homes. Evidence from the 1999 Northwest Territories Labour Force Survey appears to indicate that it is working. Smoking prevalence among adults in

[18] Health Canada. *Smoking and Pregnancy: A Woman's Dilemma*. Ottawa: Minister of Supply and Services Canada, 1995.

Holman is among the highest of any community in the Northwest Territories (62%) yet smoking takes place in 36% of the households in the community. In contrast, in all other communities the percentage of households in which smoking takes place on a regular basis is either higher, or about the same as, the smoking rate among adults in the community.

Removing the health risks of ETS exposure will require a concerted effort to remove tobacco smoke from public places, the workplace, the home, and any other enclosed environment that human beings occupy. The hazard in the home requires greater public education so smokers recognize the risk to which they expose members of their family, particularly their children. Reducing ETS in the home also has a potential impact on future adolescent smoking prevalence. If children do not see their parents and other adults smoking, they may be less inclined to start themselves.

Table 2.1
Smoking Status of Women in Childbearing Years by Ethnicity
Women Age 18 to 44, Northwest Territories & Canada, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
NWT	9,040	42	57	1
Aboriginal	4,200	58	41	1
Inuit/Inuvialuit	902	65	32	3
First Nations	2,497	58	41	1
Metis	800	49	50	1
Non-Aboriginal	4,840	29	70	1
Canada	6,825,200	28	72	-

Sources: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics
and 1999 Canadian Tobacco Use Survey (micordata file).

Table 2.2

Smoking Behaviour During Pregnancy

Current & Former Smokers Age 18+, Northwest Territories, 1996 and Canada, 1995

		..…….... Smoked ...…….			
		Smoked same	Cut down	Stopped smoking	Not Stated
	Total	(%)	(%)	(%)	(%)
Women who have been pregnant (Current and Former Smokers)					
NWT	5,644	19	47	29	4
Aboriginal	3,149	20*	49	28	3
Non-Aboriginal	2,496	18*	45	31	6
Canada	3,826,485	20	27	49	4
Spouse or partner of women who have been pregnant (Current and Former Smokers)					
NWT	4,247	40	37	16	7
Aboriginal	2,418	43	43	14*	1
Non-Aboriginal	1,830	37	29*	18*	16
Canada	4,033,413	46	18	28	8

Sources: 1996 NWT Alcohol and Drug Survey & 1995 Canadian Alcohol and Drug Survey, provided by NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 2.3
Population in Regular Smoking Households, by Community and Age
Northwest Territories, 1999

	Total Households	% Smoking Homes	Total Pop.	% in Smoking Homes	Pop. Under 15	% in Smoking Homes	Pop. 15 & Older	% in Smoking Homes
NWT	13,340	50	41,235	50	12,683	48	28,552	51
Yellowknife	6,016	41	17,715	41	4,885	39	12,829	41
Regional centres	3,279	54	9,509	54	2,861	50	6,649	55
Fort Smith	846	56	2,549	58	745	56	1,803	59
Hay River	1,263	51	3,619	51	1,064	44	2,554	53
Inuvik	1,170	56	3,342	53	1,051	51	2,291	54
Other communities	4,045	61	14,011	60	4,937	56	9,074	62
Aklavik	228	78	760	79	274	80	486	79
Colville Lake	30	82	109	71	35	64	74	74
Deline	181	62	635	64	243	62	392	65
Fort Good Hope	197	73	688	74	255	75	433	74
Fort McPherson	284	63	929	59	303	53	626	61
Holman	150	36	484	32	181	30	303	33
Norman Wells	336	55	921	55	270	51	651	57
Paulatuk	65	75	307	80	157	84	150	75
Sachs Harbour	48	62	147	58	58	54	88	60
Tsiigehtchic	60	69	212	63	93	49	119	73
Tuktoyaktuk	261	56	963	64	368	61	596	66
Tulita	142	56	507	60	214	59	293	61
Detah	72	49	246	43	85	30	162	50
Enterprise	48	62	154	66	65	73	89	62
Fort Liard	151	55	553	52	205	43	348	57
Fort Providence	255	61	864	57	247	49	617	61
Fort Resolution	190	76	560	79	181	82	379	77
Fort Simpson	425	66	1,238	69	363	66	875	70
Hay River Reserve	87	57	313	56	98	61	214	53
Jean Marie River	15	82	36	79	7	73	28	81
Kakisa	10	40	35	40	7	14	28	46
Lutselk'e	97	62	332	62	115	59	217	63
Nahanni Butte	28	52	83	55	29	54	54	56
Rae Edzo	419	47	1,859	45	732	38	1,127	49
Rae Lakes	64	52	268	48	91	37	177	54
Wekweti	37	79	147	81	38	77	108	83
Trout Lake	24	41	80	43	19	10	61	54
Wha Ti	88	68	408	71	145	63	263	76
Wrigley	53	61	173	56	58	54	116	57

Source: 1999 NWT Labour Force Survey; provided by NWT Bureau of Statistics

Note: Where the total population estimate is less than 75 the proportions should be interpreted with caution.

Chapter 3

Youth

Introduction

Youth are at the highest risk of tobacco use initiation.[19] There are a number of complex and interacting reasons why children and adolescents start to smoke. They often mistake smoking for an attribute of independence – an image they see in adults who smoke and skillfully built by tobacco advertising. However, what often starts out as an "act of independence" rapidly becomes an addictive dependence on tobacco. Therefore, preventing the onset of adolescent smoking is an important part of reducing the overall prevalence of smoking and should be a significant component in any smoking prevention strategy.

The initiation of smoking among youth normally progresses in five stages: forming attitudes and beliefs about smoking; trying for the first few times; experimenting with smoking on a repeated but irregular basis; regularly smoking at least weekly across a variety of situations and personal interactions; becoming addicted. This process can take about two to three years, but it can also occur much faster.[20]

There are a number of very good reasons to prevent smoking uptake among youth. People who do not start smoking before the age of 18 are unlikely to start. Moreover, the probably of quitting is associated with the age at which people start. Those who begin smoking at an early age are less likely to quit later in life.[21] The younger someone begins to smoke, the greater their chances of developing lung cancer or other chronic smoking related diseases. [22]

Smoking during adolescence also has more immediate impacts on health. Young smokers are likely to be less physically fit than their non-smoking peers are. Smoking also poses a risk for respiratory symptoms including the incidence of respiratory tract infections and increased rates of cough, wheezing and shortness of breath.[23] Finally, evidence suggests that smoking may trigger other risky health habits. Compared to non-smokers, young smokers are more likely to experiment with alcohol, drugs and other addictive behaviours such as gambling.[24]

Smoking Status: All Youth

The smoking status of youth in the Northwest Territories can be divided into two categories. Those who indicated they are smoking at the time of a survey were classified as current smokers and those who indicated they were not smoking at the time were classified as non-smokers. Current smokers were further divided between those who indicated they smoke daily and those

[19] In this section, the term youth refers to persons between 10 and 17 years of age.

[20] Centers for Disease Control. *Preventing Tobacco Use Among young People: A Report of the Surgeon General Executive Summary.* Morbidity and Mortality Weekly Report 1994; vol.43/no. RR-4.

[21] Chen J, Millar WJ. *Age of smoking initiation: Implications for quitting*. Health Reports 1998; 9, 4: 39-46.

[22] Villeneuve P, and Morrison H. *Heath Consequences of Smoking in Canada: An Update.* Chronic Diseases in Canada 1994; 15, 3: 102-104.

[23] Centers for Disease Control. *Preventing Tobacco Use Among young People: A Report of the Surgeon General Executive Summary.* Morbidity and Mortality Weekly Report 1994; vol.43/no. RR-4.

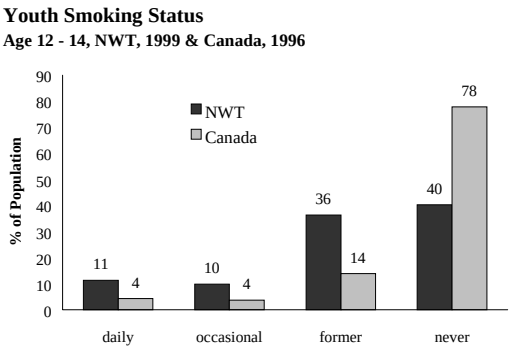
[24] Reading J L. *Eating Smoke: A Review of non-Traditional Use of Tobacco Among Aboriginal People.* Ottawa: Health Canada, 1996.

who smoke on an occasional basis. Moreover, non-smokers were divided between those who have never smoked and those who tried smoking at one time but are not smoking at the time. These four categories describe the smoking status of youth in the Northwest Territories.

Results from the 1999 school tobacco survey indicate that approximately 27% of all youth between 10 and 17 are current smokers. An estimated 19% of youth in this age group smoke on a daily basis and 8% are occasional smokers. Another 30% are former smokers. This indicates that 41% of all youth between 10 and 17 have never smoked a cigarette. The extent of the smoking problem among youth in the Northwest Territories is highlighted when smoking status is compared with national figures.

Figure 3.1 presents smoking status among Canadian and Northwest Territories adolescents between 12 and 14 years of age. As can be seen, persons between 14 and 14 in the Northwest Territories are twice as likely as their Canadian counterparts to be current smokers. They are also more than twice as likely to be former smokers. Meanwhile, 80% of Canadian youth between 12 and 14 have never smoked, compared to just 40% in the NWT.

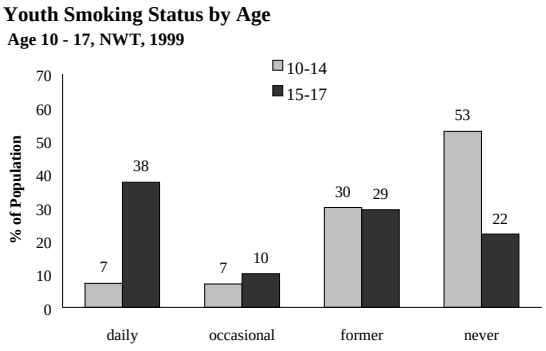
Figure 3.1



Sources: 1999 NWT School Tobacco Use Survey & 1996 National Population Health Survey

The process of becoming a smoker is complex. Smoking uptake does not always follow a sequential pattern of initiation followed by a gradual increase in the frequency of smoking. Rather, smoking uptake is often an irregular process where youth start and stop several times before they either move from experimentation and become regular smokers or decide not to smoke. Therefore, occasional and former smokers are important groups to consider when looking at smoking status because the categories may include those who are experimenting with smoking. Evidence suggests that experimenters are more likely to become smokers at a later date than those who have never smoked.[25] Figure 3.2 shows that just 22% of adolescents between 15 and 17 years of age indicated they had never smoked. It appears the chance of moving into adulthood, as a non-smoker in the Northwest Territories is not that great.

Figure 3.2



Source: 1999 NWT School Tobacco Use Survey

Not all teens who experiment with cigarettes become addicted smokers. It may take some time for occasional smokers to reach that level of nicotine dependence. However, youth who indicate they smoke every day are probably already addicted to nicotine and they likely experience this addiction in a manner and severity similar to what adult

[25] O'Louhlin J, Gilles P, Lise R, Sanchez G. *One-year predictors of smoking initiation and of continued smoking among elementary schoolchildren in multiethnic, low-income, inner-city neighbourhoods.* Tobacco Control 1998; 7: 268-275.

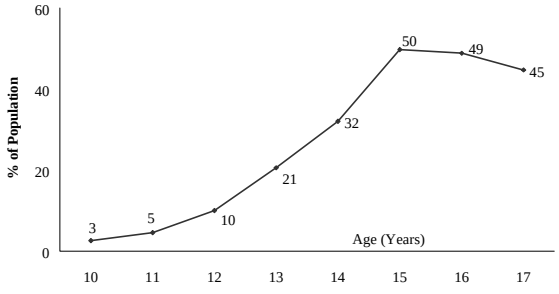
smokers experience.[26] The progression to daily smoking and addiction can be seen when the percentage of current smokers who smoke daily is observed. This percentage increases from 50% among current smokers between 10 and 14 years of age to 80% for those between 15 and 17 years of age. It is apparent that by mid-adolescence, many youth have moved from experimentation to regular smoking and they would benefit from cessation messages more than prevention messages.

Beginning to Smoke

Research has indicated that age 10 to 12 years is an important period in the smoking uptake process. It is during this time that young people are forming attitudes and beliefs about smoking, and trying it for the first few times.[27] In the Northwest Territories, the risk of smoking initiation climbs sharply from ages 12 to 15 years making this period critical in the adoption of smoking. At age 12 about 10% of youth are current smokers, by the age of 15, an estimated 50% smoke.

Figure 3.3

Current Youth Smokers by Age
Age 10 - 17, NWT, 1999



Source: 1999 NWT School Tobacc Use Survey

By the age of 15 the shift from experimenting to becoming a current smoker or stopping has occurred. It appears that 11 and 12 year olds are experimenting with smoking and 13 and 14 year olds are making choices about whether to continue.

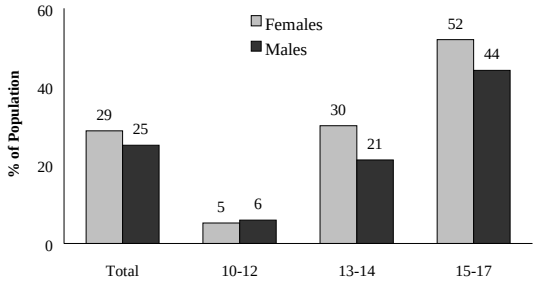
Smoking Prevalence - Population Subgroups

Age

Age is one of the most dominant factors related to smoking behaviour among youth. Older adolescents are more likely to be current smokers. In 1999, an estimated 27% of youth between 10 and 17 years of age indicated they smoke either daily or on an occasional basis. The prevalence rate for those between 10 and 12 years of age was 6%, this increased to 25% for those between 13 and 14 and it increased again to 48% for those between 15 and 17. The sharp increase in current smoking rates according to age is highlighted in figure 3.4, which also presents information on the current smoking prevalence of female and male youth.

Figure 3.4

Current Youth Smokers by Age & Sex
Age 10 - 17, NWT, 1999



Source: 1999 NWT School Tobacc Use Survey

Sex

Sex differences in smoking begin to appear when adolescents reach 13 to 14 with females more likely than males to report current smoking. As seen in figure 3.4, 30% of young girls between 13 and 14 are current

[26] Centers for Disease Control. *Preventing Tobacco Use Among young People: A Report of the Surgeon General Executive Summary.* Morbidity and Mortality Weekly Report 1994; vol.43/no.RR-4.

[27] O'Louhlin J, Gilles P, Lise R, Sanchez G. *One-year predictors of smoking initiation and of continued smoking among elementary schoolchildren in multiethnic, low-income, inner-city neighbourhoods.*

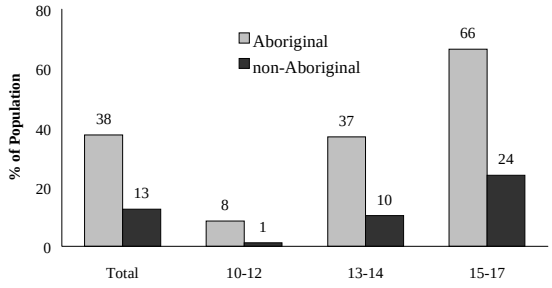
smokers, compared to 21% of males. An estimated 53% of females between 15 and 17 indicate they smoke, compared to 44% of males in this age group. Meanwhile, nationally, sex differences in smoking are generally minimal in the youth population; females are just slightly more likely than males to report current smoking.[28]

Ethnicity

Along with age, ethnicity is an important factor related to smoking behaviour among youth. Aboriginal youth are about three times more likely than non-Aboriginal youth to be current smokers. This difference is evident for all age groups. An estimated 8% of Aboriginal youth between 10 and 12 currently smoke, compared with 1% of non-Aboriginal youth. Among Aboriginal youth between the ages of 13 and 14, an estimated 37% indicate they smoke, compared to 10% of non-Aboriginal youth. At 66%, the current smoking rate among Aboriginal youth between 15 and 17 is extremely high. Meanwhile, the rate among non-Aboriginal youth in this age group is 24%.

Figure 3.5

Current Youth Smokers by Age & Ethnicity
Age 10 - 17, NWT, 1999



Source: 1999 NWT School Tobacco Use Survey

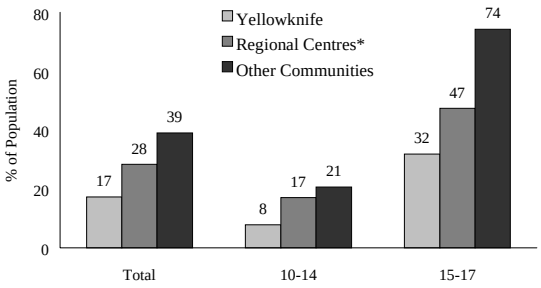
While there are differences in smoking rates between Aboriginal and non-Aboriginal youth in the Northwest Territories, there are also differences in prevalence between the different Aboriginal groups. In the total population aged 10 to 17, 13% of non-Aboriginal youth are current smokers. Meanwhile, 35% of Metis youth, 36% of First Nations youth and 45% of Inuit youth in this age group smoke. The highest youth smoking rates occur among Inuit and First Nations girls between 15 and 17 years of age (78% and 73% respectively). The high prevalence of smoking among Aboriginal youth means that culturally appropriate prevention efforts are important. Educational interventions should be designed and targeted using local knowledge and framed in the local culture.

Community Type

Given that more Aboriginal than non-Aboriginal youth smoke, it is not surprising that smoking prevalence is higher in smaller communities in the Northwest Territories since these communities have a higher concentration of Aboriginal people. An estimated 17% of the youth between 10 and 17 years of age in Yellowknife are current smokers, compared to 28% in the regional centres of Hay River, Fort Smith and Inuvik, and 39% in the other smaller communities in the Territories. The difference between communities is even more evident among the youth between 15 and 17 years of age. In the smaller communities, 74% are current smokers compared to 47% in the regional centres and 32% in Yellowknife.

Figure 3.6

Current Youth Smokers by Age & Community Type
Age 10 - 17, NWT, 1999



Source: 1999 NWT School Tobacco Use Survey

* Includes Hay River, Fort Smith and Inuvik

[28] Stephens T, Morin M, editors (Health Canada). *Youth Smoking Survey, 1994: Technical Report.* Ottawa: Minister of Supply and Services Canada, 1996.

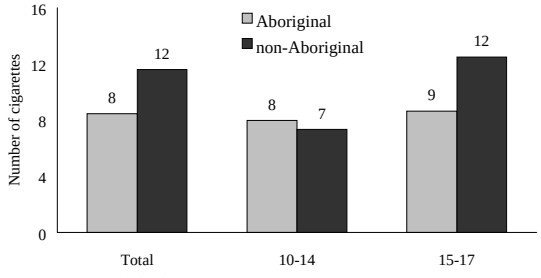
Amount Smoked

Daily consumption of cigarettes is a measure of the level of exposure to the hazardous substances found in tobacco smoke, and an indicator of a person's addiction to tobacco. The daily smoking population age 10 to 17 years of age consume an average of 9 cigarettes per day. Not surprisingly, older adolescent smokers consume more cigarettes per day than their younger counterparts do, and older males consume more than do older females. Male daily smokers aged 10-14 years consume an average of 8 cigarettes per day, compared with 10 cigarettes among males aged 15-17 years. Female daily smokers aged 10-14 also consumes an average of 8 cigarettes per day, compared with 9 cigarettes among females aged 15-17 years.

While smoking prevalence is higher among Aboriginal youth, the frequency of smoking is not. Non-Aboriginal youth tend to consume more cigarettes per day than do Aboriginal youth. Among daily smokers, non-Aboriginal youth aged 10 to 17 on average consume 12 cigarettes per day, compared to 8 cigarettes among Aboriginal youth in this age group. Non-Aboriginal males between 15 and 17 years of age consume more cigarettes per day (14) than any other group. Aboriginal males in this age group consume an average of 10 cigarettes per day. This finding may reflect differences in the amount of spending money that youth have.

Figure 3.7

Average Number of Cigarettes Youth Smokers Consume per Day, by Age and Ethnicity
Daily Smokers Age 10 - 17, NWT, 1999



Source: 1999 NWT School Tobacco Use Survey

Purchasing Tobacco Products

Accessibility of tobacco is an important environmental factor in the initiation of smoking among young people. Despite legislation that prohibits the sale of tobacco to minors, they are still able to acquire cigarettes through direct purchase themselves, from older friends and family members. Under the terms of the federal Tobacco Restraint Act, it is illegal to sell cigarettes to person under the age of 18.

Despite this fact, an estimated 43% of current smokers age 10 to 17 years indicated they had attempted to purchase tobacco at a store in the month preceding the survey. Surprisingly, 38% of current smokers between 10 and 14 said they had attempted to purchase tobacco. Meanwhile, 50% of the current smokers between 15 and 17 indicated they had attempted to purchase tobacco. Only 38% of those who attempted to purchase tobacco were asked their age. An estimated 51% of those between 10 and 14 were asked their age and 33% of youth between 15 and 17 were asked their age when they attempted to purchase tobacco.

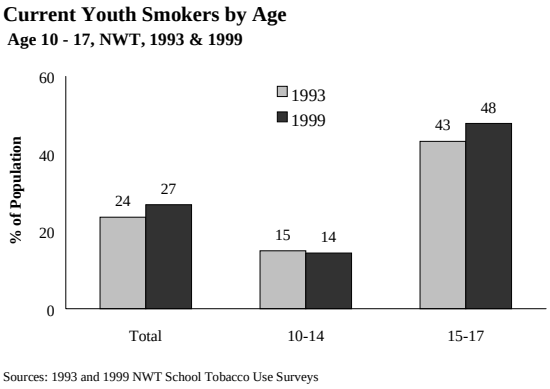
Since so few youth were asked their age, it is not surprising that sale refusals were also low. An estimated 35% of minors who attempted to purchase tobacco were refused sale. Just 28% of those between 15 and 17 were refused, compared to 54% of youth between 10 and 14 years of age. These findings suggest that store personnel are either unaware of the existing law regarding the sale of tobacco products to minors or they are unwilling to comply with the law. Programs that encourage retailers to ask for identification when they are uncertain about the consumer's age can have an impact on smoking among youth. In any event, existing laws regarding the sale of tobacco to minors needs to be enforced.

Trends in Smoking 1993-1999

A similar school tobacco survey was conducted in the Northwest Territories in

1993. Because the definition of current smoker is consistent between the two surveys, it is possible to examine trends in smoking for this time period. The current smoking rate of youth between 10 and 17 years of age increased slightly from 24% in 1993 to 27% in 1999. This general pattern was observed for both males and females, but there were differences between age and ethnic groups. The prevalence of current smokers remained fairly constant for those between 10 and 14, but increased slightly for those between 15 and 17 years of age (see figure 3.8). The increase in smoking rates was due to an increase in the prevalence among Aboriginal youth, from 30% in 1993 to 38% in 1999. Meanwhile, the rate among non-Aboriginal youth declined during this time from 16% to 13%.

Figure 3.8



Sources: 1993 and 1999 NWT School Tobacco Use Surveys

Conclusion

The smoking rates among youth in the Northwest Territories are very high. The early age of smoking initiation, the high rates of daily smoking among youth 15 to 17 years of age and the apparent increase in smoking prevalence since 1994 present a large public health challenge. The very high smoking rates among Aboriginal youth in particular, points to the need for aggressive smoking prevention programs that are relevant given their social, economic and cultural environments.

Knowledge of the prevalence of smoking among various groups of youth in the Northwest Territories permits identification of those most at risk and in the greatest need of support for resisting smoking. However, it does not necessarily lead to an understanding about how to prevent youth from starting to smoke or why some end up addicted to cigarettes while others experiment for a short time. Answers to these questions require more research about the beliefs and attitudes of youth. However, we do know about some of the factors that influence smoking behaviour from other studies.

Various studies have shown that behavioural, personal, sociodemographic and environmental factors can encourage the onset of smoking among youth. These studies point out that smoking initiation is the result of several complex factors intersecting at different stages in the life of youth. Adolescence is a period of rapid emotional transition and for some smoking is seen as a means of coping with this transition. Smoking is often seen as a self-enhancement mechanism particularly for those with lower self-image and lower self-esteem, which are important personal risk factors. Similarly, not having the confidence or skills to resist peer offers of cigarettes seems to be an important risk factor for initiation.[29, 30]

Young people from families with lower socioeconomic status are at increased risk of initiating smoking. These types of predisposing sociodemographic factors are often intertwined with other environmental factors that also play an important role in smoking initiation. In general, youth

[29] Centers for Disease Control. *Preventing Tobacco Use Among young People: A Report of the Surgeon General Executive Summary.* Morbidity and Mortality Weekly Report 1994; vol.43/no.RR-4.

[30] Tyas SL, Pederson LL. *Psychosocial factors related to adolescent smoking: a critical review of the literature*. Tobacco Control 1998; 7: 409-420.

smoking behaviour is strongly influenced by their social circle. In particular, the likelihood of smoking increases if a large number of friends also smoke. The first attempts most often occur with peers and the peer group subsequently provides expectations, reinforcement and cues for further experimentation.[31] Moreover, youth are more likely to start smoking if their parents and/or siblings also smoke.

The greater the number of smokers who live in a youth's home, the more likely are they to start smoking.[32] As will be shown in the next section, the smoking pattern among youth appears to be closely associated with smoking rates among adults. Where adult smoking rates are high, the rates among youth are also high. This points to the need for prevention programs to address the issue of smoking among adults in the community and home. If smoking is a common and accepted practice among adults, then youth are more likely to use tobacco at a young age.

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

[32] Stephens T, Morin M, editors (Health Canada). *Youth Smoking Survey, 1994: Technical Report.* Ottawa: Minister of Supply and Services Canada, 1996.

Table 3.1[a]

Type of Smoker by Sex, Ethnicity and Age

Age 10 - 17, Northwest Territories, 1999

		…. Current Smoker ….		…... Non-Smoker ……		
	Population Estimate	Daily (%)	Occasional (%)	Former (%)	Never (%)	Not Stated (%)
Total, 10-17	5,275	19	8	30	41	2
10-14	3,311	7	7	30	53	3
15-17	1,964	38	10	29	22	1
First Nations	1,419	22	14	28	33	3
10-14	986	10	11	34	42	4
15-17	433	49	21	15	14	1
Inuit/Inuvialuit	632	37	9	31	22	2
10-14	341	14	8	42	33	3
15-17	291	63	10*	17	9*	1
Metis	888	25	9	30	33	2
10-14	536	11	9	31	46	3
15-17	352	47	10*	28	15	1
Non-Aboriginal	2,241	9	3	31	55	1
10-14	1,376	2	3	24	69	2
15-17	865	20	4*	42	33	1
Males, 10-17	2,790	16	9	28	45	2
10-14	1,704	6	7	29	56	3
15-17	1,086	33	11	28	27	1
First Nations	764	20	16	26	36	2
10-14	531	11	11	32	43	2
15-17	233	41	27	12	19	1
Inuit/Inuvialuit	314	33	10	29	26	2
10-14	160	11	8*	39	39	3
15-17	154	56	12*	18*	13*	1
Metis	430	23	7	27	39	3
10-14	234	6*	6*	29	55	4
15-17	196	44	9*	26	20	2
Non-Aboriginal	1,224	8	3	30	57	1
10-14	738	2*	3	25	69	2
15-17	486	18	3*	39	39	1

* Estimates have moderate sampling variability and should be interpreted with caution.

Continued…

Table 3.1$_b$

Type of Smoker by Sex, Ethnicity and Age

Age 10 - 17, Northwest Territories, 1999

		…. Current Smoker ….		…... Non-Smoker ……		
	Population Estimate	Daily (%)	Occasional (%)	Former (%)	Never (%)	Not Stated (%)
Females, 10-17	2,485	21	8	31	38	2
10-14	1,608	9	7	31	50	3
15-17	877	43	9	32	15	1
First Nations	655	24	12	30	30	4
10-14	454	8	11	35	40	5
15-17	201	59	14*	17*	8*	1
Inuit/Inuvialuit	315	41	7*	33	17	2
10-14	180	18	7*	46	27	2
15-17	135	71	7*	16*	4*	1
Metis	459	27	11	32	28	1
10-14	304	16	11	33	38	2
15-17	155	50	12*	30	8*	-
Non-Aboriginal	1,019	10	3	32	53	1
10-14	638	3	3	24	69	2
15-17	381	22	5*	46	26	1

Source: 1999 NWT School Tobacco Use Survey

Concluded

* Estimates have moderate sampling variability and should be interpreted with caution.

Note: 58 males and 37 females did not indicate ethncity, they were included in the totals.

Table 3.2[a]

Type of Smoker by Sex, Ethnicity and Age

Age 10 - 17, Northwest Territories, 1999

		…. Current Smoker ….		…... Non-Smoker ……		
	Population Estimate	Daily (%)	Occasional (%)	Former (%)	Never (%)	Not Stated (%)
Total, 10-17	5,275	19	8	30	41	2
10-12	1,841	2	4	25	67	3
13-14	1,471	14	11	36	36	2
15-17	1,963	38	10	29	22	1
Aboriginal	2,938	26	11	29	31	2
10-12	1,052	3	6	32	56	4
13-14	811	22	15	38	23	3
15-17	1,075	52	14	20	13	1
Non-Aboriginal	2,241	9	3	31	55	1
10-12	749	-*	1*	15	82	2
13-14	627	5	6	35	53	2
15-17	865	20	4*	42	33	1
Males, 10-17	2,792	16	9	28	45	2
10-12	928	2	4	24	67	3
13-14	778	11	11	35	41	2
15-17	1,086	33	11	28	27	1
Aboriginal	1,510	24	12	27	35	2
10-12	524	3	5	30	58	4
13-14	403	17	15	36	30	2
15-17	583	46	17	18	18	1
Non-Aboriginal	1,225	8	4	30	57	1
10-12	387	1*	1*	16	81	2
13-14	352	3*	6*	34	55	2
15-17	486	18	3*	39	39	1

* Estimates have moderate sampling variability and should be interpreted with caution.

continued…

Table 3.2$_b$

Type of Smoker by Sex, Ethnicity and Age

Age 10 - 17, Northwest Territories, 1999

		…. Current Smoker ….		…... Non-Smoker ……		
	Population Estimate	Daily (%)	Occasional (%)	Former (%)	Never (%)	Not Stated (%)
Females, 10-17	2,483	21	8	31	38	2
10-12	910	2	4	26	66	3
13-14	695	18	12	38	30	2
15-17	878	44	9	32	15	1
Aboriginal	1,429	29	11	31	27	3
10-12	527	2*	6	35	54	3
13-14	410	26	16	39	16	3
15-17	492	59	11	21	7	1
Non-Aboriginal	1,018	10	3	32	53	1
10-12	361	-*	-*	14	83	2
13-14	276	7*	5*	36	50	1
15-17	381	22	5*	46	26	1

Source: 1999 NWT School Tobacco Use Survey

Concluded.

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 3.3
Type of Smoker by Community Type and Age
Age 10 - 17, Northwest Territories, 1999

		…. Current Smoker ….		….. Non-Smoker ……		
	Population Estimate	Daily (%)	Occasional (%)	Former (%)	Never (%)	Not Stated (%)
NWT, 10-17	5,276	19	8	30	41	2
10-14	3,313	7	7	30	53	3
15-17	1,963	38	10	29	22	1
Yellowknife	2,268	13	5	31	51	1
10-14	1,378	4	4	27	63	2
15-17	890	26	6	36	31	-
Regional Centres	1,431	21	8	32	37	3
10-14	899	9	8	31	48	4
15-17	532	41	7	33	19	1
Other Communities	1,577	25	14	27	32	2
10-14	1,036	10	11	34	43	3
15-17	541	54	21	14	10	1

Source: 1999 NWT School Tobacco Use Survey

Table 3.4
Amount Smoked Daily by Sex, Age and Ethnicity (Daily Smokers)
Age 10 - 17, Northwest Territories, 1999

	Daily Smokers	Number of Cigarettes per Day: 1 to 10 (%)	Number of Cigarettes per Day: More than 10 (%)	Not Stated (%)	Average No. of Cigarettes
Total, 10-17	981	68	26	5	9.1
10-14	242	75	21	4	7.9
15-17	739	66	28	6	9.5
Aboriginal	766	72	23	5	8.5
10-14	206	75	21	3	8.0
15-17	560	71	23	6	8.7
Non-Aboriginal	203	54	40	6	11.6
10-14	32	78	22*	-	7.4
15-17	171	49	43	8	12.5
Males, 10-17	461	62	30	9	9.8
10-14	103	75	20*	5	7.6
15-17	358	58	32	10	10.5
Aboriginal	356	67	26	7	9.1
10-14	87	74	23*	3	7.7
15-17	269	65	27	8	9.5
Non-Aboriginal	99	43	43	13	12.5
10-14	12	92	8#	-	6.5
15-17	87	37	48	15	13.5
Females, 10-17	522	74	23	2	8.5
10-14	139	76	22	3	8.1
15-17	383	74	24	2	8.7
Aboriginal	410	77	20	3	8.0
10-14	119	76	20*	3	8.1
15-17	291	77	20	3	7.9
Non-Aboriginal	106	63	37	-	10.9
10-14	20	70	30*	-	7.8
15-17	86	62	38	-	11.6

Source: 1999 NWT School Tobacco Use Survey

* Estimates have moderate sampling variability and should be interpreted with caution.

\# Estimates have a high sampling variability and should be treated with **extreme** caution.

Note: 6 males and 6 females did not indicate ethncity, they were included in the totals.

Table 3.5
Purchase of Tobacco Products by Ethnicity and Age
Current Smoker Age 10 - 17, Northwest Territories, 1999

	Population Estimate	Yes (%)	No (%)	Not Stated (%)
Tried to Purchase Tobacco Products in Past Month (current smokers)				
Total, 10-17 [1]	1,415	46	51	3
Aboriginal	1,103	45	52	3
Non-Aboriginal	281	54	45	1
10-14	478	38	59	3
Aboriginal	389	40	58	2
Non-Aboriginal	75	39	57	4
15-17	938	50	46	3
Aboriginal	714	48	48	4
Non-Aboriginal	208	59	40	1
Ever Asked Age (current smokers who tried to purchase)				
Total, 10-17 [2]	657	38	58	4
Aboriginal	494	41	54	4
Non-Aboriginal	152	26	72	2
10-14	183	51	47	2
Aboriginal	154	53	44	3
Non-Aboriginal	28	36*	64	0
15-17	471	33	62	4
Aboriginal	340	36	59	5
Non-Aboriginal	122	23*	75	2
Refused Sale of Tobacco Products (current smokers who tried to purchase)				
Total, 10-17 [2]	657	35	61	4
Aboriginal	495	39	55	5
Non-Aboriginal	151	18*	80	2
10-14	184	54	42	3
Aboriginal	154	58	38	4
Non-Aboriginal	29	31*	69	0
15-17	472	28	68	5
Aboriginal	340	31	63	6
Non-Aboriginal	123	15*	82	2

Source: 1999 NWT School Tobacco Use Survey

[1] 31 current smokers did not indicate ethnicity, they were included in the total.

[2] 11 individuals did not indicate ethnicity, they were included in the total.

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 3.6
Type of Smoker by Sex, Ethnicity and Age
Age 10 - 17, Northwest Territories, 1993

		…. Current Smoker ….		….. Non-Smoker ……		
	Population Estimate	Daily (%)	Occasional (%)	Former (%)	Never (%)	Not Stated (%)
Total, 10-17	5,210	13	11	28	47	1
10-14	3,619	6	9	26	57	1
15-17	1,591	29	14	32	24	1
Aboriginal	2,807	16	14	26	42	1
10-14	1,892	6	12	26	54	1
15-17	915	37	19	26	18	1
Non-Aboriginal	2,403	9	7	30	53	1
10-14	1,727	5	6	27	61	1
15-17	676	18	9	39	33	1
Males, 10-17	2,711	11	8	27	53	1
10-14	1,876	4	7	25	63	1
15-17	835	26	11	33	29	1
Aboriginal	1,421	14	12	23	51	1
10-14	965	4	9	22	64	1
15-17	456	34	17	26	22	1
Non-Aboriginal	1,290	8	5	32	55	1
10-14	911	4	5	28	62	1
15-17	379	17	3*	42	37	1
Females, 10-17	2,497	15	13	29	42	1
10-14	1,741	8	11	28	51	1
15-17	756	32	18	30	20	-
Aboriginal	1,383	19	17	29	34	1
10-14	924	9	15	31	44	1
15-17	459	39	20	26	14	-
Non-Aboriginal	1,114	10	9	28	52	1
10-14	817	6	7	25	60	1
15-17	297	21	15	36	28	-

Source: 1993 NWT School Tobacco Use Survey

* Estimates have moderate sampling variability and should be interpreted with caution.

Chapter 4

Adults

Introduction

The causal link between the use of tobacco and a spectrum of debilitating, fatal diseases of the lungs, heart and other organs is well understood. Between one third and one half of people who now smoke will die prematurely as a result of their tobacco use. Smoking is not only the leading cause of preventable death; it is also the leading cause of preventable early ill health and disability. The chances of suffering health problems attributable to smoking are great, and those chances increase both with the length of time the person smokes and with the amount smoked. While health risks are highest among heavy smokers and long-term smokers, no user of tobacco escapes risk. In light of these facts, and the high prevalence of smoking among adults,[33] it is apparent that smoking poses a substantial public health threat in the Northwest Territories.

Overall Results

There are approximately 12,000 individuals 18 years of age and older who are current smokers living in the Northwest Territories. This represents 42% of the adult population. By the age of 18 most people who are going to smoke have already started. Adults living in the Northwest Territories are more likely to be current smokers than are adults in the general Canadian population (42% compared to 25%).[34] If the overall adult smoking rate in the Northwest Territories equaled the national rate, it would mean 4,575 fewer smokers in the Territories. When comparing two different populations it is important to take differences in age structure into account, since behaviours may be related to age, any differences between the two populations may be caused by differences in age. Figure 4.1 compares the smoking rates of the Northwest Territories and Canada for various age groups.

While the Northwest Territories has a younger population, than Canada, and although young adults are more likely to smoke than older adults are, this alone does not explain the difference in smoking rates. In fact, the difference in smoking prevalence between the Northwest Territories and Canada increases with age. An estimated 45% of Northwest Territories residents between 18 and 24 smoke compared with 35% in the general Canadian population. Meanwhile, an estimated 37% of Northwest Territories residents 45 years of age and older are current smokers, compared to 18% in the general Canadian population. This is the age group where many of the negative health effects of smoking become apparent.

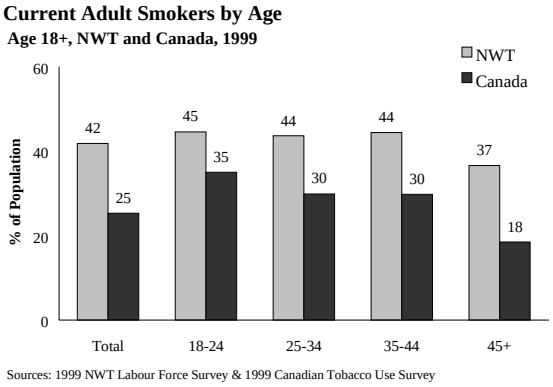
The difference between those 18 to 24 and those 45 years and older in the Northwest Territories is just 8% while the difference in the Canadian population is 17%. It appears that by the age of 18 approximately 45% of adults in the Northwest Territories smoke and the smoking rate remains nearly this high for those around the age of 50. It is possible that once people start to smoke in the Northwest Territories, they are less

[33] In this section, the adult population refers to those 18 years of age and older.

[34] It should be noted that comparisons between the Northwest Territories and Canada should be made with some caution since the questions regarding smoking asked in the 1999 Northwest Territories Labour Force Survey and the 1999 Canadian Tobacco Use Monitoring Survey were somewhat different. Moreover, proxy responses were accepted in the 1999 Northwest Territories Labour Force Survey. Evidence suggests that proxy responses may lead to underestimations in reporting health matters.

likely to quit than are smokers in southern Canada.

Figure 4.1

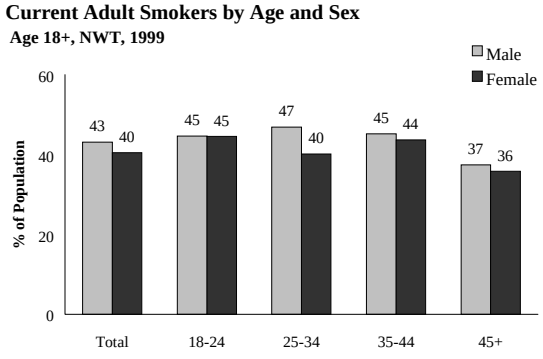


Sources: 1999 NWT Labour Force Survey & 1999 Canadian Tobacco Use Survey

Sex and Age

Men are slightly more likely (43%) than women (40%) to be current smokers. An exception occurs with young women age 18 to 24 who are just as likely to smoke as their male counterparts (45%). The biggest difference between men and women is found among those between 25 and 34, where men had the highest smoking rate of any group (47%), compared to 40% for women. Meanwhile, men and women between 35 and 44, and those 45 years and older also have very similar smoking rates. In general, differences in smoking rates between men and women in the NWT are very minor.

Figure 4.2



Sources: 1999 NWT Labour Force Survey; Provided by NWT Bureau of Statistics

While there are some minor differences between males and females, age related differences are more apparent. Smoking is more prevalent among adults less than 45. An estimated 45% of both men and women between 18 and 24 years, and an estimated 45% of men and 44% of women between 35 and 44 currently smoke. Meanwhile, an estimated 37% of men and 36% of women who are 45 years of age and older smoke cigarettes. It is evident that smoking prevalence, even among older adults, is very high and this is a major public health issue. Smoking related illness and mortality will take a huge toll on the population of the Territories unless a large number of adults are able to quit. Since the negative health effects of smoking can be reversed soon after quitting it is important that programs be made easily accessible to the entire adult population.

Community of Residence

There is considerable variation among communities within the Northwest Territories in the proportion of the adult population where are current smokers. Paulatuk has the highest smoking rate (73%) followed by Aklavik, Tuktoyaktuk and Lutselke (68%); Fort Good Hope (66%); and Tsiigehtchic, and Fort Resolution (65%). Meanwhile the lowest smoking rates are in Kakisa (19%), Yellowknife (31%) and Hay River (33%).

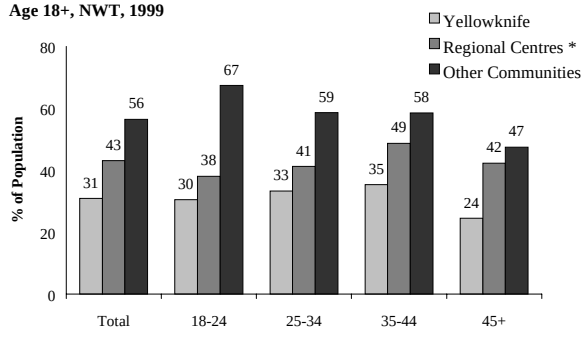
In general, smoking prevalence tends to be higher in communities in the northern part of the Territory. All but one of the 13 communities in the area north of Wrigley and Rae Lakes has smoking rates above 50%. The smoking prevalence in communities in the southern part of the Territory tend to be lower, with eleven of the twenty communities south of Tulita reporting smoking rates below 50%. However, even in the south, smoking prevalence is still high with smoking rates in fifteen of the twenty communities at 45% or higher.

To account for the possible influence of differences in age structure on smoking rates, figure 4.3 presents the percent of current smokers for Yellowknife, regional centers (Hay River, Fort Smith and Inuvik), and smaller communities by age. In general, smoking prevalence tends to be higher in smaller communities than in the larger centers. One of the more striking differences between the larger centres and the smaller communities is the difference in smoking rates among young adults. An estimated 30% of persons between 18 and 24 years of age in Yellowknife and 38% in the regional centres smoke, compared with 67% in the smaller communities.

Smoking rates in the regional centers and Yellowknife are higher among individuals 35 to 44 years of age (35% and 49%) than they are among individuals between 18 and 24 years of age. Meanwhile, in the general Canadian population, smoking rates tend to peak among those 18 to 24 years of age and then steadily decline. This general pattern with smoking prevalence being highest among young adults is seen in the smaller communities.

Figure 4.3

Current Adult Smokers by Age & Community Type
Age 18+, NWT, 1999



Sources: 1999 NWT Labour Force Survey; Provided by NWT Bureau of Statistics

*Regional Centres include Fort Smith, Hay River and Inuvik

In general, smoking prevalence tends to be higher in smaller communities than in the regional centers of Hay River, Fort Smith and Inuvik, and smoking rates in the regional centers are higher than in Yellowknife. This pattern holds true regardless of ethnicity or educational level. In other words, individuals of the same ethnicity or education level are less likely to smoke if they live in Yellowknife than if they live in the regional centers or the smaller communities. It is evident that where prevalence is awfully high, smoking has become a widely accepted normalized behaviour. Individuals are more likely to smoke if the majority of people in their immediate social environment are also smoking. Health promotion strategies that attempt to de-normalize cigarette smoking, and smoking cessation programs that help adults quit, need to be implemented in smaller communities where smoking prevalence is higher.

Ethnicity

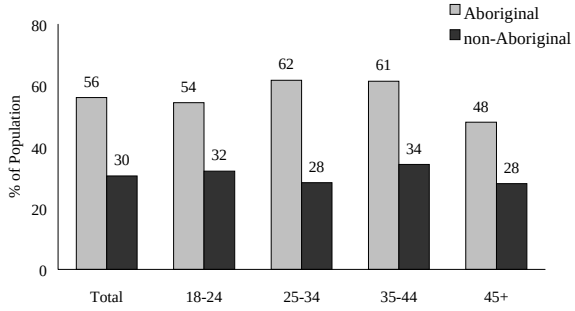
Since the vast majority of the population in smaller communities in the Northwest Territories is made up of Aboriginal peoples, it is not surprising that smoking rates among Aboriginal people are higher than rates among their non-Aboriginal peers. An estimated 56% of Aboriginal persons in the Northwest Territories over the age of 17 are current smokers, compared with 31% of non-Aboriginal persons. The discrepancy remains even when differences in age structure are taken into account. Smoking prevalence is higher among Aboriginal persons in every age group. The difference is the most dramatic for persons between 25 and 34. In this age group, the Aboriginal smoking rate was more than twice the rate for non-Aboriginal persons (62% compared to 28%). Nearly half (48%) of Aboriginal adults 45 years and 28% of non-Aboriginal individuals in this age group smoke.

While smoking prevalence among Aboriginal peoples in the Northwest Territories is high when compared to non-Aboriginal residents, the rates are similar to those found among Aboriginal peoples throughout Canada. The First Nations and Inuit Regional Health Survey collected

information from First Nations people living on reserves in eight provinces in Canada and the Inuit people of Labrador in 1997. According to the results, an estimated 62% of Aboriginal people in Canada 20 years of age or older smoke. This is the same rate reported in 1991 by the Aboriginal Peoples Survey.[35] In the Northwest Territories, an estimated 59% of First Nations, Inuvialuit and Inuit 20 years of age and older currently smoke.

Figure 4.4

Current Adult Smokers by Age and Ethnicity
Age 18+, NWT, 1999



Sources: 1999 NWT Labour Force Survey; Provided by NWT Bureau of Statistics

Smoking prevalence varies between the different aboriginal groups within the Territories. The highest rates are found among Inuvialuit and Inuit where an estimated 65% of adults currently smoke. At 77%, Inuvialuit and Inuit people between 35 and 44 have the highest smoking prevalence of any group in the Territories. Meanwhile, 57% of those over the age of 44 years are smokers. Smoking prevalence among First Nations is also very high - 56% of those 18 years and older. Close to half (48%) of First Nations 45 years and older currently smoke. Metis are slightly less likely to be smokers, 49% of adults are smokers. The highest rates are found among those between 35 and 44 (60%). Approximately 41% of Metis over 44 years of age are current smokers.

The high rate of smoking among the Aboriginal population suggests that interventions are needed if communities are to avoid a huge burden of illness and premature death caused by the use of tobacco. To effectively curb the Aboriginal tobacco epidemic prevention, protection and cessation programs must incorporate Aboriginal people's cultural values, consider their psychosocial correlates of tobacco use, and use strategies and messages that are acceptable and credible to people within the community.[36]

While being Aboriginal is a predictor of being a smoker, it is also important to point out that socioeconomic status – often measured by indicators such as educational attainment and income levels - is strongly related to smoking prevalence. In general, smoking rates tend to be higher among people with lower socioeconomic status. Moreover, for people with lower socioeconomic status the risks of tobacco use are compounded by other lifestyle behaviours that put them at greater risk of poor overall health status.

In the Northwest Territories, ethnicity is associated with socioeconomic status. Aboriginal people tend to have lower education and income levels than do non-Aboriginal people. For example, 51% of the Aboriginal population over the age of 17 years has less than high school education with no certificates or diplomas, compared to 9% of the non-Aboriginal population. Approximately 2% of the adult Aboriginal population has a university degree, compared to 25% of the non-Aboriginal population.

Education Levels

Education is used here as an indicator of socioeconomic status. It affects income levels as well as employment status. Moreover, education is an indicator of the people's abilities to access and

[35] Reading, J. *The Tobacco Report*. First Nations and Inuit Regional Health Survey: National Report 1999.

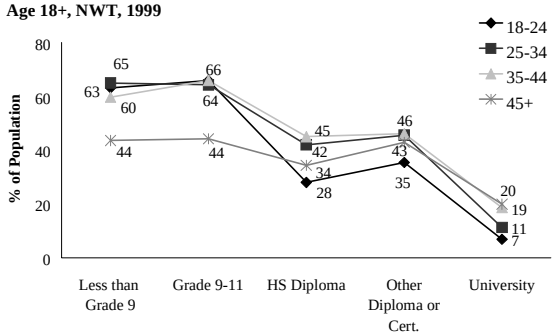
[36] Reading J L. *Eating Smoke: A Review of non-Traditional Use of Tobacco Among Aboriginal People.* Ottawa: Minister of Supply and Services Canada, 1996.

understanding health-related information. Evidence suggests that people with lower levels of education tend to be less knowledgeable about health issues in general and the association between smoking and chronic diseases in particular. The association between education levels and smoking rates are influenced by differences in age - for example, people with less than grade nine tend to be over 50, and people over 50 are less likely to smoke. This can cause some confusion if the relationship between smoking prevalence and education levels is presented without reference to age.

Figure 4.5 presents smoking prevalence and education levels for various age categories. The gradient in smoking prevalence with educational level is strongly apparent in the 18 to 24, 25 to 34 and 35 to 44 age groups. For example, in the 25 to 34 year age group, current smoking rates range from a high of 65% among persons with less than grade nine to 11% among persons with a university degree. For those between 35 and 44 years of age, smoking rates decline from 64% among those with some high school to 19% among those with a university degree.

Figure 4.5

Current Adult Smokers by Education and Age
Age 18+, NWT, 1999



Sources: 1999 NWT Labour Force Survey; Provided by NWT Bureau of Statistics

After age 45, the inverse relationship between education and smoking while still present, is not has great. This reduction is due to the larger percentage of nonsmokers in this age group regardless of education level. For example, older women were largely a generation of nonsmokers. This may also be due to a higher percentage of former smokers as well as higher rates of smoking related mortality since premature deaths due to smoking are taking a toll.

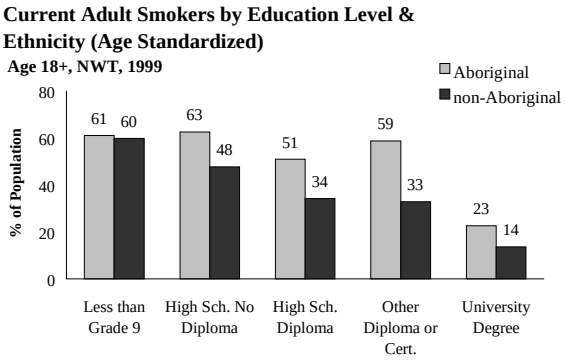
It should be pointed out that the education categories are not entirely hierarchical. For example, in many instances individuals who received a certificate or diploma may not have completed high school. This may account for the high smoking prevalence among persons in the "Other Diploma or Certificate" category.

To evaluate the impact of differences in education levels on smoking prevalence among Aboriginal and non-Aboriginal populations, age-standardized smoking rates were calculated using the 1999 population of the NWT. This enables comparisons free from any distortion that may be caused by age structure differences.[37]

Figure 4.6 shows that Aboriginal and non-Aboriginal persons with less than grade nine or some high school but no diploma are more than two times more likely to smoke than are persons with a university degree. For example, 61% of Aboriginal and 60% of non-Aboriginal adults with less than grade nine are smokers, compared with 23% of Aboriginal and 14% of non-Aboriginal adults with a university degree (age-standardized rates). However, the difference between Aboriginal and non-Aboriginal smoking rates remains high for persons with a high school diploma and for those with another type of diploma or certificate. The high smoking rate among Aboriginal persons with another type of diploma or certificate (59%) may relate to a larger proportion attending short term training programs even though they didn't graduate from high school.

[37] It is important to point out that the age-standardized rates may not equal the true proportions in the population for each education category.

Figure 4.6



Sources: 1999 NWT Labour Force Survey; Provided by NWT Bureau of Statistics

Due in large measure to the nonhierarchical nature of the education categories, it is difficult to determine to what extent higher levels of education affect smoking prevalence among the Aboriginal population. However, it is clear that anyone who achieves a university degree, regardless of ethnicity, is much less likely to smoke than are those with lower levels of education. Moreover, it is clear that Aboriginal persons with a high school diploma are less likely to smoke than are those with less than high school.

The differences in smoking prevalence between the Aboriginal and non-Aboriginal populations in the Territories can be explained in part by differences in education levels between the two groups. The high proportion of the population with lower levels of education also point to the need for appropriate health promotion strategies. Not only should health promotion and smoking cessation programs be culturally appropriate, they must also be appropriate given the education levels of a large number of smokers in the Northwest Territories. Educational differences should be considered when targeting the smoking population. This includes not only designing the messages that make sense but also using channels of communication that are most likely to influence them. For example, persons with lower levels of education are more likely to rely on health professionals for information about smoking and how to quit, rather than print media such as pamphlets.[38]

Conclusion

With nearly one half of all adults in the Northwest Territories currently smoking, compared to one-quarter of Canadian adults, it is apparent that tobacco use presents a major hazard to the health of Territorial residents. Moreover, with 37% of the population 45 years and older currently smoking, the impact on health will likely be enormous within the next ten to twenty years, unless large numbers of these individuals are able to quit in the immediate future. The public health impact will likely be even greater among the NWT's Aboriginal population with one half of those 45 years of age and older and nearly two thirds of those between 35 and 44 currently smoking. And the negative health consequences will likely be felt the most in the smaller communities where more than 50% of adults smoke.

Smoking is the most important lifestyle determinant of health.[39] While the term lifestyle is often used to refer to specific personal behaviours identified as disease risk factors, it can also be used to refer to the characteristics of social groups, which in the case of smoking relate to a disease risk factor. In these terms, lifestyle can be defined as "the culturally, socially, economically and environmentally conditioned complex of actions characteristic of an individual or group … as a pattern of habituated behaviors over time that is health related but not necessarily

[38] Millar WJ. *Reaching Smokers with Lower Educational Attainment*. Health Reports 1996; 8, 2: 11-19.

[39] Given the extremely addictive nature of nicotine, some would consider it a behaviourial disorder in its own right and not just another risk factor for other diseases. Moreover, since most people begin smoking before the age of 18 years, the notion that it is a voluntarily chosen behaviour is also debatable.

health directed."[40] Given that smoking prevalence is higher among particular social groups in the Northwest Territories, the connection between lifestyle and smoking may be more appropriately viewed in terms of group characteristics. In this case tobacco control strategies need to take into account the social, cultural, economic and environmental factors that contribute to smoking behaviour among various groups.

Socio-economic factors such as education levels and social status have a big influence on personal health practices such as the use of tobacco. Smoking prevalence tends to be higher among the Aboriginal adults in the Northwest Territories. However, Aboriginal persons are also more likely to have less formal schooling, more likely to be unemployed, more likely to have low incomes and more likely to live in one of the smaller communities in the Territories. On the other hand, smoking rates decline with increasing education for both Aboriginal and non-Aboriginal adults. Moreover, aboriginal adults living in Yellowknife tend to have lower smoking rates than Aboriginal adults living in smaller communities, and non-Aboriginal adults living in smaller communities tend to have higher smoking rates than non-Aboriginal adults living in Yellowknife.

These similar patterns in both populations suggest that some of the influences – both positive and negative – on smoking behaviour are similar within both groups. It is important that tobacco control programs examine these influences. For example, their social environment will influence people's behaviour. Living in a community where smoking is a common and socially accepted activity means fewer social barriers to smoking. People living in small communities in the NWT are more likely to be smokers than are people with the same ethnicity and education levels living in larger centers in the Territory. Initiatives aimed at de-normalizing smoking are needed as part of tobacco control programs.

The extent to which social and demographic characteristics are causes of smoking, as opposed to correlates, is not clear. Education, income and ethnicity may be cofounders for other mediating variables or life situations such as stress and coping skills that are more difficult to measure. Studies have shown that stress and associated distress are important factors in the initiation and maintenance of smoking. Smoking is reported to be a coping mechanism for dealing with distress.[41] People in lower socioeconomic positions may have less social capital to develop healthy coping strategies, or they may not fully realize the consequences of smoking.

People may be more likely to engage in unhealthy lifestyle choices if they perceive their social environment to be unsatisfactory. Research on psychosocial correlates of smoking, specifically investigations of personality characteristics, motivational factors such as stress, and personal resources such as coping, are needed to delineate the mechanisms explaining smoking prevalence among some population subgroups defined by their socio-demographic characteristics. Moreover, building supportive environments that encourage people to make healthy choices is important if the smoking epidemic in the NWT is to be addressed.

[40] Young T K. *Population Health: Concepts and Methods.* New York: Oxford University Press; 1998. Pp. 110.

[41] Tyas S L, Pederson L L. *Psychosocial factors related to adolescent smoking: a critical review of the literature.* Tobacco Control 1998; 7: 409-420.

Table 4.1
Adult Smoking Prevalence by Community
Age 18+, Northwest Territories, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Pop. 18 & older	27,646	42	56	2
Yellowknife	12,408	31	68	1
Regional Centres	6,446	43	56	1
Fort Smith	1,791	44	55	-
Hay River	2,451	33	65	2
Inuvik	2,204	53	46	1
Other Communities	8,794	56	41	3
Aklavik	465	68	16	15
Colville Lake	62	61	40	-
Deline	396	60	37	2
Fort Good Hope	435	66	33	2
Fort McPherson	567	59	39	2
Holman	286	62	36	1
Norman Wells	624	42	56	1
Paulatuk	154	73	26	1
Sachs Harbour	101	62	29	9
Tsiigehtchic	91	65	35	-
Tuktoyaktuk	588	68	32	1
Tulita	289	58	37	6
Detah	148	45	55	-
Enterprise	67	45	51	6
Fort Liard	333	46	51	3
Fort Providence	575	48	50	1
Fort Resolution	347	65	31	5
Fort Simpson	869	58	41	2
Hay River Reserve	185	55	43	2
Jean Marie River	59	59	36	5
Kakisa	27	19	78	4
Lutselke	235	68	30	3
Nahanni Butte	69	46	49	6
Rae Edzo	1,095	48	51	-
Rae Lakes	180	53	41	6
Trout Lake	53	42	58	-
Wekweti	99	62	37	2
Wha Ti	285	54	46	-
Wrigley	110	55	44	2

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

Note: Proportions based on population estimates less than 75 should also be treated with caution.

Table 4.2
Adult Smoking Prevalence by Sex and Community
Age 18+, Northwest Territories, 1999

	Males				Females			
	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Pop. 18 & older	14,648	43	55	2	12,998	40	58	1
Yellowknife	6,435	32	67	1	5,973	30	69	1
Regional Centres	3,431	44	55	1	3,015	42	57	1
Fort Smith	933	44	55	1	858	44	56	-
Hay River	1,322	35	63	2	1,129	31	67	2
Inuvik	1,176	54	46	0	1,028	53	46	1
Other Communities	4,786	58	39	3	4,009	55	43	2
Aklavik	260	70	15	15	205	66	18	16
Colville Lake	33	73	27	-	30	47	53	-
Deline	214	62	35	3	182	59	40	1
Fort Good Hope	234	66	31	3	201	65	34	1
Fort McPherson	291	62	34	4	276	56	44	-
Holman	140	52	47	1	146	72	26	3
Norman Wells	349	40	59	1	275	46	52	1
Paulatuk	88	81	19	-	66	64	35	2
Sachs Harbour	52	65	19	15	49	59	39	2
Tsiigehtchic	50	56	42	-	41	76	27	-
Tuktoyaktuk	328	70	30	1	260	64	35	1
Tulita	159	61	33	6	130	54	42	5
Detah	80	46	53	-	68	43	59	-
Enterprise	25	48	36	16	42	43*	60	-
Fort Liard	190	48	49	3	143	43	54	3
Fort Providence	309	55	43	3	266	41	59	-
Fort Resolution	203	67	28	6	144	63	34	3
Fort Simpson	457	59	39	2	412	56	43	1
Hay River Reserve	97	53	45	1	88	57	41	2
Jean Marie River	37	46	46	8	22	82	18	-
Kakisa	16	31	63	6	11	-	100	-
Lutselke	135	64	34	1	100	73	24	4
Nahanni Butte	42	43	48	10	27	52	52	-
Rae Edzo	591	44	55	1	504	53	47	-
Rae Lakes	104	58	36	7	76	46	49	5
Trout Lake	24	54	46	-	29	31	69	-
Wekweti	56	70	27	4	43	51	51	-
Wha Ti	154	69	31	-	131	37	63	-
Wrigley	68	50	49	-	42	62	36	5

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

Note: Proportions based on population estimates less than 50 should also be treated with caution.

Table 4.3[a]

Adult Smoking Prevalence by Age, Sex and Ethnicity

Age 18+, Northwest Territories, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Pop. 18 & older	27,646	42	56	2
18 to 24	4,373	45	54	1
25 to 34	7,330	44	55	1
35 to 44	7,397	44	54	1
45+	8,545	37	61	3
Males	14,648	43	55	2
18 to 24	2,376	45	54	2
25 to 34	3,819	47	51	2
35 to 44	3,865	45	53	2
45+	4,588	37	60	2
Females	12,998	40	58	1
18 to 24	1,997	45	54	1
25 to 34	3,511	40	59	1
35 to 44	3,532	44	55	1
45+	3,957	36	61	3
Aboriginal	12,347	56	42	2
18 to 24	2,450	54	44	2
25 to 34	3,375	62	37	2
35 to 44	2,787	61	37	2
45+	3,734	48	49	3
Males	6,287	58	40	3
18 to 24	1,320	57	40	2
25 to 34	1,734	65	33	2
35 to 44	1,359	60	38	2
45 +	1,874	49	47	4
Females	6,061	54	44	1
18 to 24	1,131	51	47	2
25 to 34	1,641	58	40	1
35 to 44	1,428	63	36	1
45 +	1,861	47	52	2

Continued …

Table 4.3$_b$
Adult Smoking Prevalence by Age, Sex and Ethnicity
Age 18+, Northwest Territories, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Non-Aboriginal	15,299	30	68	1
18 to 24	1,923	32	67	1
25 to 34	3,955	28	71	1
35 to 44	4,610	34	65	1
45 +	4,811	28	69	3
Male	8,362	32	66	1
18 to 24	1,057	29	71	-
25 to 34	2,085	32	67	1
35 to 44	2,506	37	61	1
45 +	2,714	29	69	2
Female	6,937	28	70	2
18 to 24	866	36	63	1
25 to 34	1,870	24	76	-
35 to 44	2,104	31	69	1
45 +	2,097	26	70	4

concluded

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

Table 4.4
Adult Smoking Prevalence by Age and Ethnicity
Age 18+, Northwest Territories, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Pop. 18 & older	27,646	42	56	2
18 to 24	4,373	45	54	1
25 to 34	7,330	44	55	1
35 to 44	7,397	44	54	1
45+	8,545	37	61	3
Inuvialuit/Inuit	2,382	65	32	4
18 to 24	497	65	31	4
25 to 34	777	63	35	2
35 to 44	503	77	20	4
45 +	605	57	38	5
First Nations	7,429	56	42	2
18 to 24	1,377	57	41	2
25 to 34	1,995	63	35	2
35 to 44	1,591	57	41	1
45 +	2,466	48	50	3
Metis	2,537	49	50	1
18 to 24	576	40	60	-
25 to 34	601	54	44	2
35 to 44	695	60	39	-
45 +	665	41	59	-
Non-Aboriginal	15,299	30	68	1
18 to 24	1,923	32	67	1
25 to 34	3,955	28	71	1
35 to 44	4,610	34	65	1
45 +	4,811	28	69	3

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

Table 4.5
Adult Smoking Prevalence by Age and Community Type
Age 18+, Northwest Territories, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Pop. 18 & older	27,646	42	56	2
18 to 24	4,373	45	54	1
25 to 34	7,330	44	55	1
35 to 44	7,397	44	54	1
45+	8,545	37	61	3
Yellowknife	12,408	31	68	1
18 to 24	1,948	30	70	-
25 to 34	3,184	33	66	1
35 to 44	3,758	35	64	1
45+	3,518	24	73	3
Regional Centres*	6,445	43	56	1
18 to 24	940	38	59	3
25 to 34	1,674	41	58	-
35 to 44	1,696	49	51	-
45+	2,136	42	56	2
Other Communities	8,793	56	41	3
18 to 24	1,485	67	30	2
25 to 34	2,473	59	39	2
35 to 44	1,943	58	39	3
45+	2,892	47	49	3

Source: 1999 Northwest Territories Labour Force Survey; Provided by the NWT Bureau of Statistics

* Regional Centres consist of Fort Smith, Hay River and Inuvik

Table 4.6
Adult Smoking Prevalence by Education Level and Ethnicity
Age 18+, Northwest Territories, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)	Age Adjusted Smoking Rate (%)
Pop. 18 & Older	27,652	42	56	2	N.A.
Less than Grade 9	3,448	52	47	1	60
High Sch. No Diploma	4,176	62	37	-	59
High Sch. Diploma	5,762	37	62	1	37
Other Diploma or Cert	9,579	44	55	-	43
University Degree	4,128	17	83	1	14
Aboriginal	12,350	56	42	2	57
Less than Grade 9	3,162	54	45	1	61
High Sch. No Diploma	3,091	66	34	-	63
High Sch. Diploma	1,570	44	55	1	51
Other Diploma or Cert	3,909	59	41	1	59
University Degree	237	31*	69	-	23*
Non-Aboriginal	15,302	30	68	1	30
Less than Grade 9	286	34*	66	-	60*
High Sch. No Diploma	1,085	52	48	-	48
High Sch. Diploma	4,192	34	65	1	34
Other Diploma or Cert	5,670	34	65	-	33
University Degree	3,891	16	84	1	14

Source: 1999 Northwes Territories Labour Force Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Note: 381 Aboriginal persons and 178 Non-Aboriginal persons did not indicate level of schooling. They were included in the totals.

Table 4.7
Adult Smoking Prevalence by Age and Sex
Age 18+, Canada, 1999

	Population Estimate	Current Smokers (%)	Non-Smokers (%)	Not Stated (%)
Pop. 18 & older	23,026,768	25	75	-
18 to 24	2,869,904	35	65	-
25 to 34	4,429,607	30	70	-
35 to 44	5,253,560	30	70	-
45+	10,473,697	18	820	-
Male	11,310,040	28	72	-
18 to 24	1,467,233	39	61	-
25 to 34	2,232,289	31	69	-
35 to 44	2,632,052	33	67	-
45+	4,978,466	20	80	-
Female	11,716,728	23	77	-
18 to 24	1,402,671	31	69	-
25 to 34	2,197,318	29	71	-
35 to 44	2,621,508	26	74	-
45+	5,495,231	17	83	-

Source: 1999 Canadian Tobacco Use Monitoring Survey, Microdata file

Chapter 5

Smoking Cessation

Introduction

From the previous two sections it is evident that large numbers of adolescents and adults in the Northwest Territories smoke. If there is any good news, it is that smokers are quitting. While smokers in the Territories are less likely to quit than are smokers in the general Canadian population, a large number are able to break the addiction. Approximately 7,330 Northwest Territories residents 18 years of age and older, 37% of adults who had ever smoked are former smokers. Moreover, a large number of current smokers have tried to quit and nearly half of current smokers indicated they are seriously thinking about quitting.

As with smoking initiation, quitting smoking is a process that occurs over time. Smoking cessation is often conceptualized within the framework of a stages-of-change model, which sees behaviour change as a series of actions or events consisting of at least four phases. In the first phase - precontemplation - there is no thought or awareness of the need to change behaviour. In the second phase – contemplation - individuals are seriously thinking about the problem and the possibility of change. In the next stage, they take action and modify their behaviour during a period of 1 to 12 months. Finally, they must successful maintain the changed behaviour for an extended period of time.[42]

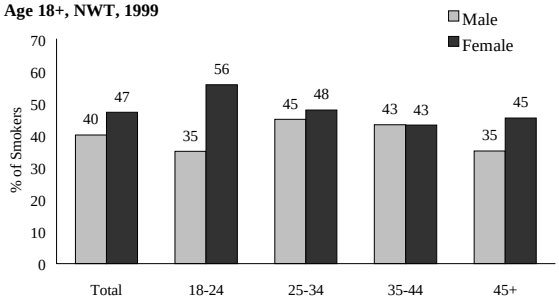
The stages-of-change model forms the basis of a quitting continuum. Current smokers who are not thinking about quitting are at the lowest end of the continuum. They represent the proportion of smokers who are not responding to smoking cessation messages. One aim of a health promotion program is to motivate smokers to move out of this lowest level of the continuum and begin the quitting process. About one half of current adult smokers are at the precontemplation stage and are unlikely to attempt quitting in the near future.

Persons Considering Quitting Smoking

The first step in the smoking cessation process is to get people to think about quitting. Already in the Northwest Territories a large number of current smokers - approximately 5,000 individuals 18 years and older - indicated they are seriously considering quitting within the next six months. This represents 43% of current adult smokers. Women are more likely to be contemplating quitting than are men (47% vs. 40%).

Figure 5.1

Adult Smokers Considering Quitting Within Six Months by Age & Sex
Age 18+, NWT, 1999



Source: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics

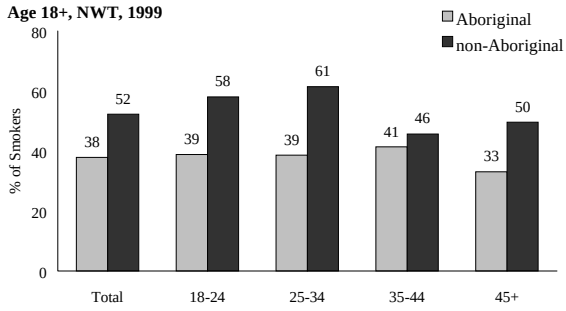
[42] Osler M, Prescott E. *Psychosocial, behavioural, and health determinants of successful smoking cessation: a longitudinal study of Danish adults*. Tobacco Control 1998; 7: 262-267.

Women between 18 and 24 are the most likely to be thinking about quitting (56%). Meanwhile, males in this age group, and males over 44 years are the least likely to be considering quitting (35%). Some members in the latter group may consist of hardcore smokers who have made unsuccessful attempts in the past and remain discouraged about the prospects of quitting.

Aboriginal smokers are less likely (38%) to be seriously considering quitting smoking within the next six months than are non-Aboriginal smokers (52%). The difference is greatest among adults less than 35 and the smallest among those between 35 and 44 years of age. In the latter age group, 46% of non-Aboriginal smokers indicated they are thinking about quitting smoking, compared to 41% of Aboriginal smokers.

Figure 5.2

Adult Smokers Considering Quitting Within Six Months by Age & Ethnicity
Age 18+, NWT, 1999



Source: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics

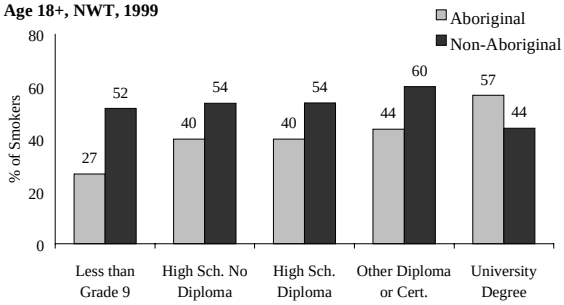
In the Aboriginal group, Inuit and Inuvialuit smokers were the least likely to be thinking about quitting (30%), followed by First Nations smokers (39%), and Metis smokers (43%). It appears that smoking is entrenched among Inuit and Inuvialuit. They have the highest smoking rates and they are also the least likely to be thinking about stopping. The high smoking rate and low level of quitting contemplation among First Nations, particularly those 45 years of age and older, is also a concern. An estimated 30% of First Nations smokers in this age group are thinking about quitting compared to 43% of First Nations less than 45 years of age.

The percentage of smokers who are considering quitting within the next six months is influenced by the highest level of schooled achieved. Persons with lower levels of education were less likely to be thinking about quitting in the near future. An estimated 27% of persons with less than grade nine were contemplators, compared to 48% of persons with a high school diploma, and 49% of those with a university degree (age adjusted rates).

Difference in educational attainment has a larger impact for Aboriginal smokers than it does for non-Aboriginal smokers. In the latter group, an estimated 52% of those with less than grade nine indicated they are seriously thinking about stopping, compared to 60% of those with a university degree. Meanwhile, among Aboriginal smokers, 27% of those with less than grade nine are contemplating quitting, compared to 57% of those with a university degree. While difference in educational attainment between the two groups does not account for all of the difference in quitting contemplation, it is a contributing factor. As pointed out in the previous section, Aboriginal adults with a university degree make up a smaller percentage of the population than do non-Aboriginal adults.

Figure 5.3

Adult Smokers Considering Quitting Within Six Months by Education Level & Ethnicity (Age Adjusted)
Age 18+, NWT, 1999



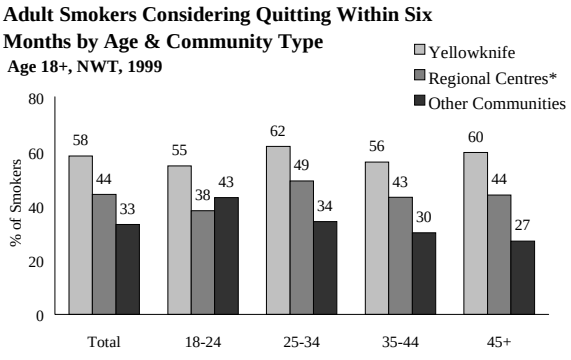
Source: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics

Along with educational attainment, community of residence appears to be associated with people's expressed motivation to quit smoking. Smokers living in Yellowknife (58%) are more likely to be

thinking about quitting than are smokers living in the regional centers of Fort Smith, Hay River and Inuvik (44%). Meanwhile, smokers living in the smaller communities are least likely to be thinking about quitting smoking (33%). This pattern was observed in all age groups.

The difference between the smaller communities and the larger centers is particularly evident among adults who are 25 years of age and older. For example, 56% of residents of Yellowknife between 35 and 44 years of age indicated they are thinking about quitting, compared to 43% of residents in the same age group living in the regional centers, and 30% of their counterparts living in the smaller communities.

Figure 5.4



Source: 1999 NWT Labour Force Survey, provided by the NWT Bureau of Statistics

* Regional Centres include Fort Smith, Hay River and Inuvik

Aboriginal smokers 25 years and older living in Yellowknife are more likely to indicate they are seriously considering quitting smoking, than are Aboriginal smokers living in the regional centers and in the smaller communities (70%, 42%, and 29% respectively). The same pattern can be seen among non-Aboriginal smokers in this age group. An estimated 56% in Yellowknife, 50% living in the regional centers and 38% living in the smaller communities indicated they think about quitting.

It appears that smokers' position on the quitting continuum is influenced by the prevalence of smoking in their immediate social environment. Where smoking is widespread and there are no or few restrictions, smokers may be more unwilling to even consider quitting. There may be more smoking restrictions in public places in the larger centers than in the smaller communities. Moreover, there may be more workplace prohibitions on smoking in the larger centers than in other communities.

Research indicates the workplace smoking bans can lead to a decrease in smoking prevalence and the number of cigarettes smoked daily by workers. Smokers who work in a smoke-free workplace are more likely to report a quit attempt in the previous year than those who work indoors with no work area ban.[43]

An estimated 66% employed smokers in the Northwest Territories work at jobs where there are restrictions on smoking. In Yellowknife this percentage increases to 74%; it is 70% in the regional centers and 56% in the smaller communities. Approximately 44% of employed smokers indicated they are seriously considering quitting smoking within the next six months. The proportion of contemplators increases to 48% among smokers who work in jobs where there are smoking restrictions, and falls to 36% among those who work where there are no restrictions.[44] The relationship between workplace smoking restrictions and expressed intentions to quit is stronger in Yellowknife (60%) than in the regional centers (42%) or the small communities (39%).

[43] Farrelly MC, Evans WN, Sfekas AE. *The impact of workplace smoking bans: results from a national survey*. Tobacco Control 1999; 8: 272-277.

[44] There is also a relationship between education and smoking restrictions at the workplace. People with higher levels of education are more likely to be working in offices where smoking is not permitted while people with lower levels of education are more likely to work in construction, transportation or services industries where smoking is permitted.

Quit Attempts

A smoker's expressed intention to quit is only important as an indicator that they have begun the quitting process. It has little relevance to one's ultimate success at quitting if the smoker has not taken some action to either reduce his/her level of addiction by cutting down on the amount smoked, or by making an attempt at quitting. At least one previous quit attempt is a better predictor of successful cessation than simply expressing an intention to quit.

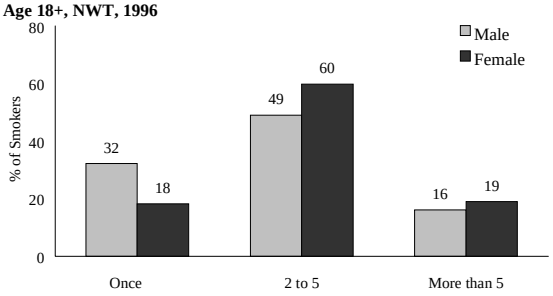
In the 1996 Northwest Territories Alcohol and Drug Survey, current smokers were asked if they had attempted to quit at any time in the past. The majority (74%) indicated they had made at least one attempt. There were no differences between men and women, or between Aboriginal and non-Aboriginal smokers. Smokers over 45 years of age were slightly more likely (78%) to indicate that they had tried to quit smoking at least once.

Once addicted, most smokers are unable to successfully quit at their first attempt. Many adult smokers often attempt quitting repeatedly over many years. Current smokers who tried to quit without success made an average of four attempts. Just over half (52%) said they had made two to five attempts, and 17% said they had tried more than five times. An estimated 24% indicated they had tried quitting once (6% did not provide an answer). There was no difference in quit attempts between Aboriginal and non-Aboriginal adults. However, women were more likely than men to make more than one quit attempt (75% vs. 64%).

The problem for smokers is not quitting, but staying quit. The evidence suggests that a large number of smokers in the Northwest Territories are motivated to quit at some point in their smoking lives, it is important that they are given support during those times to help them overcome the powerful addiction. It is also important to motivate and assist smokers to make quit attempts that last at least seven days (the period of the worst withdrawal symptoms). If the smoking population is increasingly made up of people trying to quit, the number of successful quitters will increase in the future. Quitting is possible. A large number of people have given up cigarettes.

Figure 5.5

Number of Quit Attempts by Current Adult Smokers, by Age & Sex
Age 18+, NWT, 1996



Source: 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of Statistics

Note: 3% of men and 3% of women did not state an answer.

Successful Quitters

In 1996, approximately 7,300 adults in the Northwest Territories were former smokers. This represents 26% of the population aged 18 and older. It is apparent that while a large number of adults in the Territories smoke, a large number have also been able to quit. An estimated 42% of former smokers indicated they had stopped smoking before they were 25 years of age. Another 26% of former smokers indicated they were between 25 and 34 years of age when they stopped smoking, 15% said they were between 35 and 44 years, and 13% indicated they stopped smoking when they were over 44 years of age. Women tended to quit at a younger age than men, 74% said they stooped before the age of 35 years, compared to 62% of men. Moreover, about 74% of non-Aboriginal former smokers indicated they stopped before the age of 35 years, compared to 58% of Aboriginal former smokers.[45]

[45] 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of Statistics.

One way to gauge how successful residents of the Northwest Territories are at quitting smoking is to calculate quit rates – the proportion of successful quitters among all those who have ever smoked (current and former smokers combined). However, it is important to point out that the quit rate may not present a true picture if former smokers deny ever having smoked, especially if they quit a long time ago. Moreover, it is not a sensitive indicator of quitting if ex-smokers who were not smoking when surveyed eventually relapse.

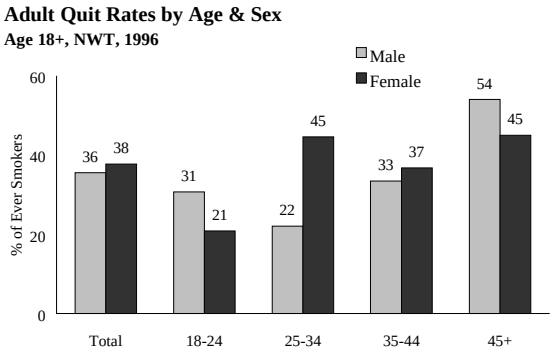
How long an individual is able to maintain a quit attempt is important in assessing the probability that the person will remain smoke free. The majority of smokers who quit for at least a day relapse within the first week. More than 50% of smokers who maintain their quit attempt for at least three months are successful in staying quit. More than 95% of smokers who remain abstinent for at least one year are successful in staying quit.[46] Therefore, the following quit rates include only those individuals who indicated they had quit for one year or more.

In the Northwest Territories, an estimated 70% of residents over the age of 17 either currently smoke or have been a smoker at some point in their life. Of these ever smokers, an estimated 37% no longer smoke. In other words, the quit rate among Territorial adults was 37% at this time. Meanwhile, the Canadian quit rate among adults in 1999 was estimated to be 51%. This difference is largely the result of differences in quit rates among older adults in the NWT and Canada.

Not surprisingly, quit rates increase with age. In the NWT, an estimated 33% of young adults between 25 and 34 indicated they had successfully quit, compared to 36% in Canada. Meanwhile, persons between 45 years and older in the NWT had a quit rate of 50%, compared to 66% in Canada.

The overall rate of successful quitting is similar for men (36%) and women (38%). However, there are some differences in most age groups. Males between 18 and 24 years have a higher quit rate (31%) than do women in this age group (21%). Meanwhile, women between the ages of 25 and 34 have twice the quit rate compared to men of the same age (45% vs. 22%). Men aged 45 and older show a higher quit rate than women of the same age (54% vs. 45%). Finally, women between the ages of 35 and 44 are slightly more likely to have had successfully quit than men of the same age (37% vs. 34%).

Figure 5.6



Source: 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of Statistics

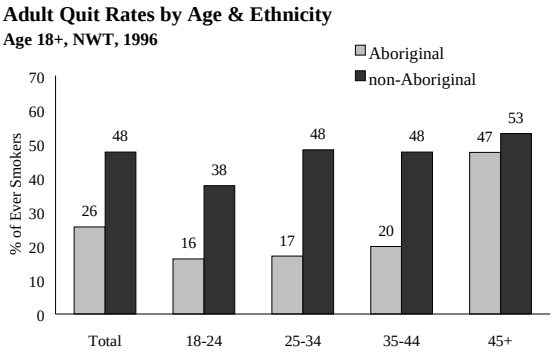
Aboriginal adults have a lower quit rate (26%) than non-Aboriginal adults (48%). The difference in quit rates is reflected in the discrepancy in current smoking rates highlighted in the previous chapter. A higher percentage of the Aboriginal adults are current smokers. It appears that once Aboriginal persons start to smoke they are less likely to quit.[47] There were also differences within the Aboriginal

[46] Pierce JP, et.al. *Tobacco Control in California: Who's Winning the War? An Evaluation of the Tobacco Control Program 1989-1996.* La Jolla, CA: University of California, San Diego; 1998.

[47] According to the 1996 NWT Alcohol and Drug Survey, an estimated 84% of Aboriginal adults and 59% of Non-Aboriginal adults were either current or former smokers. This means that just 16% of Aboriginal persons 18 years of age and older indicated they have never smoked, compared to 41% of Non-Aboriginal persons.

population. Inuit and Inuvialuit had the lowest rate of quitting success (11%), compared to 31% among First Nations, and 27% among Metis.

Figure 5.7

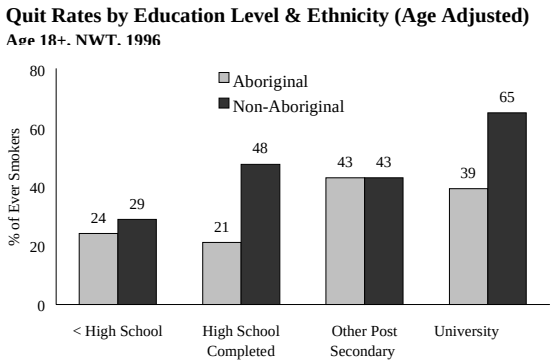


Source: 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of Statistics

Along with motivation to quit, successful smoking cessation is associated with high socioeconomic status. Results from the 1996 Alcohol and Drug Survey show that 25% of persons with less than a high school education who have ever smoked, successful quit. Meanwhile, an estimated 64% of ever smokers with a university degree, 42% of those with some other post secondary education, and 37% of those who had completed high school had successfully quit smoking. It is evident that smokers who had not gone beyond high school are the most resistant to quitting.

As in the case for smoking prevalence, the difference in quit rates between Aboriginal and non-Aboriginal persons is related to differences in their socioeconomic status. Aboriginal adults tend to have lower educational attainment than do non-Aboriginal adults. When level of education is taken into account, some of the differences in quit rates between Aboriginal and non-Aboriginal adults decrease. An estimated 24% of Aboriginal adults with less than high school have successfully quit smoking, compared to 29% of non-Aboriginal adults with the same level of education (age adjusted rates). The quit rate for both Aboriginal and non-Aboriginal adults with post-secondary education other than a university degree was 43%. Some differences did remain however, 21% of Aboriginal adults with a high school diploma successfully quit, compared to 48% of non-Aboriginal adults.

Figure 5.8



Source: 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of Statistics

The sample size in the 1996 NWT Alcohol and Drug Survey means it is not possible to compare quit rates between the different community types. However, there is no reason to believe that the relationship between quit rates and smoking rates - quit rate tend to be low where smoking rates are high, particularly among older adults - would be any different in this case. We would expect that the quit rates in Yellowknife would be higher than those in the regional centers, which in turn would be higher than those in the smaller communities. In small communities where smoking is widespread and there are few smoking restrictions, smokers may find quitting a particular challenge.

Having a spouse or partner who does not smoke is important. It supports the notion that a close social network plays an important role in quitting smoking. Evidence suggests that the probability of successfully smoking cessation is associated with the absence of other smokers in the household. While it is not possible to determine if the spouse or partner of former smokers also smoked before they quit, it is apparent that successful quitters are more likely to live

with nonsmokers. In 1996, of the current or former smokers who lived with a spouse or partner who smoked, an estimated 23% were successful quitters. Meanwhile, the successful quit rate for those who lived with a nonsmoking spouse or partner was about 57%.[48]

Conclusion

Quitting smoking is the single most effective thing that a smoker can do to enhance the quality and length of his/her life. The benefits of quitting are well documented. People who quit generally achieve the same health levels as nonsmokers after several years, especially if they stop while they are young. However, even older lifetime smokers can benefit significantly from quitting. No matter when they quit, in general, former smokers live longer than continuing smokers. Within a year of quitting, a person's risk of developing heart disease drops to half that of a smoker. The risk of developing lung cancer also decreases. Within five to ten years from the time a person quits, the risk of lung cancer is one half that of continuing smokers. Ten to fifteen years later, the risk of dying is similar to someone who has never smoked.[49] Moreover, parents who quit reduce the exposure of their children to ETS and decrease the likelihood that their children will start smoking.

Given that the goal of smoking control programs is a reduction of smoking related deaths and illness, emphasis needs to be given to maximizing the number of individuals who quit smoking. Cessation of smoking prevents the occurrence of disease (primary prevention) and it reduces the risk of further disease in those who quit smoking (secondary prevention). This means that smoking cessation is a major means of reducing smoking related mortality and illness. It has been estimated that a 10% reduction in smoking prevalence in the Northwest Territories may prevent 17% of smoking related cancers, and a 20% reduction in the smoking rate may contribute to a 26% reduction in these cancers. [50]

Smoking cessation reduces death and illness within a few years, while preventing the onset of smoking does not influence mortality and illness statistics until 30 to 40 years later, when adolescents who are starting to smoke reach the age where smoking-related deaths and illness occur. Moreover, as seen in the previous two chapters, adolescence and adults smoking prevalence in the Northwest Territories are associated and tend to cluster according to geography and socioeconomic characteristics. Reducing the smoking rate through cessation would go a long way in de-normalizing smoking in these communities and among these groups, which would in turn help in reducing smoking initiation among adolescents.

Smokers often perceive that tobacco helps them cope with stress and aids in their mental alertness. However, it is apparent that people continue to smoke because they are addicted to nicotine. Smoking cessation programs need to recognize the addictive power of nicotine and provide smokers who want to quit with assistance to overcome their addiction if needed. Most people quit on their own, others prefer group support or help from a health care provider. No single method works for everyone, and several different approaches may have to be tried. Different smokers have different needs according to the nature and strength of their addiction. Smoking control programs should

[48] 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of Statistics.

[49] National Clearinghouse on Tobacco and Health Program. *The Basics: What You Need to Know About Smoking Cessation.* (Available at: http://www.ncth.ca/NCTHweb.nsf).

[50] Mo D, Corriveau A, Leamon A. *How many fewer cancers can be expected as a result of reduction in smoking prevalence in the Northwest Territories? – An ecological study.* EpiNorth 2000: 12; 1: 9-10.

do two things: strengthen smokers' motivation to quit through strategies such as health education and smoke-free polices; and reduce dependence-related difficulties for smokers to quit by making behavioural and pharmacological treatments easily available.

Smoking cessation programs should also take into account the life experiences and circumstances of smokers that contribute to their smoking. Smoking carries not just a physiological and behavioural component but a sociological and emotional component as well. For example, given the large number of smoking adults in the Northwest Territories with less than high school education, particularly among the Aboriginal population, the association between education and quit rates needs to be considered in smoking cessation programs. There may be a need for alternative approaches to reach smokers with lower levels of education. Given that smoking rates are highest among Aboriginal peoples in the Territories, it is also important that cessation programs be developed with their collaboration and that these programs respect the differences between the Aboriginal and non-Aboriginal populations.

As in the case with smoking prevalence, a number of interrelated factors contribute to smoking cessation. The lower quitting rates of people with lower educational attainment may be associated with their social environment – at home, at work, with friends – where smoking is not discouraged. Meanwhile, the higher quit rates among people with higher levels of education may be related to restrictions they encounter. For example, these people are more likely to be working where smoking is prohibited at the worksite. Moreover they may often find themselves in situations where fewer people are smoking. Increasing the rates at which smokers attempt to quit smoking and ultimately successfully quit is a critical strategy in any health program that attempts to reduce smoking prevalence.

Table 5.1[a]

Smokers Considering Quitting by Age, Sex and Ethnicity

Current Smokers Age 18+, Northwest Territories, 1999

	Current Smokers (no.)	Considering Quitting (%)	Not Considering Quitting (%)	Not Stated (%)
Pop. 18 & older	11,578	43	51	6
18 to 24	1,952	44	47	8
25 to 34	3,201	46	50	4
35 to 44	3,290	43	49	8
45+	3,135	40	55	5
Males	6,320	40	54	6
18 to 24	1,062	35	55	10
25 to 34	1,791	45	51	5
35 to 44	1,748	43	49	7
45+	1,719	35	60	5
Females	5,258	47	47	6
18 to 24	890	56	38	6
25 to 34	1,410	48	49	3
35 to 44	1,542	43	49	8
45+	1,416	45	49	6
Aboriginal	6,915	38	56	6
18 to 24	1,334	39	54	7
25 to 34	2,081	39	56	5
35 to 44	1,709	41	53	5
45+	1,791	33	59	8
Males	3,618	34	60	5
18 to 24	757	35	60	5
25 to 34	1,125	34	59	6
35 to 44	811	40	58	2
45 +	925	30	64	6
Females	3,298	41	51	7
18 to 24	576	44	46	9
25 to 34	956	42	53	4
35 to 44	900	42	50	8
45 +	866	36	55	9

Continued …

Table 5.1$_b$

Smokers Considering Quitting by Age, Sex and Ethnicity

Age 18+, Northwest Territories, 1999

	Current Smokers (no.)	Considering Quitting (%)	Not Considering Quitting (%)	Not Stated (%)
Non-Aboriginal	4,659	52	42	6
18 to 24	617	58	31*	11
25 to 34	1,118	61	38	1
35 to 44	1,580	46	44	10
45 +	1,344	50	48	2
Male	2,701	48	44	8
18 to 24	304	36*	42*	22
25 to 34	665	63	35*	1
35 to 44	937	47	40	13
45 +	795	42	56	2
Female	1,960	57	40	3
18 to 24	314	75	24*	2
25 to 34	453	60	40*	0
35 to 44	643	44	48	7
45 +	550	58	41*	2

concluded

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 5.2
Smokers Considering Quitting by Age and Ethnicity
Current Smokers Age 18+, Northwest Territories, 1999

	Current Smokers (no.)	Considering Quitting (%)	Not Considering Quitting (%)	Not Stated (%)
Pop. 18 & older	11,574	44	50	6
18 to 24	1,951	45	47	8
25 to 34	3,199	47	50	4
35 to 44	3,290	43	49	8
45+	3,134	40	55	5
Aboriginal	6,915	38	56	6
18 to 24	1,334	39	54	7
25 to 34	2,081	39	56	5
35 to 44	1,709	41	53	5
45+	1,791	33	59	8
Inuit/Inuvialuit	1,543	30	66	4
18 to 24	323	29*	67	4
25 to 34	492	26	68	6
35 to 44	384	29	70	1
45+	344	37	57	6
First Nations	4,125	39	53	8
18 to 24	781	45	46	9
25 to 34	1,261	44	51	5
35 to 44	909	41	51	8
45+	1,174	30	61	9
Metis	1,247	43	53	4
18 to 24	230	31*	67	2
25 to 34	328	39	55	6
35 to 44	417	53	43	4
45+	272	43	54	3
Non-Aboriginal	4,659	52	42	6
18 to 24	617	58	31*	11
25 to 34	1,118	61	38	1
35 to 44	1,580	46	44	10
45+	1,344	50	48	2

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 5.3
Smokers Considering Quitting by Age and Community Type
Current Smokers Age 18+, Northwest Territories, 1999

	Current Smokers (no.)	Considering Quitting (%)	Not Considering Quitting (%)	Not Stated (%)
Pop. 18 & older	11,577	44	50	6
18 to 24	1,951	46	46	8
25 to 34	3,201	47	50	4
35 to 44	3,290	44	49	8
45+	3,135	41	54	5
Yellowknife	3,842	58	37	5
18 to 24	593	55*	35*	11
25 to 34	1,060	62	36*	2
35 to 44	1,329	56	35*	9
45+	860	60	40*	0
Regional Centers	2,777	44	50	5
18 to 24	359	38*	58	4
25 to 34	691	49	49	2
35 to 44	825	43	49	8
45+	902	44	50	6
Other Communities	4,958	33	60	7
18 to 24	999	43	49	9
25 to 34	1,450	34	60	6
35 to 44	1,136	30	64	6
45+	1,373	27	65	8

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Note: Regional Centers include Fort Smith, Hay River and Inuvik.

Table 5.4
Smokers Considering Quitting by Ethnicity and Education Level
Current Smokers Age 18+, Northwest Territories, 1999

	Current Smokers (no.)	Considering Quitting (%)	Not Considering Quitting (%)	Not Stated (%)	Considering Quitting, Age Adjusted Rate (%)
Pop 18 +	11,575	44	50	6	N.A.
Less than Grade 9	1,787	25	64	10	27
High Sch. No Diploma	2,602	42	51	7	44
High Sch. Diploma	2,117	51	46	3	48
Other Diploma or Cert.	4,256	49	46	5	49
University Degree	694	44	49	6	49
Aboriginal	6,917	38	56	6	22
Less than Grade 9	1,691	24	67	9	27
High Sch. No Diploma	2,041	40	54	6	40
High Sch. Diploma	690	42	55	4	40
Other Diploma or Cert.	2,302	44	50	6	44
University Degree	74	79	15#	7	57
Non-Aboriginal	4,658	53	42	5	50
Less than Grade 9	96	49#	20#	31	52
High Sch. No Diploma	561	51	38*	10	54
High Sch. Diploma	1,427	55	42	3	54
Other Diploma or Cert.	1,954	55	40	4	60
University Degree	620	40	53	6	44

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

Note: An estimated 119 Aboriginal smokers did not indicate highest level of schooling, they were included in the totals.

* Estimates have moderate sampling variability and should be interpreted with caution.

\# Estimates have a high sampling variability and should be treated with **extreme** caution.

Table 5.5
Employed Smokers Considering Quitting by Restrictions at Work and Community Type
Current Smokers Age 18+, Northwest Territories, 1999

	Current Smokers (no.)	Considering Quitting (%)	Not Considering Quitting (%)	Not Stated (%)	Considering Quitting (Age Adjusted Rate) (%)
Employed Smokers 18 +	9,898	44	50	6	N.A.
Smoking Restrictions	6,491	48	47	4	49
No Restrictions	3,175	36	55	8	36
Yellowknife	3,632	54	40	6	54
Smoking Restrictions	2,670	60	38	2	60
No Restrictions	915	36*	47*	17	37
Regional Centers	2,472	45	50	5	44
Smoking Restrictions	1,690	42	52	6	42
No Restrictions	734	49	49	2	48
Other Communities	3,794	36	59	6	35
Smoking Restrictions	2,131	39	56	5	39
No Restrictions	1,526	30	64	6	30

Source: 1999 Northwest Territories Labour Force Survey; provided by the NWT Bureau of Statistics

Note: An estimated 47 residents of Yellowknife, 48 residents of the regional centers and 137 residents of other communities did not indicate if there were smoking restrictions at their place of employment, they were included in the totals.

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 5.6
Smoking Status and Quit Rates by Age
Age 18+, Northwest Territories, 1996 & Canada, 1999

	Population Estimate	Current Smokers (%)	Former Smokers (%)	Never Smoked (%)	Not Stated (%)	Quit Rates (%)
NWT	28,375	44	26	30	-	37
18 to 24	4,873	56	19*	26*	-	25*
25 to 34	8,813	44	22	34	-	33
35 to 44	7,470	47	25	28	-	35
45 +	7,219	35	35	30	-	50
Canada	23,026,768	25	26	48	-	51
18 to 24	2,869,904	35	9	56	-	21
25 to 34	4,429,606	30	17	53	-	36
35 to 44	5,253,561	30	24	46	-	45
45 +	10,473,697	18	36	45	-	66

Sources: 1996 NWT Alcohol & Drug Survey & 1999 Canadian Tobacco Use Survey (microdata file).

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 5.7
Smoking Status and Quit Rates by Age and Sex
Age 18+, Northwest Territories, 1996

	Population Estimate	Current Smokers (%)	Former Smokers (%)	Never Smoked (%)	Not Stated (%)	Quit Rates (%)
Pop. 18 +	28,375	44	26	30	-	37
18 to 24	4,873	56	19*	26*	-	25*
25 to 34	8,813	44	22	34	-	33
35 to 44	7,470	47	25	28	-	35
45 +	7,219	35	35	30	-	50
Male	14,502	45	25	31	-	36
18 to 24	2,128	55*	24*	20*	-	31*
25 to 34	4,629	49	14*	37	-	22*
35 to 44	3,809	45	23*	32	-	33*
45 +	3,936	34	40	27	-	54
Female	13,873	44	27	29	-	38
18 to 24	2,745	56	15*	30*	-	21*
25 to 34	4,184	38	30	31	1	45
35 to 44	3,661	48	28	23	1	37
45 +	3,283	37	30	33	-	45

Source: 1996 Alcohol & Drug Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 5.8

Smoking Status and Quit Rates by Age and Ethnicity

Age 18+, Northwest Territories, 1996

	Population Estimate	Current Smokers (%)	Former Smokers (%)	Never Smoked (%)	Not Stated (%)	Quit Rates (%)
Pop. 18 +	28,377	44	26	30	-	37
18 to 24	4,873	56	19*	26*	-	25*
25 to 34	8,815	44	22	34	-	33
35 to 44	7,470	47	25	28	-	35
45 +	7,219	35	35	30	-	50
Aboriginal	11,817	62	21	16	-	26
18 to 24	2,274	76	15*	9*	-	16*
25 to 34	3,656	63	13*	24*	-	17*
35 to 44	2,617	74	18*	8*	-	20*
45 +	3,270	42	38	20*	-	47
Non-Aboriginal	16,560	31	29	40	-	48
18 to 24	2,599	37*	23*	40*	-	38*
25 to 34	5,159	30	28	42	1	48
35 to 44	4,853	32	29	39	-	48
45 +	3,949	29	33	38	-	53

Source: 1996 Alcohol & Drug Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

Table 5.9
Smoking Status & Quit Rates by Highest Level of Schooling & Ethnicity
Age 18+, Northwest Territories, 1996

	Population Estimate	Current Smokers (%)	Former Smokers (%)	Never Smoked (%)	Not Stated (%)	Quit Rates (%)	Age Adjusted Quit Rate (%)
Pop. 18 +	28,378	44	26	30	-	37	N.A.
Less than High School	9,194	61	21	18	-	25	26
High School Completed	5,389	50	29	20	1	37	40
Other Post Secondary	7,971	38	27	35	-	42	42
University	5,305	17	29	54	-	64	65
Aboriginal	11,817	62	21	16	-	26	27
Less than High School	7,465	63	21	16	-	25	24
High School Completed	1,769	73	17*	11*	-	19*	21*
Other Post Secondary	2,162	53	29*	19*	-	35*	43*
University	170	20#	13#	67#	-	39#	39#
Non-Aboriginal	16,560	31	29	40	-	48	50
Less than High School	1,729	53	21*	26*	-	29*	29*
High School Completed	3,620	39	35	25	1	48	48
Other Post Secondary	5,807	32	26	41	-	45	43
University	5,135	17	30	54	-	64	65

Source: 1996 Alcohol & Drug Survey; provided by the NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

\# Due to small sample size, estimates for Aboriginal adults with a university degree should be treated with **extreme** caution.

Note: 251 Aboriginal and 269 non-Aboriginal did not provide highest level of schooling, these were included in the totals.

Table 5.10

Attempted to Quit by Sex, Ethnicity and Age

Current Smokers Age 18+, Northwest Territories, 1996

	Current Smokers	Yes (%)	No (%)	Not Stated (%)	Average Number of Attempts
Pop. 18 +	12,552	76	23	1	3.8
Female	6,066	77	22	1	4.0
Male	6,486	75	24	1	3.6
Aboriginal	7,339	75	25	1	4.1
Non-Aboriginal	5,213	77	21	1	3.5
18 to 24	2,706	75	24	1	3.7
25 to 34	3,844	75	24	1	3.8
35 to 44	3,475	74	26	-	4.0
45 +	2,528	80	17	2	3.7

Source: 1996 Alcohol & Drug Survey; provided by the NWT Bureau of Statistics

Table 5.11
Times Adults Attempted to Quit by Age, Sex and Ethnicity
Current Smokers Age 18+, Northwest Territories, 1996

				..……. Number of Times Attempted to Quit ...……			
	Current Smokers	Tried to Quit	(%)	Once (%)	2 to 4 (%)	5 + (%)	Not Stated (%)
Total	12,552	9,507	76	25	54	17	3
Female	6,066	4,655	77	18	60	19	3
Male	6,486	4,852	75	32	49	16	3
Aboriginal	7,339	5,471	75	27	52	19	3
Non-Aboriginal	5,213	4,035	77	24	58	15	4

Source: 1996 Alcohol & Drug Survey; provided by the NWT Bureau of Statistics

Chapter 6

Conclusion

The purpose of this chapter is to highlight some of the findings of the report in search of some general conclusions. Rather than summarizing all of the results of the report, the focus here is on highlighting results that would have implications for tobacco control programming.

The report raises a number of issues:

- Smoking rates among women of childbearing age are very high. Many of these women continue to smoke when they become pregnant thus increasing the risk of a number of complications and adverse health consequences for the fetus. Smoking cessation programs need to be accessible to young women. In particular, pregnant women should be viewed as a priority group.

- Environmental tobacco smoke is a health hazard to non-smokers, yet the number of children exposed to second hand smoke is very high in a large number of communities. Children in particular do not choose to breathe other people's tobacco smoke. Their right to grow up in an environment free from tobacco smoke should be safeguarded. Educational strategies, including education about the risks to children from ETS exposure and steps to eliminate exposure, are needed to address the exposure of children in private homes.

- The prevalence of smoking among teens is to some degree a harbinger of future smoking rates. The situation does not look good. The smoking rate among youth in the Northwest Territories is much higher than it is among Canadian youth. This is particularly true for Aboriginal youth. Moreover, since 1994, the rate has increased.

- Youth are more likely to smoke if they grow up in an environment where smoking rates are high among adults, where tobacco products are relatively cheap and easily accessible, and where smoking is unrestricted in public places. Education programs and health promotion campaigns designed to persuade young people not to smoke are important.

- Moreover, health promotion campaigns aimed at youth will be more effective if there are anti-tobacco sentiments in the adult community, if large numbers of adults stop smoking and if the campaigns are backed up with strong tobacco control policies, such as restrictions on smoking in public places. For youth, the challenge is to offer an image of non-smoking that is strong enough to resist examples of tobacco use they might copy. Tobacco use has to become something that no one wants to be associated with.

- The smoking rates among some groups of adults in the Northwest Territories population are extremely high and this poses a huge public health threat. Unless a large number of adults quit smoking, deaths and illness due to smoking will rise dramatically over the next ten to twenty years as the number of adults over 50 years of age increases rapidly. Yet, residents of the Northwest Territories are currently less likely to quit smoking once they start than are residents in Canada as a whole.

Smoking cessation programs would be important in any tobacco control efforts in the NWT. Since in many cases, smoking is a response to people's social, physical and personal situations, these cessation strategies need to take into account the social context within which smoking behaviour takes place.

- When over 60% of adults in a community smoke, smoking cessation and tobacco control efforts face a difficult challenge. In these circumstances, community based anti-smoking programs are needed to encourage changes in attitudes among youth and adults towards what is generally regarded as normal or acceptable behaviour without blaming the victim. This de-normalization process would help to build strong public support for tobacco control measures and make tobacco use an issue of community concern, rather than just an issue for those using the products.

No single factor determines patterns of tobacco use in a population; these patterns are the result of complex interactions of multiple factors, such as socioeconomic status, cultural characteristics, stress, coping skills, biological elements, targeted advertising, price of tobacco products, and varying capacities of communities to mount effective tobacco control initiatives. Consequently, efforts to reduce tobacco consumption in the Northwest Territories will require the integration and coordination of many differing but complementary approaches.

Successful programs aimed at tobacco control need to address most or all of four goals: preventing smoking among young people, persuading and helping smokers to stop smoking, protecting people by eliminating exposure to ETS, and de-normalizing smoking in order to change social attitudes about the acceptance of the behaviour. Actions that primarily address one goal may also contribute to achieving other goals. For example, policy and legislation that ensure smoke-free public environments address protection from environmental tobacco smoke smoke, such restrictions also support prevention by reducing role modeling of smoking as a socially acceptable behaviour. It encourages smokers to reduce smoking and provides indirect support to those individuals who want to quit.[51]

The health sector plays an important role in health promotion and disease prevention related to smoking. However, health sector contributions will need the support and involvement of policy makers and political leaders from across all sectors of NWT society. Before tobacco use will decline, more and more people must believe that the harm caused by tobacco is unacceptable and that young people should be protected from that danger. Everyone can do something to fight tobacco, and the more everyone does, the easier it becomes. Only by reducing smoking rates in the present can we reduce the number who will die from addiction to smoking in the future.

This report represents the first effort to monitor the tobacco epidemic in the Northwest Territories. However, ongoing surveillance and prevention research is needed to monitor the changing factors that influence tobacco use, to improve our understanding of smoking patterns and identify strategic tobacco control opportunities. The capacity of tobacco control efforts to keep pace with patterns of tobacco use and cessation depends on timely recognition of emerging prevalence and cessation patterns and the resulting development of appropriate community-based programs to address the factors involved.

[51] Steering Committee of the National Strategy to Reduce Tobacco Use in Canada, the Advisory Committee on Population Health. *New Directions for Tobacco Control in Canada; A National Strategy.* Ottawa: Minister of Public Works and Government Services Canada, 1999.

Appendix A

The Health Consequences of Smoking

Introduction

There are more than 4,000 hazardous compounds present in the smoke that smokers draw into their lungs and which escapes into the environment. These toxic substances invade the organs and tissues of smokers and nonsmokers, adults and children, born as well as unborn and cause many diseases including cancer, heart disease, emphysema, fetal growth retardation and many more. The use of tobacco products has already killed and disabled hundreds of people in the Northwest Territories and is threatening to kill and disable many more.

A principle of public health action has been the need to determine the causes of ill health and to document and monitor the evolution of disease due to various exposures. As far back as 1964, the United States Surgeon General's first official report on smoking and health concluded that cigarette smoking is a health hazard that requires remedial action. Subsequent reports and studies have documented the progression of the tobacco epidemic and established the casual link between the use of tobacco and a spectrum of debilitating diseases.[52] This appendix provides information on many of the health consequences of tobacco use. It highlights why the high rates of smoking and the high levels of exposure to ETS warrant a large public health response in the Northwest Territories.

The Effects of Tobacco Smoke on Unborn Infants

Maternal smoking during pregnancy along with regular exposure to environmental tobacco smoke while pregnant can have adverse effects on the health of the fetus and the outcome of the pregnancy. Carbon monoxide in cigarette smoke impairs the fetus' ability to bind oxygen, which means that the fetus experiences significant oxygen deprivation. Nicotine causes narrowing of the expectant mother's blood vessels thus impairing blood flow to the fetus. Nicotine also crosses the placenta raising fetal blood pressure and impairing the fetus' ability to practice breathing motions (the rate at which the fetus has breathing movements is an indication of fetal health). Exposure to tobacco smoke also causes a decreased transfer of amino acids (the building blocks of protein) across the placenta to the fetus, abnormalities in the membranes of the placenta and a decreased availability of zinc (a mineral essential to growth).[53]

As a result, pregnant women who smoke and nonsmoking pregnant women regularly exposed to ETS are more likely to have low birth weight babies due either to premature birth or poor growth in utero - small for gestational age. Smoking while pregnant is one of the strongest risk factors for the most severe form of slow fetal growth: intrautine growth retardation. It is estimated that women who smoke while pregnant have a 1.8 to 2.4 times greater risk of delivering a low birth weight baby than nonsmoking

[52] World Health Organization. *Guidelines for controlling and monitoring the tobacco epidemic.* Geneva: 1998.

[53] Health Canada. *The Effects of Tobacco Smoke and Second-Hand Smoke in the Prenatal and Postnatal Periods: a Summary of the Literature.* Ottawa: Minister of Supply and Services Canada, 1995.

mothers. On average, babies of mothers who smoke during pregnancy weight about 150 grams to 200 grams less at birth than do infants born to nonsmoking mothers. Expectant mothers who smoke are about 1.3 to 1.5 times more likely to give birth prematurely. This may not seem significant but low birth weight is an important risk factor for neonatal health problems and even for complications such as respiratory illness later in infancy and childhood. Moreover, premature births (less than 37 weeks of gestation) face higher risk of complications and dying.[54]

Pregnant women who smoke also have a risk of spontaneous abortion 1.5 to 3 times higher than that of nonsmokers. The risk increases with the amount smoked. A greater proportion of fetuses miscarried from pregnant women who smoke are chromosomally normal compared with those of nonsmokers. Fetal abnormalities are a common cause of miscarriage among nonsmokers. This suggests that there is something about smoking that causes the miscarriage of normal fetuses. Smokers have an increased risk of delivering stillborn babies due to smoking-induced placental complications and smoking-induced intrauterine growth retardation. Women who smoke during pregnancy are also at greater risk of experiencing premature rupture of the amniotic sac, which can result in premature labour or infections for the fetus.[55]

Maternal smoking during and after pregnancy is also associated with a marked increased risk of sudden infant death syndrome (SIDS). SIDS is the unexplained and unexpected death of infants, usually during sleep. It is difficult to distinguish the effects between active maternal smoking during pregnancy and postnatal ETS exposure of the infant from smoking by the mother. However, studies indicate that infants of mothers who smoke have almost five times the risk of SIDS compared with infants of mothers who do not smoke.[56] There is also evidence that the compounds in tobacco smoke damage the lungs of fetuses. Infants born to smoking mothers can have significantly diminished lung function in infancy. Maternal smoking during pregnancy is also associated with an increase in asthma and a decrease in speech and language skills or visual/spatial abilities of affected newborns.[57]

The Effects of Environmental Tobacco Smoke

The toxins found in cigarette smoke not only permeate the surrounding air, but also enter the bodies of nonsmokers who breathe in the environmental tobacco smoke (ETS), posing serious health risks. Studies have shown that there is a link between regular exposure to ETS and disease. This link was first made with lung cancer. However, research has also indicated there is a link between ETS and childhood respiratory problems, heart disease in adults and a host of other health problems.

Infants and young children are particularly vulnerable to the effects of ETS exposure. As noted earlier, exposure to ETS increases the risk of SIDS. Children up to 18 months of age who are exposed to ETS in the home have a 1.6 to 4 times greater risk of experiencing lower respiratory-tract

[54] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

[55] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

[56] Health Canada. *The Effects of Tobacco Smoke and Second-Hand Smoke in the Prenatal and Postnatal Periods: a Summary of the Literature.* Ottawa: Minister of Supply and Services Canada, 1995.

[57] Wiebel F J. Health Effects of Passive Smoking in *The Tobacco Epidemic* edited by Bolliger CT and Fagerstrom KO. Basel Karger, 1997: 107-121.

infections including bronchitis, croup, and pneumonia. Infants up to three months of age are the most at risk. In addition, children of smokers who suffer these illnesses have far more serious episodes, take longer to recover and have an increased risk for hospitalization. Children exposed to ETS also have more upper respiratory tract infections such as sore throats, colds, stuffy noses, and trouble getting over colds than do unexposed children. They are also at a greater risk of both acute and chronic middle ear infections (otitis media) and are 1.6 to 2.1 times more likely to experience middle ear effusion (commonly known as fluid in the middle ear) than non-exposed children.[58,59]

Asthma is the most common chronic disease of childhood, and environmental factors play an important part in determining both onset and severity. Children exposed to ETS have a 1.2 to 1.4 times higher risk of developing asthma compared to non-exposed children. Exposure to ETS can also cause asthmatic children to have more frequent and more severe asthma attacks and require more medications.

Lung function refers to the capacity of the lungs to both move oxygen to the bloodstream and excrete carbon monoxide out of the body. Children exposed to ETS at home can have small but significant reductions in lung function, which may be linked to chronic obstructive lung disease later in life. It is clear that infants and children, particularly preschoolers, who are exposed to ETS at home have a 1.2 to 2.4 times greater risk of suffering from respiratory symptoms such as cough, phlegm and wheeze. Finally, many studies have shown an association between parental smoking and children's future smoking behaviour.[60,61]

Research shows that exposure to ETS also has various adverse effects on the health of adults. ETS can cause chronic respiratory symptoms similar to those described for "light" smokers (those who smoke less than 10 cigarettes per day). These include cough, phlegm, difficulty breathing on exertion, and chronic bronchitis. Epidemiological studies have also shown that exposure to ETS is a significant risk factor for lung cancer in adults. The risk of lung cancer has been estimated to increase by 25% to 30% for nonsmokers who live with smokers.[62] Exposure to ETS has also been linked to other types of cancers including bladder cancer, cervical cancer, cancer of the liver and pancreas and some forms of leukemia.[63]

Adults exposed to ETS have a greater risk of developing coronary heart disease and the risk increases with increased exposure. Studies have shown that environmental exposure to tobacco smoke causes an increase in risk of ischemic heart disease of about 25%. In proportionate terms this is of similar magnitude to the effects of exposure of ETS on lung cancer, but the number of excess deaths from heart disease will be far

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[58] Health Canada. *The Effects of Tobacco Smoke and Second-Hand Smoke in the Prenatal and Postnatal Periods: a Summary of the Literature.* Ottawa: Minister of Supply and Services Canada, 1995.

[59] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

[60] DiFranza JR and Lew RA. *Morbidity and Mortality in Children Associated with the use of Tobacco Products by Other People.* Pediatrics 1996; 97,4: 560-568.

[61] World Health Organization. *International Consultation on Environmental Tobacco Smoke (ETS) and Child Health: Consultation Report*. Geneva: 1999.

[62] Hackshaw AK, Law MR, Wald NJ. *The accumulated evidence on lung cancer and environmental tobacco smoke* BMJ 1997; 315: 980-988.

[63] Wiebel F J. Health Effects of Passive Smoking in *The Tobacco Epidemic* edited by Bolliger CT and Fagerstrom KO; Basel Karger. 1997: 107-121.

greater because heart disease is much more common than lung cancer among non-smokers. Even short-term exposure has been linked to an increased risk of heart disease and stroke.[64]

The Effects of Long-term Smoking

The causal link between the use of tobacco and a spectrum of debilitating, fatal diseases of the lungs, heart and other organs is well understood. Between one third and one half of people who now smoke will die prematurely as a result of their tobacco use. Smoking is not only the leading cause of preventable death; it is also the leading cause of preventable early ill health and disability. The chances of suffering health problems attributable to smoking are great, and those chances increase both with the length of time the person smokes and with the amount smoked. While health risks are highest among heavy smokers and long-term smokers, no user of tobacco escapes risk.

Cigarette smoking is the single most important preventable cause of cancer. The American Cancer Society estimated that in 1995 nearly one third of all cancer deaths were caused by tobacco use. In addition to causing about 85% of all cases of lung cancer, smoking causes at least 80% of all esophageal cancers and about 80% of all laryngeal cancers. On average, smokers increase their risk of contracting lung cancer by five to ten times. Moreover, because only about 10 percent of lung cancer patients survive more than five years, smoking is also responsible for the bulk of lung cancer deaths.

Approximately 90% of all oral cancers in men and 60% of oral cancers in women are attributable to smoking. It is also the strongest risk factor for developing bladder cancer. Smokers also have an increased risk of contracting cancers of the kidney, uterine cervix and pancreas. There is some evidence to suggest that smoking also play a role in colorectal cancer, leukemia and stomach cancer.[65]

Cigarette smoking is not only the leading cause of lung cancer but also the leading cause of all pulmonary disease. While lung cancer is the most well known smoking-induced lung disease, smokers also have greatly increased risks for emphysema and chronic bronchitis, collectively known as chronic obstructive pulmonary disease (COPD). Smoking, in fact, is the most important factor in causing COPD: it is responsible for 90% of all cases of emphysema. Moreover, COPD is fatal in smokers more often than it is in nonsmokers, smokers are 10 times more likely to die of COPD than are non-smokers. Overall cigarette smoking accounts for about 80% of all COPD deaths.[66]

There is overwhelming evidence that smoking increases a person's risk of developing several types of heart disease including: coronary heart disease, angina, irregular heartbeats, and heart attack. Of these, coronary heart disease is the most important, accounting for over half of the heart disease deaths caused by smoking. The leading cause of coronary heart disease is a clogging and narrowing of the arteries that supply blood to the heart muscle. Smoking is as an important risk factor in developing this condition as is high blood pressure and high blood cholesterol. In combination with these other two risk factors, smoking exerts a tremendously powerful effect, creating a risk far greater

[64] Law MR, Morris JK, Wald NJ. *Environmental tobacco smoke exposure and ischaemic heart disease: an evaluation of the evidence.* BMJ 1997; 315: 973-979.

[65] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

[66] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

than what would be expected just from adding the two risks together. This is known as a synergistic effect. Overall, smokers have a two to fourfold greater incidence of coronary heart disease and about 70% greater death rate from it than do nonsmokers.[67]

Research has shown that smoking causes about one quarter of all strokes. Smoking along with hypertension, are the two main risk factors for stroke. As noted earlier, smoking causes constrictions of blood vessels and the accumulation of plaque. This can cause blockages in blood vessels. A stoke can happen in one of two ways, the blood supply to the brain is cut off by clots or totally clogged vessels, or when a blood vessel in the brain bursts. Smoking increases the risk of both types. Overall, smokers are two and a half times as likely as nonsmokers to suffer a stroke with the risk increasing with the number of cigarettes smoked per day.[68]

Smoking is associated with a list of other diseases and conditions. Smokers suffer more frequent and more severe respiratory infections than do nonsmokers. Pneumonia is not only more common but also more likely to be fatal among smokers of any age. Smokers have an increased risk of back pain. This occurs because smoking contributes to the weakening of discs in the spine, which serve as cushions between the vertebrae (the bones that make up the spine).

Smokers have an increased risk of osteoporosis (decreased bone density) due to decreased blood flow to the bones and depleting bones of minerals, especially calcium. Smoking causes abnormalities in blood sugar that can contribute to diabetes mellitus. In a recent study, male smokers aged 40 to 75 were twice as likely as similarly aged nonsmokers to develop type II non-insulin dependent diabetes mellitus. Smoking has been linked with increased risk of stomach, or peptic, ulcers; with greater difficulty in treating the ulcers; and with a higher chance of ulcer recurrence. Smoking increases the risk of developing the chronic inflammatory bowel condition called Crohn's disease. Smokers not only have a greater risk of developing the disease, they also have a greater risk of suffering more severely from the disease.[69]

Some Health Consequences of Smoking for Adults in the Northwest Territories

The above discussion illustrates that tobacco use can have a huge impact on people's health. Given the high rates of smoking in the NWT, it seems very likely that tobacco use is having a large impact on the health of the population. More research into the health consequences of smoking among NWT residents needs to be done. The following discussion takes a very preliminary look at how smoking is adversely affecting the health of NWT adults who smoke.

Participants in the 1996 Alcohol and Drug Survey were asked to rate their overall health as either "excellent," "very good," "good," "fair," or "poor." Evidence suggests that self-rated health is a good indicator of a person's actual health status and correlates strongly with more "objective" measures. (Health Services Report) Overall, 60% of individuals 18 years of age and older rated their health as excellent or very good, and another 31% rated their health as good. An estimated 9% said they had fair or poor health.

[67] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

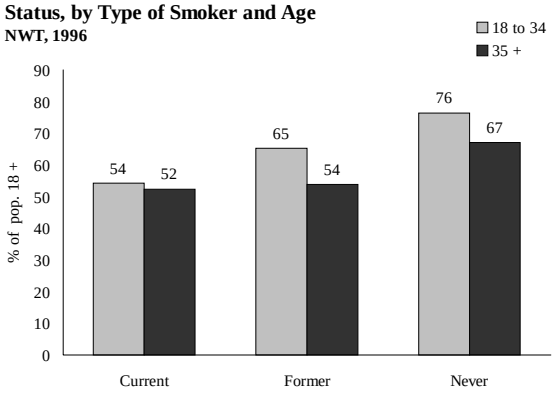
[68] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

[69] Napier K. *Cigarettes: What the Warning Label Doesn't Tell You: The First Comprehensive Guide to the Health Consequences of Smoking*. American Council on Science and Health, 1996.

There is an association between smoking status and self reported health status. Individuals who had never smoked were more likely to report excellent or very good health, compared to those who were currently smoking (72% compared to 53%). Moreover, an estimated 9% of current smokers rated their health as fair or poor, compared to 4% of never smokers. The relationship between self-rated health status and type of smoker was observed within age groups. For adults less than 35 years of age and those over 35, those who never smoked were more likely to indicate they have excellent or very good health. There was little difference between current and former smokers over the age of 35 who indicated they are in excellent or very good health. This maybe due to older people quitting because of health concerns.

Figure 7.1

Adults Reporting Excellent or Very Good Health Status, by Type of Smoker and Age
NWT, 1996



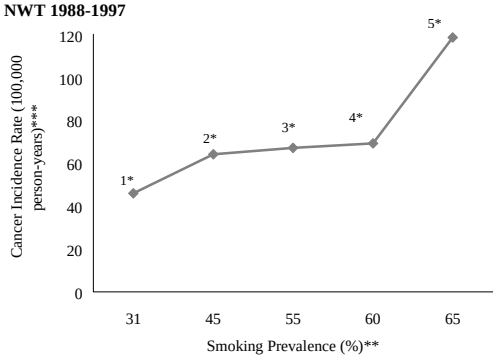
Source: 1996 NWT Alcohol & Drug Survey, provided by the NWT Bureau of

Smoking is causing deaths in the NWT. In 1997, 33% of all deaths among individuals 50 years of age and older were due to cancer. Of these cancer deaths half were due to lung cancer. It is well known that almost all cases of lung cancer are attributable to smoking. To highlight the impact that smoking is having on the health of Northwest Territories residents, smoking prevalence in five blocks of communities were compared with the smoking attributable cancer incidence rates in these same blocks.[70]

The communities were grouped on the basis of the smoking prevalence reported in each case. This grouping was made necessary given the small populations in many communities in the Territories and because cancers remain relatively uncommon. After the communities were grouped, cancer incidence rates and smoking prevalence were calculated for the five blocks. No significant differences in age or sex structures were found. The results show that the cancer incidence rate is positively associated with smoking prevalence. The block of communities with the highest smoking rate also displays the highest incidence of cancer. [71]

Figure 7.2

Smoking Prevalence and Cancer Incidence Rates
NWT 1988-1997



** Source: 1999 NWT Labour Force Survey
*** Source: NWT Cancer Registry, 1988-1997

1* Yellowknife, Hay River, and Trout Lake

2* Norman Wells, Fort Smith, Enterprise, Fort Liard, Nahanni Butte, Fort Providence and Rae Edzo

3* Inuvik, Wha Ti, Rae Lakes, Wrigley, Fort McPherson

[70] As noted above, epidemiological studies have shown that cigarette smoking is a primary risk factor for a number of cancers including cancer of the lung, esophagus, lip, mouth, pharynx, larynx, trachea, cervix uteri, pancreas, unary bladder, and kidney.

[71] Mo D, Corriveau A, Leamon A. *How many fewer cancers can be expected as a result of reduction in smoking prevalence in the Northwest Territories? – An ecological study.* EpiNorth 2000: 12; 1: 9-10.

4* Colville Lake, Wekweti, Fort Simpson, Deline, Tulita, Jean Marie River

5* Sachs Harbour, Holman, Fort Resolution, Tuktoyaktuk, Fort Good Hope, Aklavik, Tsiigehtchic, Lutselke, and Paulatuk

This report offers a picture of the nature and extent of smoking behaviour in the Northwest Territories. It raises many questions. Why are Northerners more likely to smoke than other Canadians are? Why is there such a difference in smoking rates between Yellowknife and the smaller communities in the Territory? What leads a person to quit smoking? This report does provide answers to these questions. However, by examining smoking patterns in the NWT, it offers clues as to where the search for answers should begin. More research is needed on many of the social behaviourial facts that lead to smoking and to quitting. More research is also needed on documents the impact that smoking is currently having on the health of the NWT population.

Table 7.1
Self-Rated Health Status by Type of Smoker and Age
Age 18+, Northwest Territories, 1996

	Population Estimate	Excellent/ Very Good (%)	Good (%)	Fair/Poor (%)
Pop. 18 & Older	28,379	60	31	9
Current	12,554	53	38	9*
Former	7,260	58	28	14*
Never	8,513	72	24	4*
Pop. 18 to 34	13,690	63	30	7*
Current	6,551	54	38	8*
Former	2,834	65	23	11*
Never	4,275	76	21	2#
Pop. 35 & Older	14,689	57	32	11
Current	6,003	52	37	11*
Former	4,426	54	30	16*
Never	4,238	67	27	6#

Source: 1996 NWT Alcohol and Drug Survey; provided by NWT Bureau of Statistics

* Estimates have moderate sampling variability and should be interpreted with caution.

\# Estimates have a high sampling variability and should be treated with **extreme** caution.